USAID Integrated Health Program Midline Evaluation

Results from the 2019 and 2021 Health Facility Surveys and Qualitative Data

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D4I is committed to local partner engagement and individual and institutional strengthening. Local authorship is important, and we urge you to engage local partners in analysis and reporting.

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Abstract

This report presents results from Data for Impact's baseline and midline health facility surveys, administered in 2019 and 2021 as part of the performance evaluation of the Integrated Health Program in the Democratic Republic of the Congo, and qualitative data collection focused on program implementation and the impacts of COVID-19. Performance relative to key indicators was compared between 2019 and 2021, both overall and disaggregated by province, when appropriate. Data were also collected at the community level in 2021 only. In general, performance on indicators of leadership and governance was stronger than on indicators of quality; however, some quality indicators were found to be significantly improved between baseline and midline.

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Abbreviations

AC	Animateur Communautaire [community engagement facilitator]
ACT	artemisinin-based combination therapy
ANC	antenatal care
ARI	acute respiratory infection
BCZS	Bureau Central de la Zone de Santé [Office of the Health Zone Team]
BEmONC	basic emergency obstetric and newborn care
CAC	cellule d'animation communautaire [community action group]
CDR	centre de distribution régional]regional distribution centre]
CHW	community health worker
CODESA	Comité de Développement de l'Aire de Santé [health area development committee]
COGE	Comité de Gestion [management committee]
COVID-19	coronavirus disease 2019
CPN	consultation prénatale [prenatal care]
CPS	consultation préscolaire [well baby visit]
CSO	community service organization
D4I	Data for Impact
DHIS2	District Health Information Software, version 2
DPS	Division Provinciale de la Santé [Provincial Health Division]
DRC	Democratic Republic of the Congo
ECDPS	Equipe cadres de la DPS [Executive Team of the Provincial Health Districts]
ECZS	Equipe Cadre de la Zone de Santé [Health Zone Management Team]
EmONC	emergency obstetric and newborn care
EPP	Encradreur Provincial Polyvalent
FFP	Food for Peace
FP	family planning
GIBS	Groupe Inter Bailleurs Secteur Santé
HA	health area
HC	health center
HCD	human-centered design
HIV	human immunodeficiency virus
HZ	health zone
iCCM	integrated community case management

IHP	Integrated Health Program
IMNCI	integrated management of newborn and childhood illness
IPC	infection prevention and control
IPS	IPS Inspection Provinciale de la Santé [Provincial Health Inspectorate]
IPT	intermittent preventive treatment
IPTp-SP	sulfadoxine-pyrimethamine
IT	infirmier titulaire [head nurse]
MAPEPI	maladies à potentiel épidémique [diseases with epidemic potential]
MCZ	médecin chef de zone
M&E	monitoring and evaluation
MOH	Ministry of Health
NGO	nongovernmental organization
OAC	organizations assises communautaire
PDSS	Projet de Développement de Système de la Santé [Health Care System Development Project]
PICAL	Participatory Institutional Capacity Assessment and Learning Index
PNAM	Programme National d'Approvisionnement en Medicaments [National Drug Supply Program]
PNCPS	Programme National de Communication pour la Promotion de la Santé
PP	percentage point
RECO	relais communautaire [community health worker]
SBC	social and behavior change
SGBV	sexual and gender-based violence
SNIS	Système National D'information Sanitaire [National Health Information System]
SONU B	soins obstétrico-néonatal d'urgence de base [basic emergency obstetric and neonatal care]
SONU C	soins obstétrico-néonatal d'urgence [emergency obstetric and neonatal care]
TB	tuberculosis
TRG	Training Resources Group
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
V-SAT	very small aperture terminal
WASH	water, sanitation, and hygiene
WHO	World Health Organization

Executive Summary

As part of its strategy to improve health outcomes in the Democratic Republic of the Congo (DRC), the United States Agency for International Development (USAID) funded the USAID Integrated Health Program (IHP) in 2018. The program began operations in July 2018 and is being implemented by Abt Associates and several partner organizations. The purpose of USAID IHP is to strengthen the capacity of Congolese institutions and communities to deliver high-quality, integrated health services to sustainably improve the health status of the country's population. The specific health, population, and nutrition areas of focus for the project are maternal health; neonatal, infant, and child health; tuberculosis (TB); malaria; child nutrition; water, sanitation, and hygiene (WASH); and family planning (FP). USAID IHP is working in nine contextually diverse provinces in the regions of Eastern Congo, Katanga, and Kasai, and implements a wide array of interventions.

Given the breadth and depth of the planned interventions, the USAID Mission in DRC requested Data for Impact (D4I) to conduct an independent, third-party evaluation of the performance and impact of USAID IHP on key health systems-related outcomes, including the uptake of FP and healthcare services; health systems functioning (i.e., improved disease surveillance, the availability of essential commodities, and health worker motivation); and the practice of key healthy behaviors. This report presents findings from the performance evaluation. The analyses presented in this report use two waves of data collected from provincial health offices, health zone offices, hospitals, and health centers. The analyses that show change over time are based on a restricted sample of facilities that were surveyed in both waves. Select indicators related to USAID IHP's community approach are presented for 2021 only and are disaggregated by all nine provinces supported.

Table 4.1, which categorizes the leadership and governance indicators according to their performance, shows the direction of change between 2019 and 2021 (if data are available from both timepoints) and indicates whether the change was significant. Table 4.2 shows the same information for service quality indicators.

In general, performance on the indicators of leadership and governance was stronger than the indicators of service quality; however, some quality indicators underwent significant gains between baseline and midline. Continued focus on service quality is warranted and, in fact, the improvements observed in leadership and governance may lead to improvements in quality as the program progresses.

Leadership and Governance

- Communications infrastructure within the health zone offices improved, particularly internet access, although internet speeds were often reported to be slow, particularly in remote areas. Relatedly, health zone offices exhibited strong and significantly improved rates of communication with other health zone offices and CODESAs. Health zone offices have also shown strong and improved performance in relaying MAPEPI case reports within 24 hours. Emphasis should be placed on improving rates of timely MAPEPI reporting in provincial health offices, where rates are mid-poor and have not changed, and on developing alternate reporting mechanisms for times when the internet is unreliable. Key informants reported ongoing challenges related to the collection and transmission of disease surveillance data from health structures to zonal offices
- Both the provincial health offices and health zone offices had high levels of participation in management and technical meetings. Participation in such meetings increased or remained constant between 2019 and 2021. Key informants indicated that USAID IHP supported a wide range of management and technical meetings at all levels of the health system.

- Rates of regular supervision increased at all levels of the health system—provincial offices, health zone offices (significantly), hospitals, and health centers. Within the cascade of supervision, hospitals were the least likely to be regularly supervised, and so increased focus on that level of supervision may be warranted. As hospitals and health zone offices are often located in close proximity, it may be useful to better understand the reasons for the relatively low frequency of supervision of hospitals. Key informants underlined the importance of the single contract approach, which serves as a mechanism to ensure assistance so that DPS offices adhere to mandates to supervise health zone activities.
- At midline, USAID IHP had begun revitalizing CODESAs and CACs in all nine provinces, with the goal of establishing a CODESA and have functioning CACs in every supported health zone. Health facility communication with CODESAs appeared to be strong. CODESAs also had relatively good access to patient feedback. As only midline data are available for those indicators, we cannot assess trajectory. However, given that CODESAs across the country have historically struggled to perform their roles, the relatively high performance at midline is encouraging. Key informants mentioned an increase in female CODESA members and reported that women constitute 30 percent of trained members and heads of CAC activities.
- Changes have not yet been observed in several key indicators due to the timing of activity implementation. Community scorecards are projected to roll out at the community level in Fiscal Year 4, so the survey data did not reflect improvements in that indicator between 2019 and 2021. Health zone participation in the PICAL assessment, another intervention introduced by the program, appeared low, but has increased significantly over time as USAID IHP is implemented. During Fiscal Years 2 and 3, travel restrictions associated with COVID-19 impeded execution of PICAL evaluations
- Key informants reported that support provided to IPS offices has increased audit and control visits to health zones and facilities and improved health personnel accountability regarding use of medications and finances. IPS audits involve discussions with health personnel, which help to enhance understanding of government rules and transparency. Lack of standard operating procedures of financial and administration systems was mentioned as a major obstacle to improving transparency and oversight
- Lastly, survey results showed health workers' overall satisfaction was relatively low in 2021. This was corroborated by the qualitative data, which indicated that most health workers continue to rely primarily on facility revenue and that those workers officially recognized by the government are receiving salary payments insufficient to meet their basic needs. Health provider working conditions are difficult and often lack adequate space and essential equipment. However, the 2021 survey data showed that health worker satisfaction improved significantly since 2019. Key informants stated that participating in USAID IHP's trainings was motivating to health workers, and that the program had planned other non-monetary interventions to improve satisfaction.

Service Quality

- The percentage of health facilities with an adequate number of midwives was one of two indicators that showed a statistically significant decrease. No health center surveyed had adequate numbers and mix of staff according to government guidelines, and the percentages of health centers with adequate numbers of staff within individual cadres were also persistently low. Continued focus on staffing levels is needed, particularly considering the nurses' strike of 2021, which may lead to further attrition of health workers. Key informants emphasized that attrition continues to be a major problem. They mentioned that IPs frequently recruit health personnel who have received USAID IHP supported training and politicians regularly use their influence to remove and appoint replacement health workers, disrupting IHP activities. USAID IHP's efforts to improve health worker satisfaction may be helpful in retaining staff but filling open positions should also be a priority.

- The second indicator that exhibited a statistically significant decrease overall was the presence of a private delivery room; this decrease occurred in both health centers and hospitals. Decreases were unequal across provinces. It is plausible that private delivery room space has been reassigned in response to other services increasing between 2019 and 2021; however, this is beyond the scope of the conclusions that can be drawn from the performance evaluation.
- While stockouts in tracer drugs may have been partially attributable to the COVID-19 pandemic, drug supply warrants close attention and monitoring. Further, although health centers continue to struggle with offering the minimum packages of preventive and curative services, there were increases in both indicators; in the case of preventive services, this increase was statistically significant. Within the minimum package, the two that were present at the lowest rates were mebendazole and zinc, which likely reflects the weaknesses in the medicine supply chain. A major constraint involves the dramatic decrease in the number of drugs USAID makes available for the program, which is particularly affecting maternal and child health program activities. Key informants reported that reductions in the supply of medications have negatively affected availability of medications in integrated community case management sites.
- Adequate levels of equipment, both basic and infection control-related, merits further attention, particularly in health centers. D4I is conducting a separate study of the medical equipment information system which will identify weaknesses in the system that may contribute to low levels of equipped facilities.
- Hospitals and health centers performed well in terms of having and displaying standard fee schedules, and qualitative data indicated that the program had encouraged this. However, key informants mentioned that flat-rate pricing requires several prerequisites not met in the DRC context and it is unclear whether health workers are adhering to posted fees. Furthermore, changes in the availability of medications are forcing health facilities to spend more money purchasing drugs and thus undermining the viability of standard fee schedules. Efforts should be made to promote the use of indigent fee schedules in both types of facilities, as approximately half of facilities did not have them. Long-acting contraception and SGBV services were offered in the majority of health centers and hospitals, and there were modest improvements in the availability of the contraceptive tracer drug (Depo-Provera) and the percentage of facilities offering youth-friendly family planning services. USAID IHP trained facility-based providers on application of modern methods and family planning counselling, including postpartum counselling, during CPS sessions. The program supports close to 1,700 community workers distributing family planning commodities, including injectables. In Fiscal Year 4, injectables will be made available to women for self-administration.

In this evaluation, the midline survey was conducted only 18 months after the baseline survey, yet positive trends, some of which are statistically significant, were observed. While this component of the evaluation cannot determine whether USAID IHP *caused* any of the changes, in general the trends appear positive, particularly for leadership and governance indicators. Further, the COVID-19 pandemic disrupted the functioning of the health system overall, and USAID IHP's activities specifically. Key informants cited communication interruptions, particularly with the MOH, and the inability to conduct in-person monitoring, training, and technical assistance, as major disruptors during the pandemic. This led to limiting or postponement of activities and had budgetary implications. Again, the fact that trends appear positive despite these challenges is encouraging.

Table E.1. Summary of leadership and governance indicators

Indicator	Performance (2021)	Direction
Capacity to plan, implement, and monitor services		
Health zone offices with a source of electricity	Mid-Strong	↑
Health zone offices with cellular telephone availability	Mid-Poor	↑*
Health zone offices with internet connectivity	Strong	↑*
Health zone offices' PICAL participation and score		
Health zone offices' participation in PICAL assessments	Poor	↑*
Supervision		
Health zone offices in communication with CODESAs at least monthly	Strong	↑*
Provincial health offices receiving higher-level supervision visits	Mid-Strong	↑
Health zone offices receiving higher-level supervision visits	Strong	↑*
Hospitals receiving higher-level supervision visits within the last completed calendar month	Mid-Poor	↑
Health centers receiving higher-level supervision visits within the last completed calendar month	Mid-Strong	↑
Health zone offices' communication with CODESAs		
Health facilities that participate in orientation of CODESA members	Strong	N/A
Health facilities' report of CODESA involvement in operations/management decisions	Mid-Strong	N/A
Provincial health office attendance at technical meetings and communications frequency with other health offices		
Provincial health offices' attendance at technical meetings	Strong	→
Health zone offices' communication with other health zone offices	Strong	↑*
Health zone offices' participation in Comités de Gestion (COGE) provincial meetings	Strong	↑
Health zone management of mutuelles		
Health zone offices tracking of mutuelles	Mid-Poor	↓*
Timing of health office reporting their most recent MAPEPI case		
Provincial health office reporting of MAPEPI cases within 24 hours	Mid-Poor	→
Health zone offices' report of most recent MAPEPI case within 24 hours	Strong	↑
Strengthened capacity of CSOs and community structures to provide health system oversight		
CODESA implementation of community scorecard activities	Mid-Poor	N/A
CODESA access to patient feedback and/or information about facility malfeasance	Mid-Strong	N/A
Health worker satisfaction		
Health workers who report being generally satisfied with their job	Mid-Poor	↑*

Notes: Strong = 75-100% of respondents; Mid-Strong = 50-74% of respondents; Mid-Poor = 25-49% of respondents; Poor = 0-24% of respondents overall in 2021. Arrows indicate the direction of change between 2019 and 2021 in the matched panel. * indicates that the change was statistically significant at p<0.1.

Table E.2. Summary of service quality indicators

Indicator	Performance (2021)	Direction
Service readiness		
Health centers offering the Ministry of Health's minimum package of preventive services	Mid-Poor	↑*
Health centers offering the Ministry of Health's minimum package of curative services	Poor	↑
Hospitals capable of malaria microscopy	Strong	↑
Hospitals capable of stool direct microscopic exam	Strong	↓
Hospitals capable of hemoglobin testing	Strong	→
Hospitals capable of white blood cell count	Strong	↑
Hospitals capable of leukocyte formula	Strong	↑*
Hospitals capable of sedimentation rate	Strong	↑
Hospitals capable of blood type crossmatch	Strong	→
Hospitals capable of Ziehl stain	Strong	→
Hospitals capable of gram stain	Mid-Strong	↓
Hospitals capable of urine analysis	Strong	→
Hospitals capable of blood glucose	Strong	↑
Hospitals capable of HIV testing	Strong	→
Hospitals capable of syphilis testing	Strong	↑*
Hospitals capable of pregnancy testing	Strong	→
Hospitals capable of hepatitis testing	Strong	↑*
Hospitals with x-ray machines	Strong	↑
Hospitals with ultrasound machines	Strong	↑
Hospitals with autoclave equipment	Strong	↑
Health centers with a source of electricity	Poor	↑
Hospitals with a source of electricity	Mid-Strong	↑
Health centers with improved sanitation	Strong	↑
Hospitals with improved sanitation	Strong	→
Health centers with a private delivery room	Mid-Poor	↓*
Hospitals with a private delivery room	Mid-Poor	↓*
Health centers with all six tracer drugs in stock on the day of the survey	Poor	↓
Hospitals with all six tracer drugs in stock on the day of the survey	Mid-Poor	↑*
Health centers with all basic equipment on the day of the survey	Mid-Poor	↑*
Hospitals with all basic equipment on the day of the survey	Strong	↓
Health centers with all 11 pieces of infection control equipment	Poor	→
Hospitals with all 11 pieces of infection control equipment	Poor	↑*
Health centers with comprehensive SGBV services	Mid-Poor	↑
Hospitals with comprehensive SGBV services	Strong	↑
Health centers offering long-acting contraceptive method(s)	Strong	↑
Hospitals offering long-acting contraceptive method(s)	Strong	↓

Indicator	Performance (2021)	Direction
Health centers with a health worker trained in youth-friendly family planning services	Mid-Poor	↑*
Hospitals with a health worker trained in youth-friendly family planning services	Mid-Poor	↓
Health centers with family planning information and resources specific to youth	Mid-Poor	↑*
Hospitals with family planning information and resources specific to youth	Mid-Poor	↓
Health centers capable of performing male sterilization	Poor	→
Health centers capable of performing female sterilization	Poor	→
Health centers capable of administering intra-uterine devices	Poor	→
Health centers capable of inserting and removing implants (Norplant, Jadelle, Sino-Implant II)	Poor	→
Health centers capable of inserting and removing implants (Implanon)	Poor	↑
Hospitals capable of performing male sterilization	Poor	→
Hospitals capable of performing female sterilization	Poor	↓
Hospitals capable of administering intra-uterine devices	Poor	↑
Hospitals capable of inserting and removing implants (Norplant, Jadelle, Sino-Implant II)	Poor	↓
Hospitals capable of inserting and removing implants (Implanon)	Poor	↑
Service delivery		
Health centers with adequate number of nurses	Mid-Poor	↑
Health centers with adequate numbers of midwives	Poor	↓*
Health centers with adequate numbers of laboratory technicians	Poor	↑
Health centers with adequate numbers of maintenance technicians	Poor	↑*
Health workers follow national guidelines in prescribing contraception in clinical vignette	Mid-Poor	↑
Health centers with a standard fee schedule	Strong	↑
Health centers with an indigent fee schedule	Mid-Strong	↑
Hospitals with a standard fee schedule	Strong	↑
Hospitals with an indigent fee schedule	Mid-Strong	→

Notes: Strong = 75-100% of respondents; Mid-Strong = 50-74% of respondents; Mid-Poor = 25-49% of respondents; Poor = 0-24% of respondents overall in 2021. Arrows indicate the direction of change between 2019 and 2021 in the matched panel. * indicates that the change was statistically significant at p<0.1. Indicators related to health worker attitudes (Tables 3.22 and 3.23) are omitted as they are contextual and cannot be categorized as "strong versus poor performance." Vignettes on child health and antenatal care are not directly comparable across survey rounds and are thus omitted from this table.

Project Background

As part of its strategy to improve health outcomes in the Democratic Republic of the Congo (DRC), the United States Agency for International Development (USAID) funded the USAID Integrated Health Program (IHP) in 2018. The program began operations in July 2018 and is being implemented by Abt Associates and several partner organizations. The purpose of USAID IHP is to strengthen the capacity of Congolese institutions and communities to deliver high-quality, integrated health services to sustainably improve the health status of the country's population. The specific health, population, and nutrition areas of focus for the project are maternal health; neonatal, infant, and child health; tuberculosis (TB); malaria; child nutrition; water, sanitation, and hygiene (WASH); and family planning (FP).

USAID IHP is working in nine contextually diverse provinces in the regions of Eastern Congo, Katanga, and Kasai, and implements a wide array of interventions.

Given the breadth and depth of the planned interventions, the USAID Mission in DRC requested Data for Impact (D4I) to conduct an independent, third-party evaluation of the performance and impact of USAID IHP on key health systems-related outcomes, including the uptake of FP and healthcare services; health systems functioning (i.e., improved disease surveillance, the availability of essential commodities, and health worker motivation); and the practice of key healthy behaviors.

The IHP team works closely with government health officials at the central, provincial, zonal, and health facility levels to build government capacity and leadership, and to increase the sustainability and local ownership of interventions. The USAID IHP's components address three program objectives, as follows.

Objective 1: Strengthen Health Systems, Governance, and Leadership at Provincial, Health Zone, and Facility Levels in Target Health Zones

The programmatic approaches related to Objective 1 aim to support provinces, health zones, and communities to become empowered stewards and effective managers of health system functions, via tailored needs-based interventions, guided by results of Participatory Institutional Capacity Assessment and Learning Index (PICAL) evaluations and human-centered design (HCD) techniques.

The PICAL tool is applied at provincial and health zone levels to foster a culture of self-assessment, enhance institutional capacity building, and guide the development and implementation of performance improvement action plans to support improved governance, leadership, and accountability. The capacity-building needs identified during PICAL assessments are also used to facilitate targeted technical assistance, coaching, and leadership training in (1) public financial management; (2) analysis and use of data for improved disease surveillance and facility-level data reporting; (3) management of human resources for health, taking gender into consideration in the recruitment and deployment of staff; and (4) use of a performance dashboard tool to equip provincial and health zone managers with real-time, data-driven, decision-making capabilities. Moreover, USAID IHP is optimizing the use of existing methods, such as results-based financing; employing mobile phone-based surveillance technologies; and strengthening supply chain activities to support quantification, forecasting, and timely inventory replenishment.

At the community level, USAID IHP is using the recently developed Ministry of Health (MOH) community dynamics strategy to improve stakeholder coordination and oversight functions. By facilitating collaboration among provincial, health zone, and community stakeholders, this strategy aims to strengthen the capacity of *Comités de Développement de l'Aire de Santé* (CODESAs [health area development committees]), civil society organizations (CSOs), and community-based organizations to be true partners in addressing social and behavior change (SBC) and mobilizing the demand for and uptake of improved health services. Activities to support community-level monitoring of health system performance include streamlining community scorecard

approaches; launching a toll-free fraud and complaints hotline number for reporting corruption, abuse, or similar allegations; and providing rights-based education to communities. Capacity-building of CODESAs, select CSOs, or community-based organizations also takes place through a Grant under Contract program. Together, this enhanced coordination capacity and multi-level collaboration supports more effective community stewardship of the health system, while demanding accountability of both local and provincial authorities.

Objective 2: Increase Access to Quality, Integrated Health Services in Target Health Zones

The programmatic approaches related to Objective 2 focus on increasing health service demand, access, and quality in the program's regions. A primary component entails scaling up health facilities that can provide essential, integrated, and high-quality health services. Facility-based activities include renovating health infrastructures; equipping health facilities with drugs and medical supplies; and building knowledge and capacity among health workers so that health personnel can provide a package of integrated services for maternal, neonatal, and child health; nutrition; FP and reproductive health; WASH; malaria; and TB.

The interventions also focus on improving health worker attitudes and interpersonal communications. As part of this approach, the project implements a fraud and complaints hotline and reporting system to enhance health worker accountability. Using a cluster model strategy, the project first prioritizes building capacity in a high-performing facility in a health zone, and once strengthened, uses that health structure to provide support and outreach to facilities in the same health zone. The project aims to strengthen other facilities located in more remote locations over the course of the project.

Community-based health activities are considered critical to increasing the use of facility services and improving the provision of essential health services, especially in remote locations. Interventions designed to strengthen community-based health services include recruitment of new community health workers (CHWs), especially women; training CHWs on health promotion (with a focus on WASH) and integrated community case management (iCCM); and training facility-based health workers on community outreach and the provision of health services at the community level. Community activities are being scaled up over time, with an initial focus on remote communities with access to supported health facilities. Interventions also involve strengthening referrals from community platforms and health centers (HCs) to referral hospitals. A general emphasis involves building collaboration with government health structures, the United States Government, and other donors by supporting and actively participating in central-level meetings during which learning experiences, needs, and priorities can be jointly identified and discussed, and policy influenced.

Objective 3: Increase the Adoption of Healthy Behaviors, including the Use of Health Services in Target Health Zones

The interventions related to Objective 3 are meant to increase the adoption of healthy behaviors and use of health services in targeted provinces. The strategy aims to raise community awareness and knowledge of healthcare services and address barriers to optimal healthcare-seeking, and to strengthen community engagement and social support to enable healthy behaviors. Specific interventions include a "healthy family" campaign composed of a multipronged educational program involving a family drama series focusing on common health problems and issues related to accessing facility and community-based health services, the care received, and satisfaction derived. Storylines disseminated through radio and text messaging highlight sociocultural barriers that inhibit access to services and the practice of healthy behaviors, and ways these barriers can be overcome. Radio listening sessions are organized to facilitate community discussions and reactions to scenarios presented during the drama series at the local level. The messages conveyed through the drama series are complemented by interpersonal communication carried out by CHWs and CODESAs, and are supported by women's organizations and other community-based groups through mobilization events. Open houses are held to showcase improvements in health facilities and encourage use.

The Champion Community model is being implemented to prioritize health areas (HAs) and target audiences, and to develop workplans and monitor activities in the targeted areas. Mini campaigns focused on addressing health problems are also being carried out according to specific and immediate needs. Efforts are being made to share lessons learned, harmonize strategies, and improve approaches by collaborating and coordinating with other groups involved in SBC, including the following: key government institutions working on communications; government officials, implementing agencies, and other stakeholders participating in coordination meetings (clusters, *Médecin Chef de Zone (health zone head physician)*, head nurse) at the central, provincial, and zonal levels; and USAID staff and partners.

The project aims to share SBC activity results with international audiences during academic conferences and through peer-reviewed, scientific manuscripts. At the local level, coordination of SBC approaches is being done with health zone offices, CODESAs, and *Cellules d'Animation Communautaire* (community-level organizations that engage in health communication), with assistance provided to health zones during the development of their operational action plans to ensure the overall goal of scalability of sound and effective messaging and activities that align with and contribute to the achievement of agreed on health goals.

The project started in July 2018 and is being implemented over a four-year period, with the possibility of a three-year extension. The project is led by Abt Associates, with the International Rescue Committee and Pathfinder International as core partners. Seven niche partners with expertise in health programming, designing innovative approaches, and research in fragile states—including in DRC—are participating.

Evaluation Methods and Limitations

Methods

D4I is carrying out two types of evaluation components for this study: a performance evaluation and an impact evaluation. As defined by USAID Evaluation Policy[1], performance evaluations incorporate before and after comparisons, but generally lack a rigorously defined counterfactual to control for factors other than the project or intervention that might account for the observed change. Impact evaluations assess the extent to which changes in health outcomes or service use over time are attributable to an intervention.

This report presents findings from the performance evaluation. The performance evaluation aspect of the study addresses: Research Question 1, which investigates changes over time in USAID IHP areas; Research Question 3, which examines the extent to which the project addressed issues of gender equity; and Research Question 4, which investigates factors that enabled or limited the success of the project. Data for this component of the study will come from multiple sources, including: the DRC's routine health information system (District Health Information Software, version 2 [DHIS2]); household surveys; surveys of healthcare facilities, health zone offices, and provincial health offices; and key informant and in-depth interviews, observations of patient-health worker interactions, and focus group discussions.

This report also includes findings from the qualitative data analysis. Ethical approval for this work was given by the Institutional Review Boards of Tulane University and the Kinshasa School of Public Health.

Findings from the impact evaluation are presented in a separate, companion report.

Data Collection

The analyses presented in this report use two waves of data collected from provincial health offices, health zone offices, hospitals, and health centers. For the midline survey, we added modules for CODESA (i.e., community health committee) members, and *relais communautaires* (i.e., CHWs). The baseline survey was conducted in six provinces (Sud-Kivu, Tanganyika, Kasai Oriental, Sankuru, Haut Katanga, and Lualaba), and the midline survey was conducted in these provinces and the remaining three provinces (Kasai Central, Lomami, and Haut Lomami).

In each selected province, data collectors attempted to survey all existing health zone offices. In each health zone, three health centers/posts were randomly selected. Once the facilities were selected, data collectors called via phone or visited the facility and spoke with the facility head. If the facility head agreed to participate, data collectors conducted surveys with that facility and its associated health workers. If the facility did not agree to participate, the next closest health facility in the health zone was invited to participate. If a health worker refused, they were replaced if there was another eligible health worker present. In addition, at each health center, we attempted to survey the highest-ranking CODESA member available and two randomly selected CHWs.

We attempted to survey the same facilities during both waves of data collection. Both surveys were administered by the Kinshasa School of Public Health.

[1] Evaluation Learning from Experience. USAID Evaluation Policy. USAID. Retrieved from https://www.usaid.gov/sites/default/files/documents/1870/USAIDEvaluationPolicy.pdf

Analysis of Change Over Time in USAID IHP-Supported Areas

The analyses that show change over time are based on a restricted sample of facilities that were surveyed in both waves. Because some facilities surveyed at baseline could not be revisited at midline, the results presented in this report may differ slightly from the results in the baseline report. The values for key indicators were tabulated for each wave individually, and the absolute and percentage point changes between 2019 and 2021 were calculated. Unadjusted tests of statistical significance (chi-square tests and Fischer's exact tests) were done. Results were stratified by province. For composite indicators (e.g., offering the minimum package of preventive services), findings were also disaggregated by the indicators comprising them (antenatal care [ANC], FP services, etc.) overall.

It should be noted that questionnaires were divided into modules so that multiple data collectors could work at the same facility in tandem. Each survey module was administered separately; therefore, in a very limited number of cases, a facility may be missing an individual module. This means that the n values may differ slightly throughout the analyses.

Cross-Sectional Analyses in USAID IHP-Supported Areas

As stated previously, we added modules for CODESA members and CHWs to the midline survey and expanded our survey area to include the three provinces (Kasai Central, Lomami, and Haut Lomami) that were not surveyed at baseline. Select indicators related to USAID IHP's community approach are presented for 2021 only and are disaggregated by all nine provinces supported.

Qualitative Methods

Key informant interviews were conducted with a range of experts from the central to the zonal levels working on health systems strengthening. Key informants included experts working directly on USAID IHP activities, collaborating on USAID IHP activities, or involved in other health service delivery strategies in the DRC. These interviews covered the design and implementation of USAID IHP, changes observed to date, and the impact of COVID-19 on the program and the health system generally.

Data from key informant and in-depth interviews was audio recorded, translated from local language into French when needed, and transcribed in French or English. Based on reviews of data transcripts, research assistants and the lead researcher worked together to develop a coding system. Coding categories were derived from the initial research themes and questions, as well as from key concepts that emerged during data collection. Coding of the interview transcripts was done using ATLAS.ti, a text-organizing software. Content analysis was used to identify trends of concepts in and across individual codes. Data were triangulated across different sites and across and between respondents.

Limitations

The analyses presented in this report have several limitations. Although the closed panel design of the survey minimizes the impact of confounding variables, the surveys were conducted at different times of year. In this report, we do not control for the potential effects of seasonality.

Moreover, because the baseline survey was conducted in only six of the nine USAID IHP-supported provinces, many of the findings presented here are not fully representative of the program.

Last, midline survey data were collected during the 2019 coronavirus disease (COVID-19) pandemic (April and May 2021). Although case rates appear to have been low in most USAID IHP-supported areas, we cannot rule out an impact on service readiness or service delivery during this time. Findings from qualitative data collection focusing on the impact of COVID-19 on the program can help inform conclusions.

Purpose of the Report

This report presents the results from the D4I baseline and midline health system surveys, which were conducted in September and October 2019 and April and May 2021, respectively. Progress toward key indicators is presented related to (1) strengthened health systems, governance, and leadership at the provincial, health zone, and facility levels; and (2) increased access to quality, integrated services. This report offers an analysis of these outcome variables. Analysis of changes in household-level health behavior indicators is pending a second wave of the household survey, which is managed by Abt Associates.

Results

Sample Sizes, by Respondent Types

The numbers of responding facilities and individuals are shown in Table 1.1. It should be noted that sample sizes in results tables may vary depending on the number of facilities that responded to specific survey modules and/or survey questions.

Table 1.1. Responding health offices, facilities, workers, CODESAs and relais communautaire, by survey round

Respondent type	2019	2021*	Matched pairs across both years	2021 full sample
Provincial health office	6	6	6	9
Health zone office	106	120	103	175
Hospital	112	123	112	148
Health center	328	355	317	553
Health worker	1,202	1,115	N/A**	2,015
CODESA	N/A	377	N/A	N/A
CHW	N/A	703	N/A	N/A

Notes: *Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental.
**Matched health worker analyses were limited to health workers at facilities that we surveyed in 2019 and 2021. Individual health workers cannot be tracked across survey rounds.

Leadership and Governance

Health Zone Office Representation for Surveys/Interviews

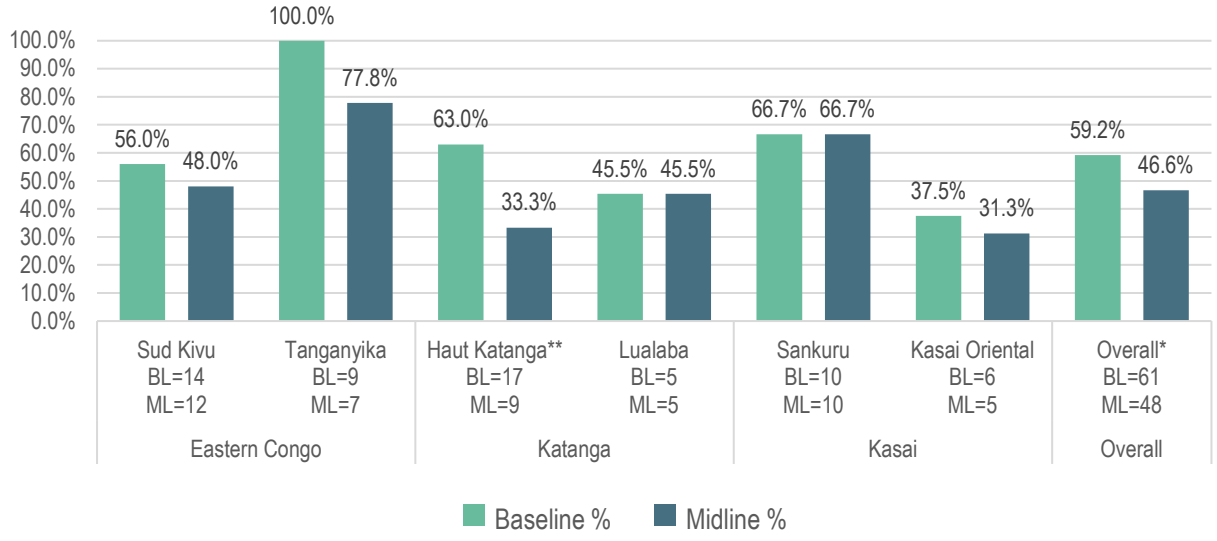
For the health zone offices, data collectors were instructed to administer the survey to the highest-ranking official present. At baseline, nearly 60 percent of respondents self-reported as the head of the health zone office, whereas only 46.6 percent of respondents reported this at the time of the midline survey (Table 2.1 and Figure 2.1). This decrease was not statistically significant overall; however, the nearly 30 percentage point (PP) decline in respondents reporting to be the head of the health zone office was significant in Haut Katanga province ($p = 0.03$). Moreover, at baseline, just over half (54.1%) of interviewees reported their position as chief medical officer, dropping by 5.6 percentage points at the time of the midline survey (Table 2.2 and Figure 2.2). There were no significant differences in the number of chief medical officer respondents overall or at the provincial level. At the time of the midline survey, Kasai Central was the province where the highest-ranking officials were least likely to be interviewed based on percentages.

Table 2.1. Health zone office head is survey respondent, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 103)		2021 (N = 103)		PP difference	p-value	2021 (N = 175)	
	n	Percent	n	Percent			n	Percent
Overall	61	59.2	48	46.6	-12.6	0.07*	79	45.1
Eastern Congo								
Sud Kivu	14	56.0	12	48.0	-8.0	0.57	14	43.8
Tanganyika	9	100.0	7	77.8	-22.2	0.47	8	80.0
Katanga								
Haut Katanga	17	63.0	9	33.3	-29.6	0.03**	9	33.3
Lualaba	5	45.5	5	45.5	0.0	1.00	5	35.7
Haut Lomami	0		0				10	62.5
Kasai								
Sankuru	10	66.7	10	66.7	0.0	1.00	10	62.5
Kasai Central	0		0				8	30.8
Kasai Oriental	6	37.5	5	31.3	-6.3	1.00	7	36.8
Lomami	0		0				8	53.3

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.1. Health zone office head is survey respondent, by province and survey round†



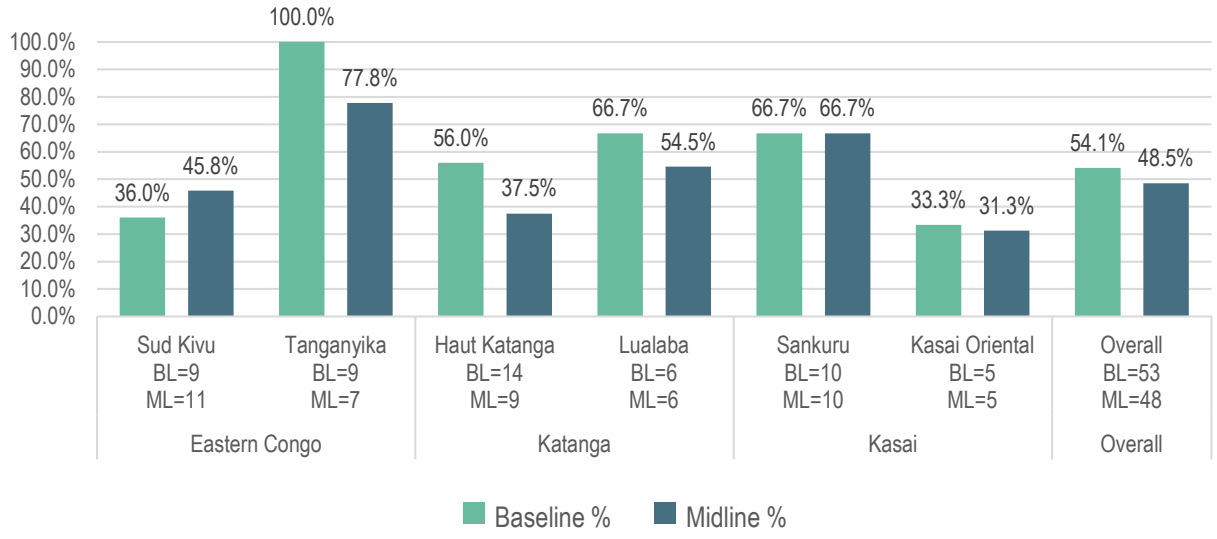
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.2. Health zone chief medical officer is survey respondent, by province and survey round

	Matched panel†						Cross-section	
	2019		2021				2021	
	(N = 98)		(N = 99)				(N = 167)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	53	54.1	48	48.5	-5.6	0.43	72	43.1
Eastern Congo								
Sud Kivu	9	36.0	11	45.8	9.8	0.48	13	41.9
Tanganyika	9	100.0	7	77.8	-22.2	0.47	8	80.0
Katanga								
Haut Katanga	14	56.0	9	37.5	-18.5	0.19	9	37.5
Lualaba	6	66.7	6	54.5	-12.1	0.67	6	46.2
Haut Lomami	0		0				9	56.3
Kasai								
Sankuru	10	66.7	10	66.7	0.0	1.00	10	62.5
Kasai Central	0		0				5	20.8
Kasai Oriental	5	33.3	5	31.3	-2.1	1.00	6	31.6
Lomami	0		0				6	42.9

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.2. Health zone chief medical officer is survey respondent, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Capacity to Plan, Implement, and Monitor Services

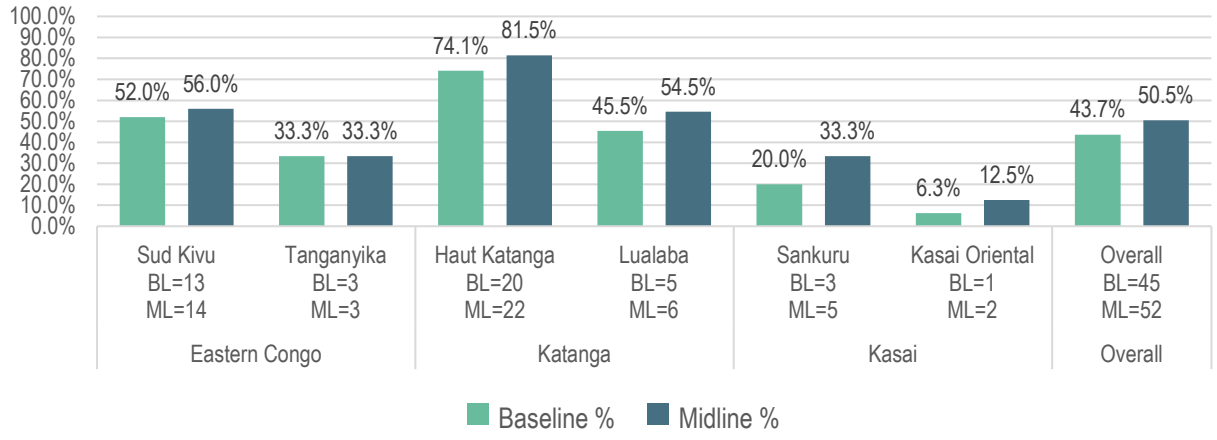
Electricity enables efficient work and regular communication. Overall, 50.5 percent of health zone offices had any source of electricity at midline, up from 43.7 percent at baseline (Table 2.3 and Figure 2.3). Health zones in Haut Katanga had the highest percentage of offices with electricity at midline (81.5%) and health zones in Kasai Oriental had the lowest percentage at midline (12.5%). There were no significant changes in health zone offices with sources of electricity between the baseline and midline surveys. Moreover, there was no difference in the number/percentage of health zone offices with functioning electricity at the time of the survey from baseline to midline (Table 2.4 and Figure 2.4); however, there were four fewer offices reporting eight hours of electricity (Table 2.5 and Figure 2.5). On average, health zone offices with functional electricity reported approximately six hours of electricity per day at both baseline and midline (Figure 2.6).

Table 2.3. Health zone offices with any source of electricity, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 103)		2021 (N = 103)		PP difference	p-value	2021 (N = 175)	
	n	Percent	n	Percent			n	Percent
Overall	45	43.7	52	50.5	6.8	0.33	95	54.3
Eastern Congo								
Sud Kivu	13	52.0	14	56.0	4.0	0.78	19	59.4
Tanganyika	3	33.3	3	33.3	0.0	1.00	4	40.0
Katanga								
Haut Katanga	20	74.1	22	81.5	7.4	0.75	22	81.5
Lualaba	5	45.5	6	54.5	9.1	1.00	9	64.3
Haut Lomami	0		0				12	75.0
Kasai								
Sankuru	3	20.0	5	33.3	13.3	0.68	6	37.5
Kasai Central	0		0				18	69.2
Kasai Oriental	1	6.3	2	12.5	6.3	1.00	2	10.5
Lomami	0		0				3	20.0

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.3. Health zone offices with any source of electricity, by province and survey round†



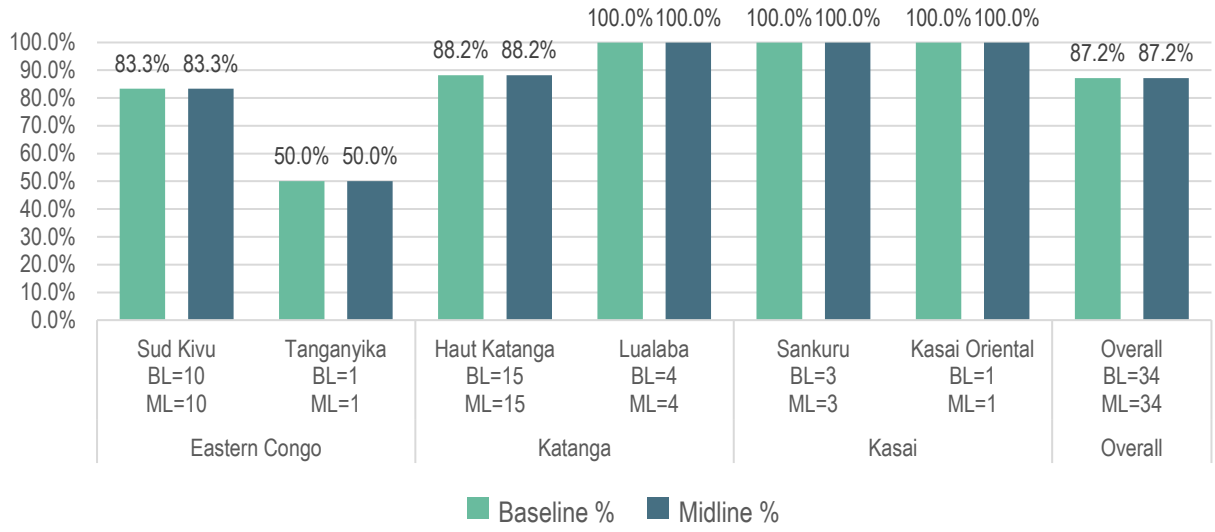
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.4. Health zone offices with functioning electricity on the day of the survey, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 39)		2021 (N = 39)				2021 (N = 95)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	34	87.2	34	87.2	0.0	1.00	79	83.2
Eastern Congo								
Sud Kivu	10	83.3	10	83.3	0.0	1.00	14	73.7
Tanganyika	1	50.0	1	50.0	0.0	1.00	3	75.0
Katanga								
Haut Katanga	15	88.2	15	88.2	0.0	1000	18	81.8
Lualaba	4	100.0	4	100.0	0.0	1.00	9	100.0
Haut Lomami	0		0				10	83.3
Kasai								
Sankuru	3	100.0	3	100.0	0.0	1.00	6	100.0
Kasai Central	0		0				14	77.8
Kasai Oriental	1	100.0	1	100.0	0.0	1.00	2	100.0
Lomami	0		0				3	100.0

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.4. Health zone offices with functioning electricity on the day of the survey, by province and survey round†



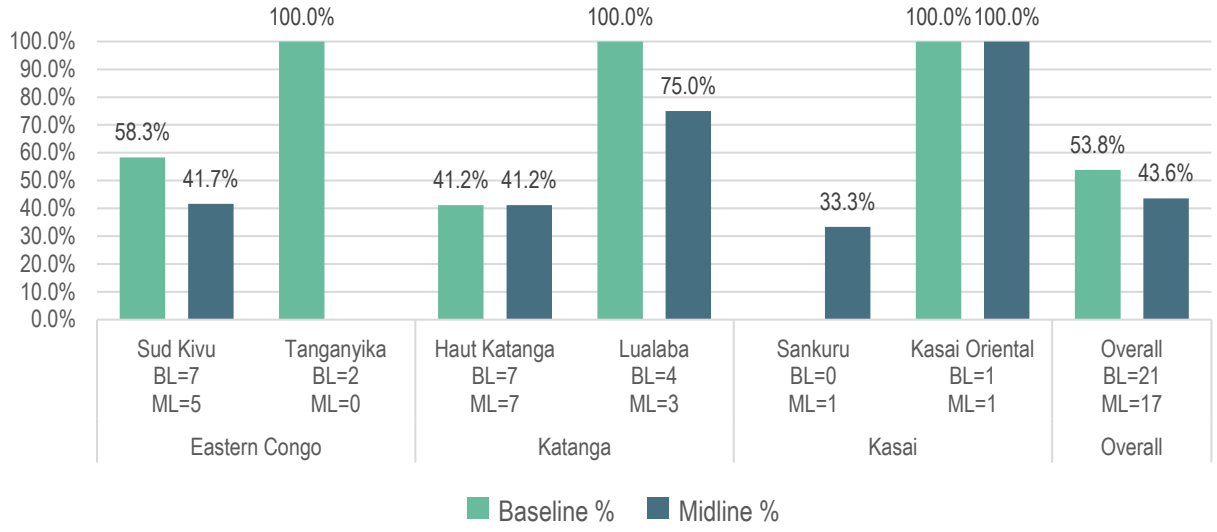
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.5. Health zone offices with eight hours of electricity among those offices with functional electricity, by province and survey round

	Matched panel†						Cross-section	
	2019		2021				2021	
	(N = 39)		(N = 39)				(N = 95)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	21	53.8	17	43.6	-10.3	0.37	44	46.3
Eastern Congo								
Sud Kivu	7	58.3	5	41.7	-16.7	0.68	9	47.4
Tanganyika	2	100.0	0	0.0	-100.0	0.33	0	0.0
Katanga								
Haut Katanga	7	41.2	7	41.2	0.0	1.00	10	45.5
Lualaba	4	100.0	3	75.0	-25.0	1.00	5	55.6
Haut Lomami	0		0				8	66.7
Kasai								
Sankuru	0	0.0	1	33.3	33.3	1.00	1	16.7
Kasai Central	0		0				8	44.4
Kasai Oriental	1	100.0	1	100.0	0.0	1.00	2	100.0
Lomami	0		0				1	33.3

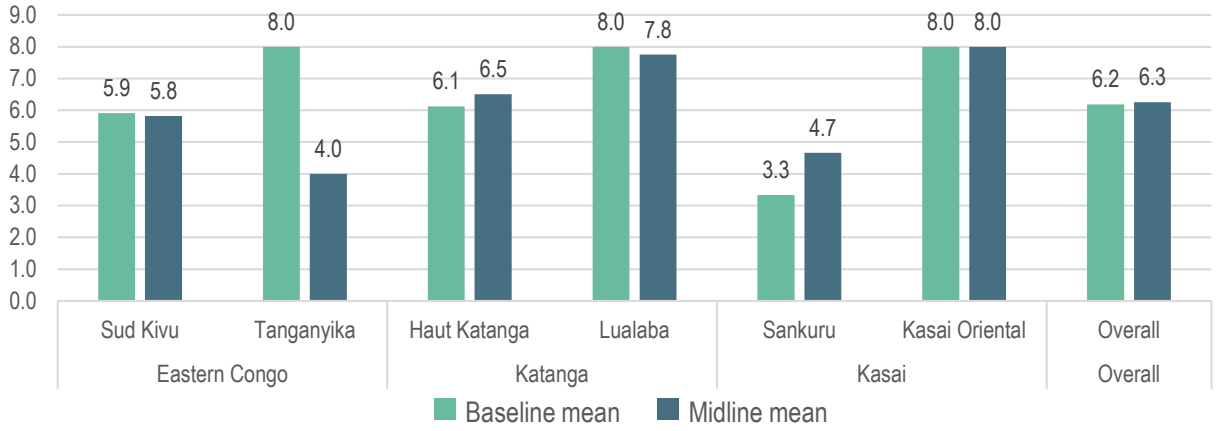
†Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.5. Health zone offices with eight hours of electricity among those offices with functional electricity, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.6. Mean number of hours of electricity per day in health zone offices, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

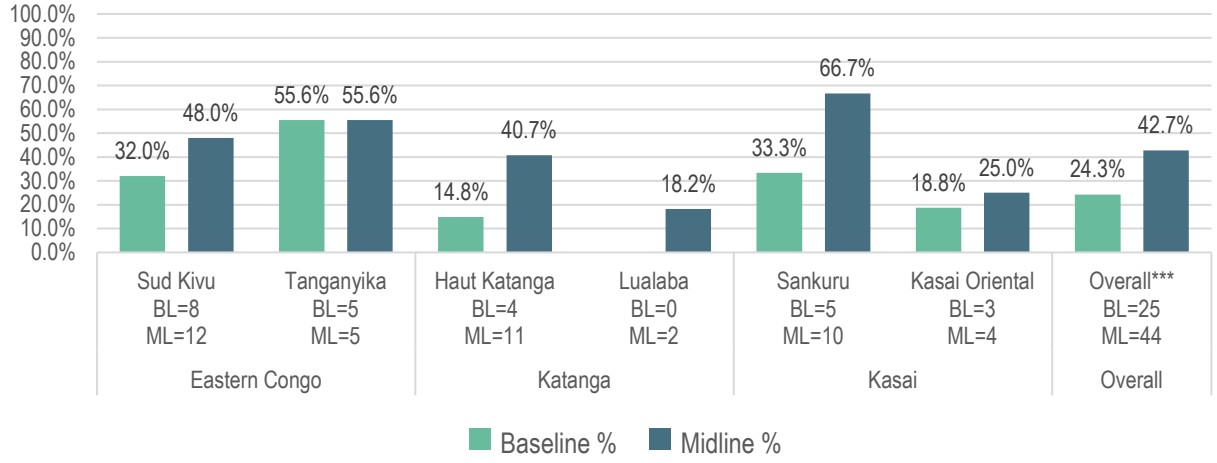
A reliable means of communication is critical for health zone offices to carry out their oversight and reporting functions. Table 2.6 and Figure 2.7 display the percentage of health zone offices by province that had a cellular telephone or an internet connection (either provided by the office or employees' personal devices). Overall, there was an 18.4 percentage point increase in health zone offices reporting cellular telephone ownership (24.3% at baseline to 42.7% at midline; p-value < 0.01). At the same time, only about one-third of all health zone offices reported cellular telephone ownership when considering the midline data alone (65 of 175; 37.1%). Health zones in Lomami and Kasai Oriental had the lowest number of offices with cellular telephones based on midline data alone.

Table 2.6. Cellular telephone availability at health zone offices, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 103)		2021 (N = 103)		PP difference	p-value	2021 (N = 175)	
	n	Percent	n	Percent			n	Percent
Overall	25	24.3	44	42.7	18.4	0.01***	65	37.1
Eastern Congo								
Sud Kivu	8	32.0	12	48.0	16.0	0.25	16	50.0
Tanganyika	5	55.6	5	55.6	0.0	1.00	5	50.0
Katanga								
Haut Katanga	4	14.8	11	40.7	25.9	0.07	11	40.7
Lualaba	0	0.0	2	18.2	18.2	0.48	3	21.4
Haut Lomami	0		0				5	31.3
Kasai								
Sankuru	5	33.3	10	66.7	33.3	0.14	11	68.8
Kasai Central	0		0				8	30.8
Kasai Oriental	3	18.8	4	25.0	6.3	1.00	4	21.1
Lomami	0		0				2	13.3

†Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.7. Cellular telephone availability at health zone offices, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

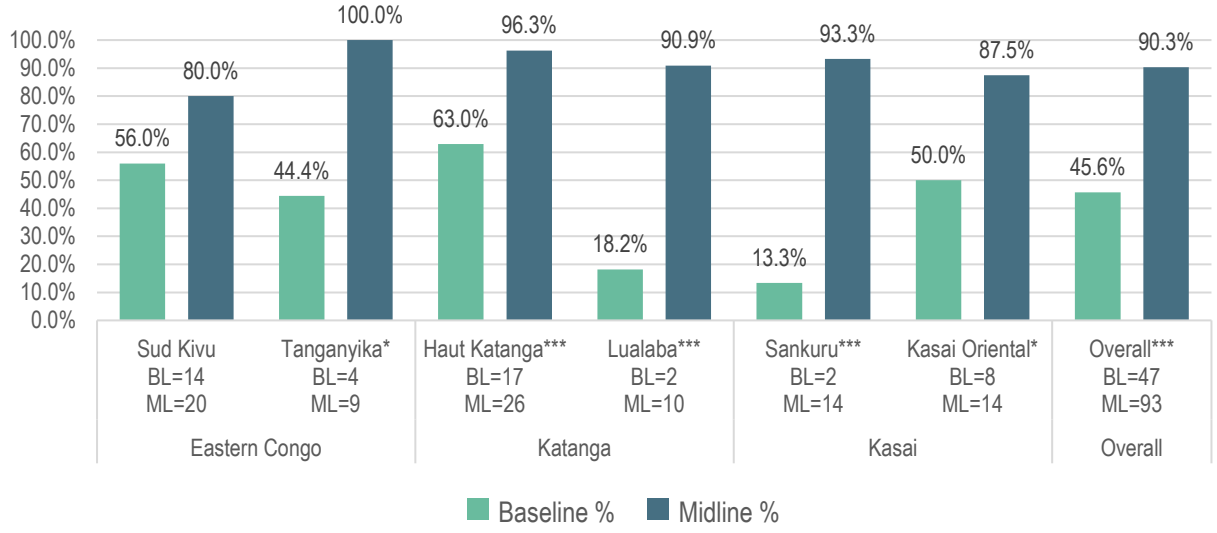
Health zone offices reporting internet connections increased sharply across all provinces. Overall, there was a 44.7 percent increase (p-value < 0.01) with statistically significant increases in Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental (Table 2.7). At the time of the midline survey, at least 78 percent of health zone offices reported internet connections across all target provinces, with 100 percent reporting access in Tanganyika (Table 2.7 and Figure 2.8). Despite progress in internet access, connectivity was generally reported at less than eight hours per day (Table 2.8 and Figure 2.9); however, there was a significant increase of 28.4 percentage points in offices reporting eight-hour connectivity between the baseline and midline surveys (p-value < 0.01). The midline average number of hours of internet connectivity increased to 5.6 hours, up from 3.8 hours at baseline (Figure 2.10).

Table 2.7. Internet connectivity at health zone offices, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 103)		2021 (N = 103)				2021 (N = 175)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	47	45.6	93	90.3	44.7	<0.01***	157	89.7
Eastern Congo								
Sud Kivu	14	56.0	20	80.0	24.0	0.13	25	78.1
Tanganyika	4	44.4	9	100.0	55.6	0.03**	10	100.0
Katanga								
Haut Katanga	17	63.0	26	96.3	33.3	<0.01***	26	96.3
Lualaba	2	18.2	10	90.9	72.7	<0.01***	13	92.9
Haut Lomami	0		0				15	93.8
Kasai								
Sankuru	2	13.3	14	93.3	80.0	<0.01***	15	93.8
Kasai Central	0		0				22	84.6
Kasai Oriental	8	50.0	14	87.5	37.5	0.05*	17	89.5
Lomami	0		0				14	93.3

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.8. Internet connectivity at health zone offices, by province and survey round†



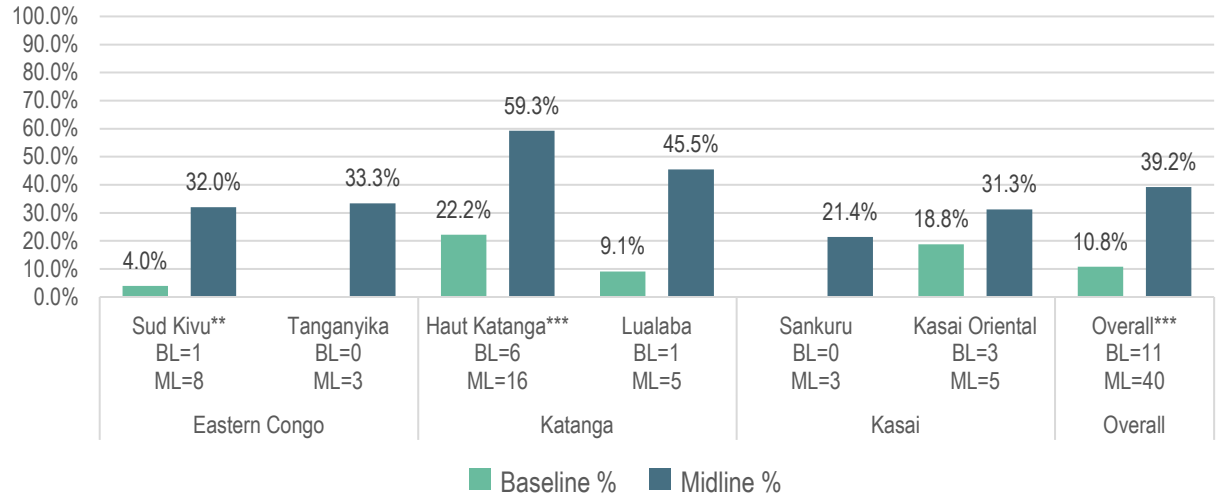
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.8. Internet connectivity for at least eight hours per day at health zone offices, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 102)		2021 (N = 102)		PP difference	p-value	2021 (N = 175)	
	n	Percent	n	Percent			n	Percent
Overall	11	10.8	40	39.2	28.4	<0.01***	59	33.7
Eastern Congo								
Sud Kivu	1	4.0	8	32.0	28.0	0.02**	9	28.1
Tanganyika	0	0.0	3	33.3	33.3	0.21	3	30.0
Katanga								
Haut Katanga	6	22.2	16	59.3	37.0	<0.01***	16	59.3
Lualaba	1	9.1	5	45.5	36.4	0.15	5	35.7
Haut Lomami	0		0				5	31.3
Kasai								
Sankuru	0	0.0	3	21.4	21.4	0.22	4	25.0
Kasai Central	0		0				8	30.8
Kasai Oriental	3	18.8	5	31.3	12.5	0.69	6	31.6
Lomami	0		0				3	20.0

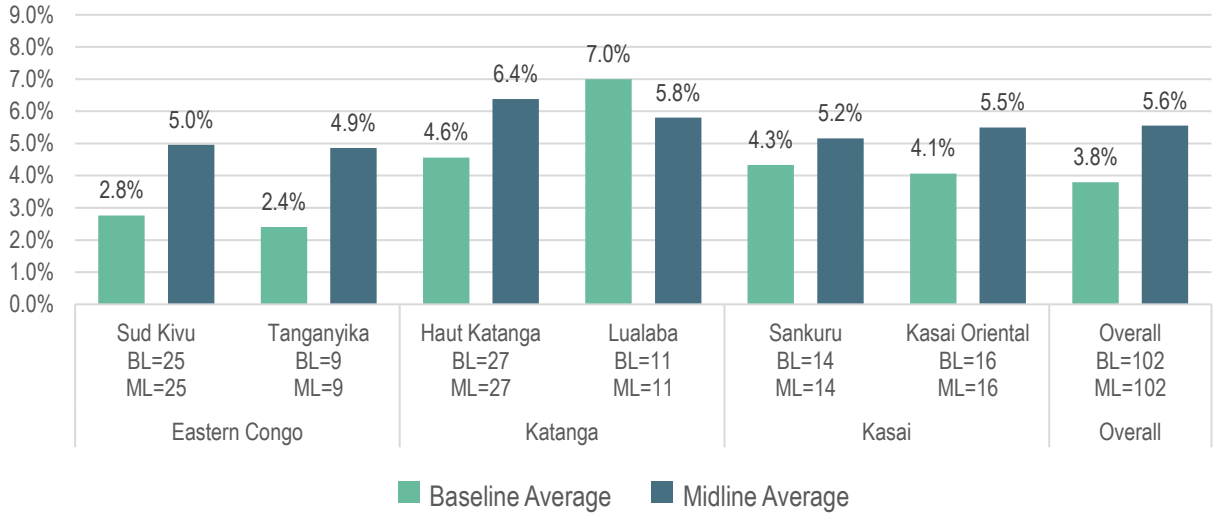
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.9. Internet connectivity for at least eight hours per day at health zone offices, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.10. Mean number of hours of internet connectivity at health zone offices, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Health Zone Offices' PICAL Participation and Score

One hundred and three health zones were assessed on whether they had ever participated in a PICAL assessment at both the baseline and midline survey times. A nearly 20 percentage point increase ($p < 0.01$) was noted for health zone offices participating in PICAL assessments at the time of the midline survey compared with baseline (Table 2.9 and Figure 2.11). Of those matched health zone offices reporting involvement in a PICAL assessment, all noted that the assessment had occurred in the past six months at the time of the baseline survey. However, at the time of the midline survey, only 50 percent reported the assessment occurring in the previous six months. Among the matched health zone office pairs, the majority reported receiving their PICAL scores (Table 2.10 and Figure 2.12). Although 22 health zone offices reported receiving their PICAL scores at the time of the midline survey, only six were able to relay these scores:

- Kanzenze health zone office in Lualaba Province reported a score of 30
- Bipemba health zone office in Kasai Oriental Province reported a score of 40
- Cilundu health zone office in Kasai Oriental Province reported a score of 53
- Kafubu health zone office in Haut Katanga Province reported a score of 70
- Kapolowe health zone office in Haut Katanga Province reported a score of 74
- Dikungu health zone office in Sankuru Province reported a score of 99
    - It is possible that the reported value for the Dikungu health zone office was supposed to be a negative 99 for "don't know."

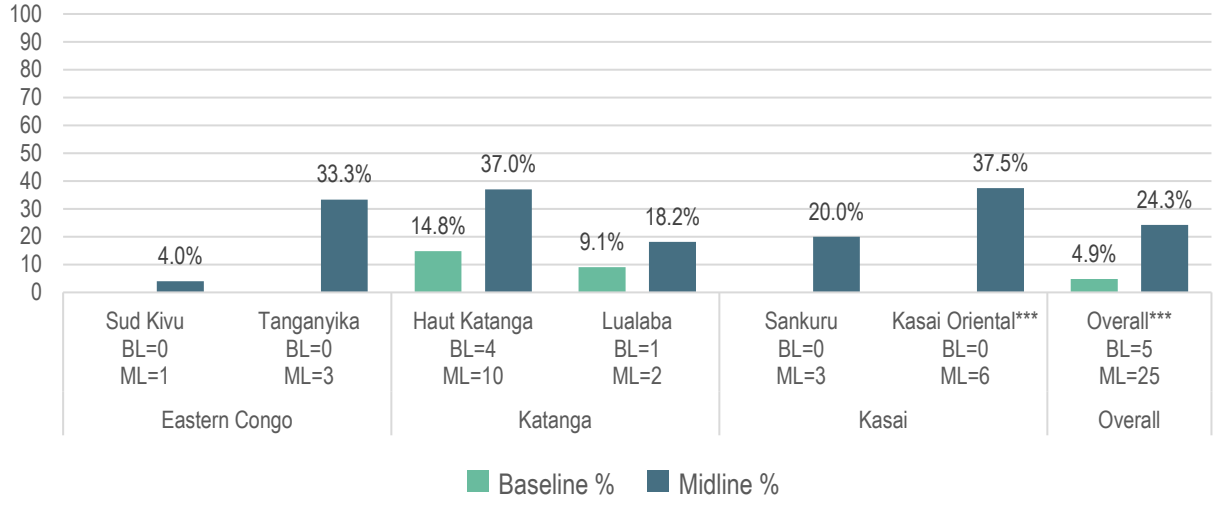
The survey question did not detail how to report the PICAL score, so it is not clear whether scores reported were the facilities' composite score for all four dimensions of capacity that were assessed, or for a sub-set of dimensions. The maximum possible score for the full set of dimensions is 170.

Table 2.9. Health zone offices participation in PICAL assessments, by province and survey round

	Matched panel†						Cross-section	
	2019		2021				2021	
	(N = 103)		(N = 103)				(N = 175)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	5	4.9	25	24.3	19.4	<0.01***	42	24.0
Eastern Congo								
Sud Kivu	0	0.0	1	4.0	4.0	1.00	1	3.1
Tanganyika	0	0.0	3	33.3	33.3	0.21	3	30.0
Katanga								
Haut Katanga	4	14.8	10	37.0	22.2	0.11	10	37.0
Lualaba	1	9.1	2	18.2	9.1	1.00	5	35.7
Haut Lomami	0		0				6	37.5
Kasai								
Sankuru	0	0.0	3	20.0	20.0	0.22	3	18.8
Kasai Central	0		0				4	15.4
Kasai Oriental	0	0.0	6	37.5	37.5	<0.01***	7	36.8
Lomami	0		0				3	20.0

†Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.11. Health zone offices participation in PICAL assessments, by province and survey round†



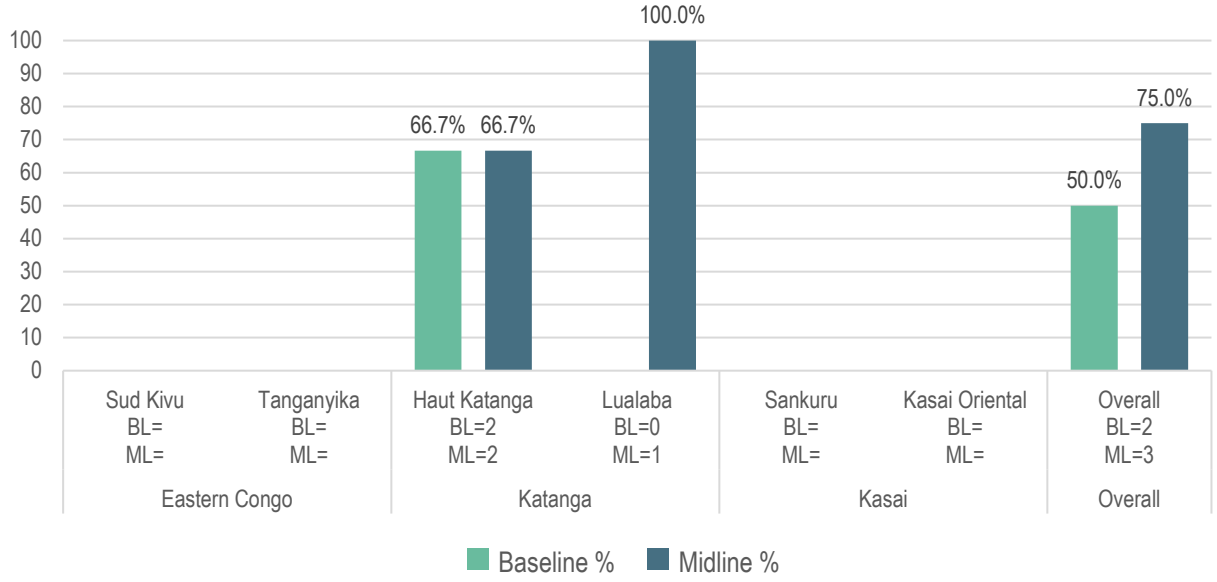
†Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.10. Health zone offices that received PICAL assessment scores, by province and survey round, among those that had participated in a PICAL assessment

	Matched panel†						Cross-section	
	2019 (N = 4)		2021 (N = 4)				2021 (N = 42)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	2	50.0	3	75.0	25.0	1.00	22	52.4
Eastern Congo								
Sud Kivu							1	100.0
Tanganyika							0	0.0
Katanga								
Haut Katanga	2	66.7	2	66.7	0.0	1.00	3	30.0
Lualaba	0	0.0	1	100.0	100.0	1.00	5	100.0
Haut Lomami	0		0				3	50.0
Kasai								
Sankuru							2	66.7
Kasai Central	0		0				3	75.0
Kasai Oriental							3	42.9
Lomami	0		0				2	66.7

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.12. Health zone offices that received PICAL assessment scores, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Offices and Health Facilities That Were Visited in a Supervisory Capacity by a Higher-Level Authority in the Prescribed Time Frame

The government-run health system in the DRC is designed to have a cascade of supervision: the national level supervises the provincial health offices, which in turn supervise the health zone offices. The health zone offices are primarily responsible for supervising the hospitals and HCs. At baseline, four of the six surveyed provincial health offices reported that they were visited by national-level authorities in the prescribed six completed calendar months before the survey (Table 2.11). At midline, only three of the same six provinces reported a supervisory visit; however, of the nine total provinces surveyed at midline, five of nine received a visit.

All but one health zone office had received supervision visits from the central/national or provincial level in the prior calendar year (2018 and 2020) at both survey time points. Overall, across the 88 matched health zone office pairs between the baseline and midline survey, there was a significant increase ($p < 0.01$) in the number of offices that reported receiving supervisory visits from a higher-level authority within six months from the time of the surveys (Table 2.12 and Figure 2.13). At the provincial level, significant increases in supervisory visits were noted for Sankuru ($p = 0.04$) and Kasai Oriental ($p = 0.05$) provinces. Focusing on the midline survey results only, nearly 90 percent of all health zone offices reported received a supervisory visit from a higher-level authority at some point in the six months preceding the survey, with Lomami and Haut Katanga provinces noting the lowest and highest percentages, respectively.

Table 2.11. Provincial health offices receiving higher-level supervision visits in the prior calendar year, by province and survey round

	Matched panel†		Cross-section
	2019	2021	2021
	(N = 6)	(N = 6)	(N = 9)
	Percent	Percent	Percent
Overall	67.0	50.0	56.0
Eastern Congo			
Sud Kivu	Yes	Yes	Yes
Tanganyika	Yes	No	No
Katanga			
Haut Katanga	No	No	No
Lualaba	No	No	No
Haut Lomami			Yes
Kasai			
Sankuru	Yes	Yes	Yes
Kasai Central			No
Kasai Oriental	Yes	Yes	Yes
Lomami			Yes

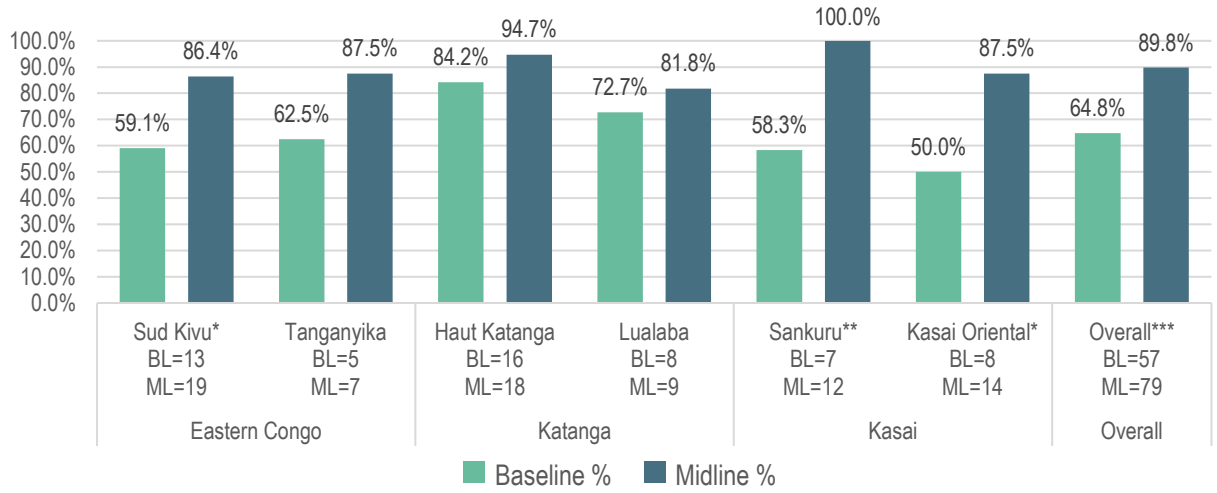
†Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental.

Table 2.12. Health zone offices receiving higher-level supervision visits in the prior calendar year, by province and survey round

	Matched panel†						Cross-section	
	2019		2021				2021	
	(N = 88)		(N = 88)				(N = 167)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	57	64.8	79	89.8	25.0	<0.01***	147	88.0
Eastern Congo								
Sud Kivu	13	59.1	19	86.4	27.3	0.09*	27	87.1
Tanganyika	5	62.5	7	87.5	25.0	0.57	8	88.9
Katanga								
Haut Katanga	16	84.2	18	94.7	10.5	0.60	23	95.8
Lualaba	8	72.7	9	81.8	9.1	1.00	11	78.6
Haut Lomami	0		0				13	86.7
Kasai								
Sankuru	7	58.3	12	100.0	41.7	0.04**	14	93.3
Kasai Central	0		0				23	92.0
Kasai Oriental	8	50.0	14	87.5	37.5	0.05*	17	89.5
Lomami	0		0				11	73.3

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.13. Health zone offices receiving higher-level supervision visits in the prior calendar year, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

There was negligible overall change in the percentage of hospitals that reported receiving supervision in the past month (Table 2.13). Results for individual provinces were mixed; Sud Kivu, Haut Katanga, and Kasai Oriental saw increases, whereas Tanganyika and Lualaba saw decreases, and Sankuru was unchanged. No changes were significant.

Likewise, there was virtually no difference in the percentage of health facilities that reported receiving supervision in the past month (Table 2.14). Like hospitals, health facilities in Tanganyika and Lualaba saw decreases in the percentage of visits from baseline to midline, with a significant decline in Lualaba.

Table 2.13. Hospitals receiving higher-level supervision visits (from provincial health office and/or health zone office) in the last completed calendar month, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 110)		2021 (N = 110)		PP difference	p-value	2021 (N = 146)	
	n	Percent	n	Percent			n	Percent
Overall	39	35.5	40	36.4	0.9	0.89	50	34.2
Eastern Congo								
Sud Kivu	7	22.6	10	32.3	9.7	0.39	11	33.3
Tanganyika	6	66.7	3	33.3	-33.3	0.35	3	27.3
Katanga								
Haut Katanga	15	55.6	16	59.3	3.7	0.78	16	57.1
Lualaba	5	45.5	2	18.2	-27.3	0.36	2	14.3
Haut Lomami							3	33.3
Kasai								
Sankuru	1	7.1	1	7.1	0.0	1.00	2	12.5
Kasai Central							5	50.0
Kasai Oriental	5	27.8	8	44.4	16.7	0.49	8	42.1
Lomami							0	0.0

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.14. Health centers receiving higher-level supervision visits (from provincial health office and/or health zone office) in the last completed calendar month by province and survey round

	Matched panel†						Cross-section	
	2019		2021				2021	
	(N = 323)		(N = 323)		PP difference	p-value	(N = 541)	
	n	Percent	n	Percent			n	Percent
Overall	184	57.0	189	58.5	1.5	0.69	273	50.5
Eastern Congo								
Sud Kivu	44	50.0	47	53.4	3.4	0.65	53	55.2
Tanganyika	18	62.1	15	51.7	-10.3	0.43	16	50.0
Katanga								
Haut Katanga	53	75.7	54	77.1	1.4	0.84	56	75.7
Lualaba	25	64.1	16	41.0	-23.1	0.04*	16	38.1
Haut Lomami							25	51.0
Kasai								
Sankuru	14	30.4	21	45.7	15.2	0.13	22	46.8
Kasai Central							35	38.5
Kasai Oriental	30	58.8	36	70.6	11.8	0.21	39	69.6
Lomami							11	20.4

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Frequency of Health Zone Offices' Communication with CODESAs

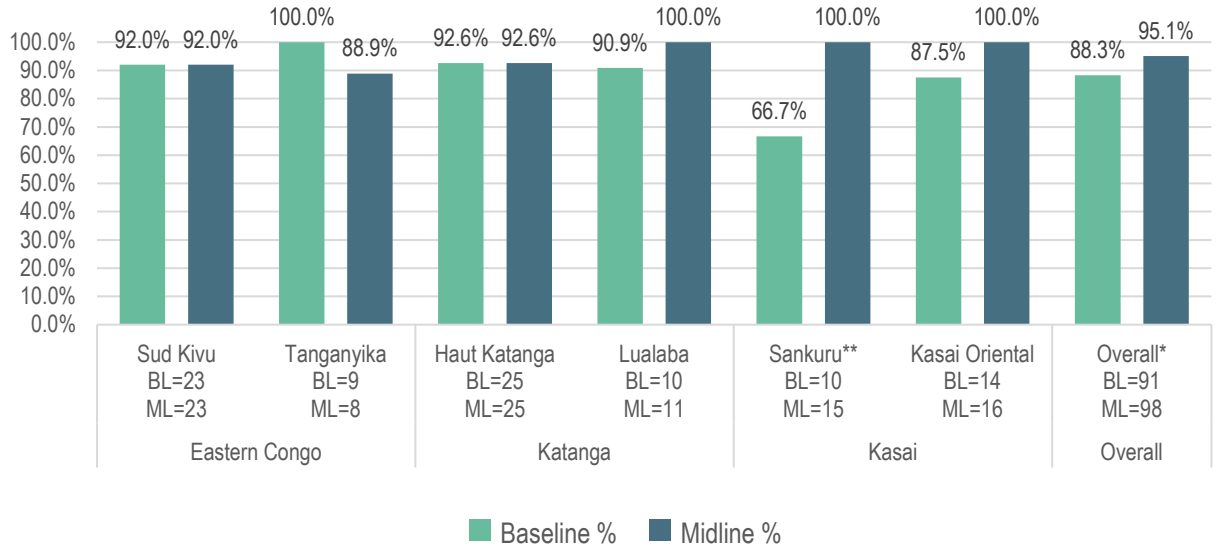
A binary classification was established for the frequency of communication between health zone office staff and CODESAs: at least monthly versus greater than monthly. Among the 103 matched health zone office pairs that were surveyed at both baseline and midline, there was only a modest increase in the percentage of offices reported to be in communication at least monthly with CODESA groups (Table 2.15 and Figure 2.14). The overall relationship between these variables was significant at the 0.1 level. Additionally, there was a significant increase in communication efforts in Sankuru province (p = 0.04). This means that health zone offices' monthly communications with CODESA groups was dependent on survey time point for Sankuru province. Focusing on the midline survey results only, 94.3 percent (165 of 175) of health zone offices reported being in communication at least monthly with CODESA groups.

Table 2.15. Health zone office communication with CODESAs: at least monthly frequency, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 103)		2021 (N = 103)		PP difference	p-value	2021 (N = 175)	
	n	Percent	n	Percent			n	Percent
Overall	91	88.3	98	95.1	6.8	0.08*	165	94.3
Eastern Congo								
Sud Kivu	23	92.0	23	92.0	0.0	1.00	30	93.8
Tanganyika	9	100.0	8	88.9	-11.1	1.00	9	90.0
Katanga								
Haut Katanga	25	92.6	25	92.6	0.0	1.00	25	92.6
Lualaba	10	90.9	11	100.0	9.1	1.00	13	92.9
Haut Lomami	0		0				14	87.5
Kasai								
Sankuru	10	66.7	15	100.0	33.3	0.04**	16	100.0
Kasai Central	0		0				25	96.2
Kasai Oriental	14	87.5	16	100.0	12.5	0.48	19	100.0
Lomami	0		0				14	93.3

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.14. Health zone office communication with CODESAs: at least monthly frequency, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Questions on health facility administration's knowledge and perceptions of CODESA groups were not asked at baseline and, as such, no comparisons could be made between survey time points for certain questions about CODESA groups. Nearly all health system survey participants reported involvement in CODESA group member orientation (i.e., communicating CODESA tasks/roles) (Table 2.16).

Table 2.16. Percentage of health facilities that participate in orientation of CODESA members, by province and survey round

	2019	2021
	(n = 0)	(n = 518)
Overall*	-	499 (96.3%)
Eastern Congo		
Sud Kivu	-	88 (90.7%)
Tanganyika	-	31 (100.0%)
Katanga		
Haut Katanga	-	78 (97.5%)
Lualaba	-	40 (100.0%)
Haut Lomami	-	35 (83.3%)
Kasai		
Sankuru	-	48 (100.0%)
Kasai Oriental	-	55 (98.2%)
Kasai Central	-	78 (100.0%)
Lomami	-	46 (100.0%)

Note: *Includes all nine supported provinces.

Questions on health facility administration's knowledge and perceptions of CODESA groups were not asked at baseline and, as such, no comparisons could be made between survey time points for certain questions about CODESA groups (Table 2.17). Approximately 57 percent of reporting health facilities noted that CODESA groups had "a lot" of say in decisions about health facility operations/management, whereas approximately 40 percent of health facilities reported that CODESA groups had "a little" say.

Table 2.17. Health facility report of CODESA involvement in health facility operations/management decisions, by province and survey round

	2019			2021		
	(N = 0)			(N = 518)		
	A lot	A little	None	A lot	A little	None
Overall*	-	-	-	295 (56.9%)	204 (39.4%)	19 (3.7%)
Eastern Congo						
Sud Kivu	-	-	-	51 (52.6%)	45 (8.7%)	1 (1.0%)
Tanganyika	-	-	-	11 (35.5%)	20 (3.9%)	0 (0.0%)
Katanga						
Haut Katanga	-	-	-	41 (51.3%)	31 (38.8%)	8 (10%)
Lualaba	-	-	-	24 (60.0%)	14 (2.7%)	2 (5.0%)
Haut Lomami	-	-	-	26 (61.9%)	16 (3.1%)	0 (0.0%)
Kasai						
Sankuru	-	-	-	16 (33.3%)	30 (5.8%)	2 (4.2%)
Kasai Oriental	-	-	-	44 (78.6%)	8 (1.5%)	4 (7.1%)
Kasai Central	-	-	-	53 (67.9%)	23 (4.4%)	2 (2.6%)
Lomami	-	-	-	29 (63.0%)	17 (3.3%)	0 (0.0%)

Note: *Includes all nine supported provinces.

Provincial Health Office Attendance at Technical Meetings and Communications Frequency with Other Health Offices

Provincial health offices may also coordinate with their health zone offices and with other provincial health offices. Some participate in technical meetings with the MOH or nongovernmental organizations (NGOs). All provincial health offices reported attending technical meetings at least annually at the time of the baseline and midline surveys (Table 2.18). In addition, in all but one instance, provincial health offices reported at least monthly communication with health zone offices (Table 2.19). Kasai Central reported quarterly communication frequency with health zone offices at the time of the midline survey. Communication with other provincial health offices was more mixed, ranging from unknown (Sud Kivu) to monthly, quarterly, or semi-annually (Kasai Oriental, Haut Katanga, and Lualaba) (Table 2.20). At the time of the midline survey, four of the nine surveyed provincial health offices were not sure of their frequency of communication with other provincial health offices.

Table 2.18. Provincial health office attendance at technical meetings, by province and survey round

	Matched panel†		Cross-section
	2019	2021	2021
	(N = 6)	(N = 6)	(N = 9)
	Percent	Percent	Percent
Overall	100.0	100.0	100.0
Eastern Congo			
Sud Kivu	Yes	Yes	Yes
Tanganyika	Yes	Yes	Yes
Katanga			
Haut Katanga	Yes	Yes	Yes
Lualaba	Yes	Yes	Yes
Haut Lomami			Yes
Kasai			
Sankuru	Yes	Yes	Yes
Kasai Central			yes
Kasai Oriental	Yes	Yes	Yes
Lomami			Yes

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.19. Provincial health office frequency of communication with health zone offices, by province and survey round

	Matched panel†		Cross-section
	2019	2021	2021
	(N = 6)	(N = 6)	(N = 9)
Eastern Congo			
Sud Kivu	Monthly	Monthly	Monthly
Tanganyika	Monthly	Monthly	Monthly
Katanga			
Haut Katanga	Monthly	Monthly	Monthly
Lualaba	Monthly	Monthly	Monthly
Haut Lomami			Monthly
Kasai			
Sankuru	Monthly	Monthly	Monthly
Kasai Central			Quarterly
Kasai Oriental	Monthly	Monthly	Monthly
Lomami			Monthly

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental.

Table 2.20. Provincial health office frequency of communication with other provincial health offices, by province and survey round

	Matched panel†		Cross-section
	2019	2021	2021
	(N = 6)	(N = 6)	(N = 9)
Eastern Congo			
Sud Kivu	Don't know	Don't know	Don't know
Tanganyika	Quarterly	Monthly	Monthly
Katanga			
Haut Katanga	Monthly	Semi-annually	Semi-annually
Lualaba	Monthly	Quarterly	Quarterly
Haut Lomami			Semi-annually
Kasai			
Sankuru	Quarterly	Don't know	Don't know
Kasai Central			Don't know
Kasai Oriental	Monthly	Don't know	Don't know
Lomami			Monthly

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Frequency of Health Zone Offices' Communication with Other Health Zone Offices

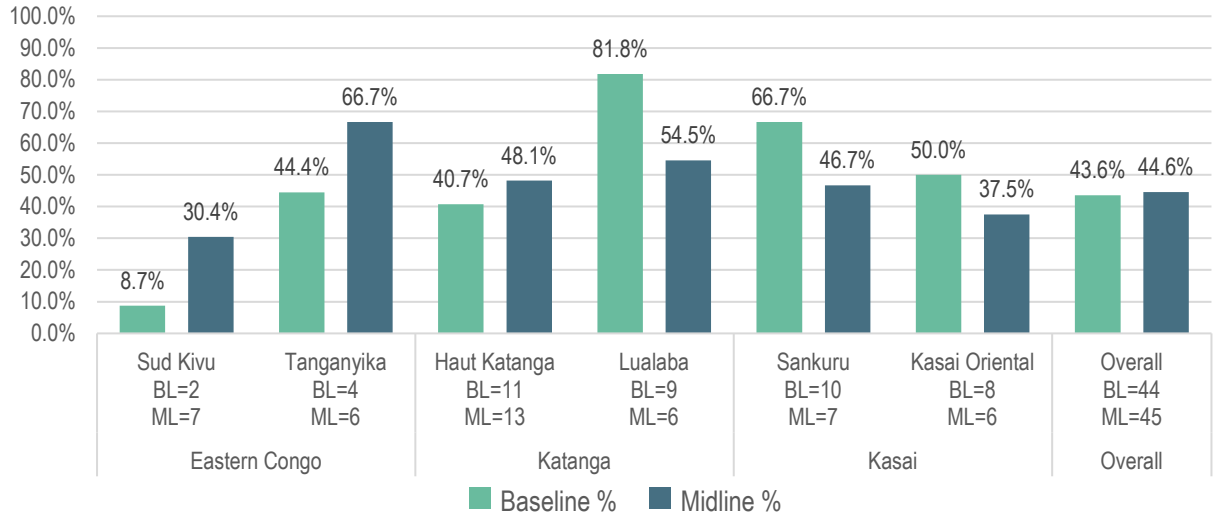
A binary classification was established for the frequency of communication between health zone offices and other health zone offices: at least monthly versus greater than monthly. Among the 101 matched health zone office pairs that were surveyed at both baseline and midline, only a one percentage point increase was noted for offices reporting to be in communication at least monthly with CODESA groups (Table 2.21 and Figure 2.15). Bivariate comparisons between the baseline and midline results showed no significant differences. Focusing on the midline survey results only, 42.3 percent (74 of 175) of health zone offices reported being in communication at least monthly with other health zones, with Sud Kivu and Tanganyika provinces noting the lowest and highest percentages, respectively.

Table 2.21. Health zone office communication with other health zone offices: at least monthly frequency, by province and survey round

	Matched panel†						Cross-section	
	2019		2021		PP difference	p-value	2021	
	(N = 101)		(N = 101)				(N = 175)	
	n	Percent	n	Percent			n	Percent
Overall	44	43.6	45	44.6	1.0	1.0000	74	42.3
Eastern Congo								
Sud Kivu	2	8.7	7	30.4	21.7	0.2487	7	21.9
Tanganyika	4	44.4	6	66.7	22.2	0.6372	7	70.0
Katanga								
Haut Katanga	11	40.7	13	48.1	7.4	0.5780	13	48.1
Lualaba	9	81.8	6	54.5	-27.3	0.3615	7	50.0
Haut Lomami	0		0				7	43.8
Kasai								
Sankuru	10	66.7	7	46.7	-20.0	0.4621	8	50.0
Kasai Central	0		0				13	50.0
Kasai Oriental	8	50.0	6	37.5	-12.5	1.0000	7	36.8
Lomami	0		0				5	33.3

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.15. Health zone office communication with other health zone offices: at least monthly frequency, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Health Zone Offices That Sent a Representative to COGE (Management Committee) Provincial Meetings

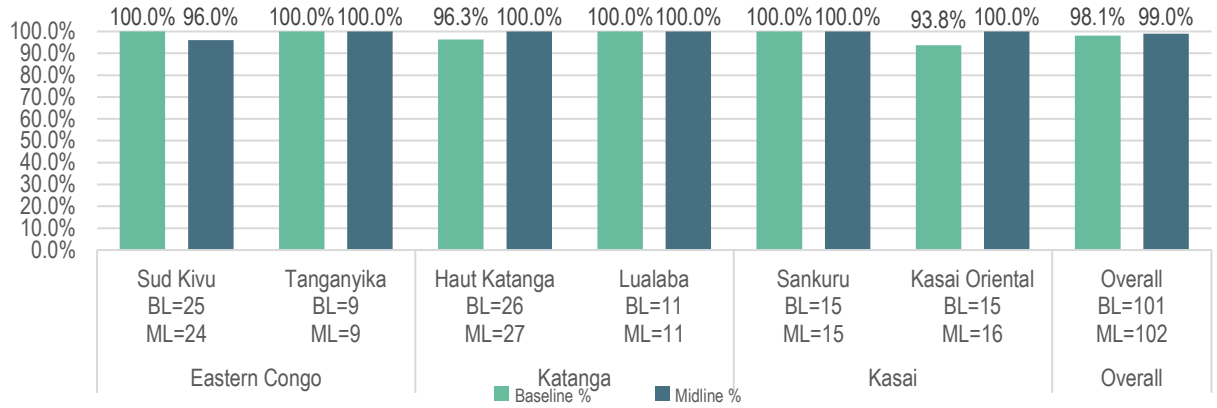
Virtually all health zone offices participated in COGE meetings at both survey time points (Table 2.22 and Figure 2.16) and, as such, no significant differences were noted between the surveys. At the time of the midline survey, seven of nine provinces reported 100 percent health zone office representation at COGE meetings.

Table 2.22. Health zone office participation in COGE provincial meetings, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 103)		2021 (N = 103)		PP difference	p-value	2021 (N = 175)	
	n	Percent	n	Percent			n	Percent
Overall	101	98.1	102	99.0	1.0	1.00	174	99.4
Eastern Congo								
Sud Kivu	25	100.0	24	96.0	-4.0	1.00	31	96.9
Tanganyika	9	100.0	9	100.0	0.0	1.00	10	100.0
Katanga								
Haut Katanga	26	96.3	27	100.0	3.7	1.00	27	100.0
Lualaba	11	100.0	11	100.0	0.0	1.00	14	100.0
Haut Lomami	0		0				16	100.0
Kasai								
Sankuru	15	100.0	15	100.0	0.0	1.00	16	100.0
Kasai Central	0		0				26	100.0
Kasai Oriental	15	93.8	16	100.0	6.3	1.00	19	100.0
Lomami	0		0				15	100.0

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.16. Health zone office participation in COGE provincial meetings, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Health Zone Office Management of *Mutuelles*

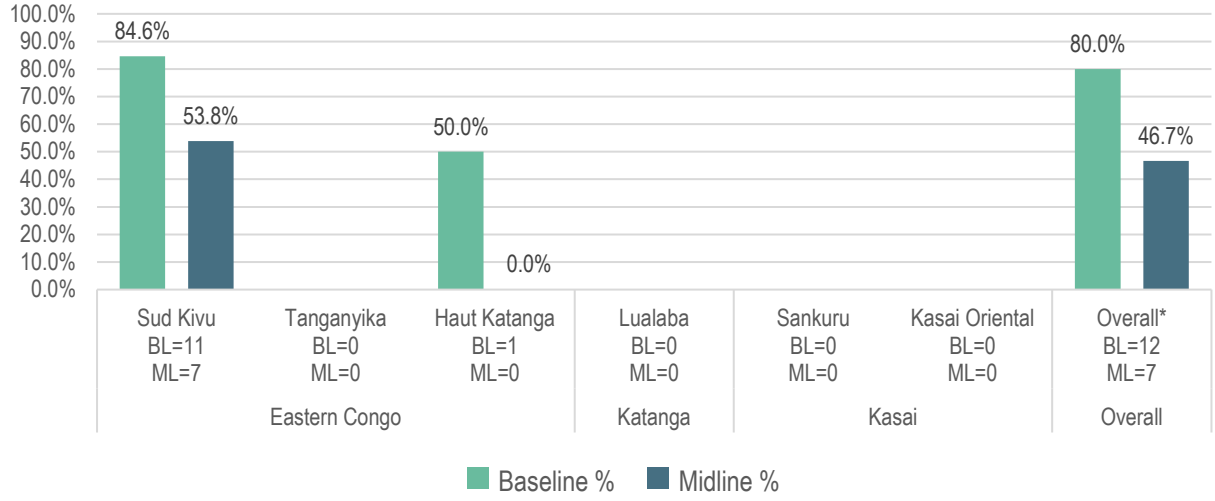
The percentage of health zone offices that reported to have kept a list of all *mutuelles* (i.e., health insurance schemes) in their health zone decreased by one-third from baseline to midline (Table 2.23 and Figure 2.17). Moreover, only two provinces (Sud Kivu and Haut Katanga) had matched health zone pairs that were able to provide responses for this question due to the lack of reported existence of *mutuelles* in health zones. Among those health zone offices that kept lists of *mutuelles*, few tracked or kept lists of *mutuelle* members, with no change in reported results from baseline to midline (Table 2.24 and Figure 2.18). Even when focusing on the midline survey alone, only 21.9 percent of reporting health zone offices tracked *mutuelle* members. There was no change in the status of health facilities requesting fee reduction permissions from health zone offices for the two reporting provinces (Table 2.25 and Figure 2.19). Sud Kivu was the only province with health zone offices reporting any health facilities seeking their permission to offer fee reductions to members of *mutuelles*. Sud Kivu was also the only province that reported health zone-led supervisor visits specifically for HAs participating in *mutuelles*, with virtually no difference between baseline and midline (Table 2.26 and Figure 2.20).

Table 2.23. Health zone office tracking of *mutuelles*, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 15)		2021 (N = 15)		PP difference	p-value	2021 (N = 32)	
	n	Percent	n	Percent			n	Percent
Overall	12	80.0	7	46.7	-33.3	0.06*	15	46.9
Eastern Congo								
Sud Kivu	11	84.6	7	53.8	-30.8	0.20	11	64.7
Tanganyika	0		0				0	0.0
Katanga								
Haut Katanga	1	50.0	0	0.0	-50.0	1.00	0	0.0
Lualaba	0		0				0	
Haut Lomami	0		0				2	100.0
Kasai								
Sankuru	0		0				0	
Kasai Central	0		0				1	33.3
Kasai Oriental	0		0				0	0.0
Lomami	0		0				1	100.0

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.17. Health zone office tracking of *mutuelles*, by province and survey round†



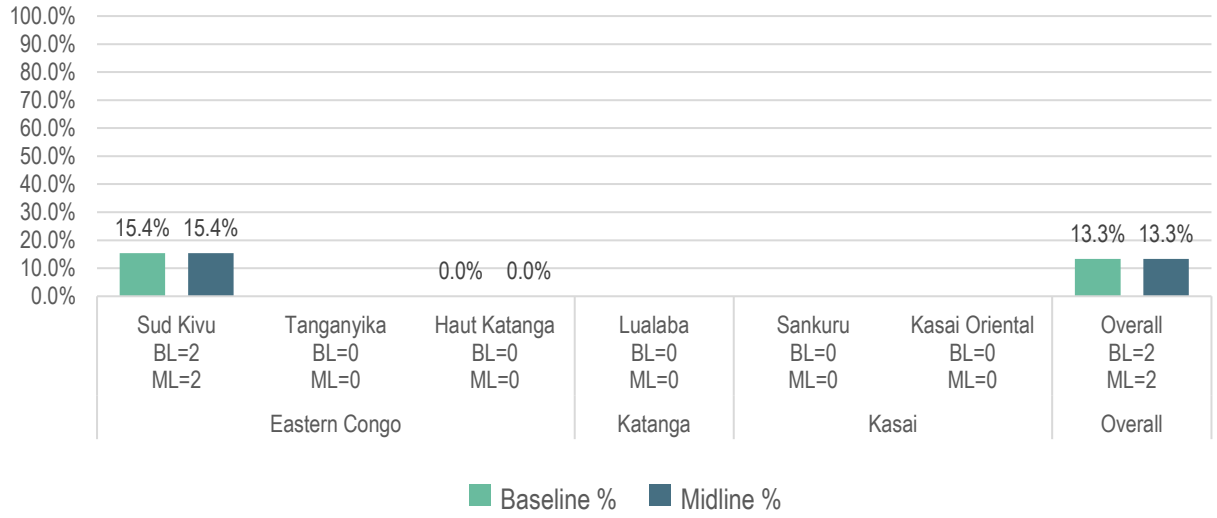
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.24. Health zone office tracking of *mutuelle* members, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 15)		2021 (N = 15)		PP difference	p-value	2021 (N = 32)	
	n	Percent	n	Percent			n	Percent
Overall	2	13.3	2	13.3	0.0	1.00	7	21.9
Eastern Congo								
Sud Kivu	2	15.4	2	15.4	0.0	1.00	3	17.6
Tanganyika	0		0				0	0.0
Katanga								
Haut Katanga	0	0.0	0	0.0	0.0	1.00	0	0.0
Lualaba	0		0				0	
Haut Lomami	0		0				2	100.0
Kasai								
Sankuru	0		0				0	
Kasai Central	0		0				1	33.3
Kasai Oriental	0		0				0	0.0
Lomami	0		0				1	100.0

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.18. Health zone office tracking of *mutuelle* members, by province and survey round†



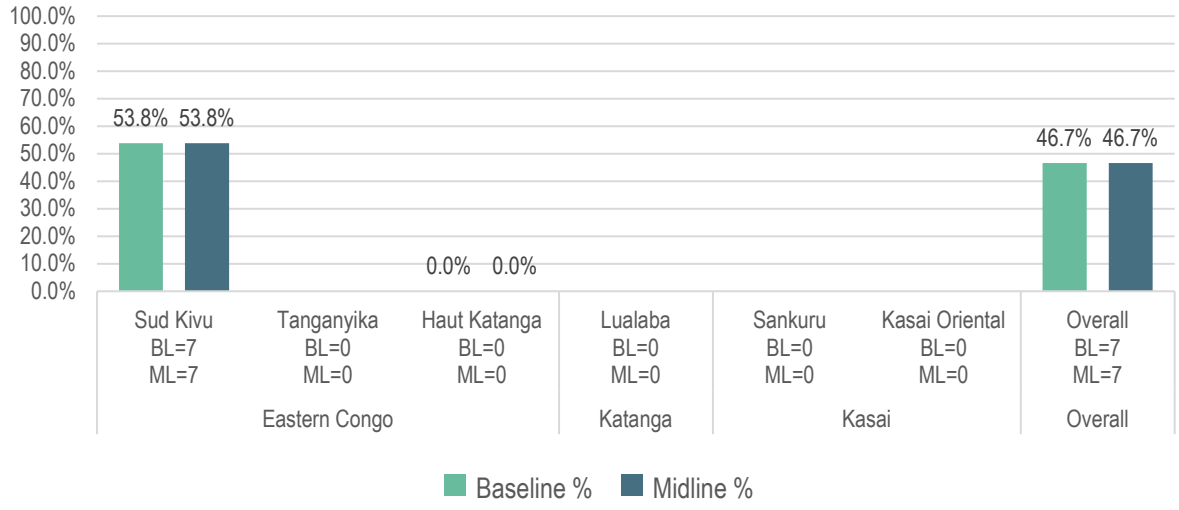
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.25. Health facilities seeking permission from health zone offices for service fee reductions, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 15)		2021 (N = 15)		PP difference	p-value	2021 (N = 32)	
	n	Percent	n	Percent			n	Percent
Overall	7	46.7	7	46.7	0.0	1.00	13	40.6
Eastern Congo								
Sud Kivu	7	53.8	7	53.8	0.0	1.00	9	52.9
Tanganyika	0		0				0	
Katanga								
Haut Katanga	0	0.0	0	0.0	0.0	1.00	1	16.7
Lualaba	0		0				0	
Haut Lomami	0		0				1	50.0
Kasai								
Sankuru	0		0				0	
Kasai Central	0		0				1	33.3
Kasai Oriental	0		0				0	
Lomami	0		0				1	100.0

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.19. Health facilities seeking permission from health zone offices for service fee reductions, by province and survey round



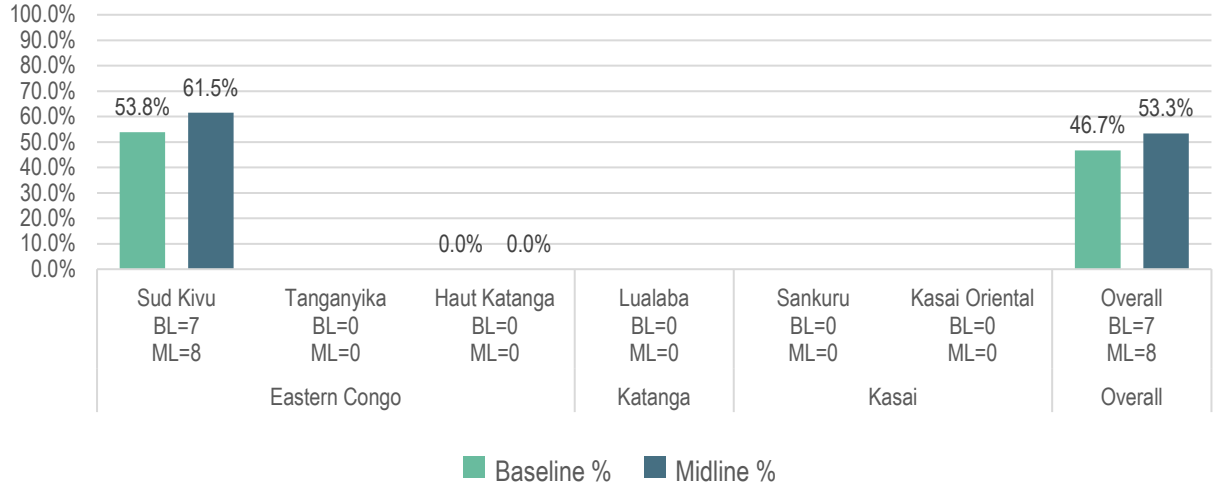
Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.26. Health zone office supervision of *mutuelles*, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 15)		2021 (N = 15)		PP difference	p-value	2021 (N = 32)	
	n	Percent	n	Percent			n	Percent
Overall	7	46.7	8	53.3	6.7	0.72	19	59.4
Eastern Congo								
Sud Kivu	7	53.8	8	61.5	7.7	1.00	11	64.7
Tanganyika	0		0				2	100.0
Katanga								
Haut Katanga	0	0.0	0	0.0	0.0	1.00	3	50.0
Lualaba	0		0				0	
Haut Lomami	0		0				2	100.0
Kasai								
Sankuru	0		0				0	
Kasai Central	0		0				0	0.0
Kasai Oriental	0		0				0	0.0
Lomami	0		0				1	100.0

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.20. Health zone office supervision of *mutuelles*, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Timing of Health Office Reporting Its Most Recent MAPEPI DHIS2 Case

A binary classification was established to assess the timing of report submission on diseases with epidemic potential (*maladies à potentiel épidémique;* MAPEPI): within 24 hours versus greater than 24 hours. At the time of the baseline and midline surveys, two-thirds of provincial health offices reported that they submitted MAPEPI cases within 24 hours of identification (Table 2.27), with Haut Katanga and Sankuru provinces swapping their responses between 2019 and 2021.

There was a modest increase in the percentage of health zone offices reporting that they submitted the MAPEPI within 24 hours of case identification, increasing from 73.8 percent to 80.6 percent of surveyed health zone offices (Table 2.28). Bivariate comparisons showed that the overall relationship between baseline and midline values were not significant, either overall or at the provincial level.

At baseline, health zone offices were asked about common MAPEPI submission mechanisms, with the majority reporting submission of reports by either phone, text message, or radio transmission (85.4%) (Figure 2.21); followed by web submissions, including email or directly through the DHIS2 portal (43.7%) (Figure 2.22); and face-to-face submissions rounding out the different mechanisms (27.2%) (Figure 2.23). Note that respondents could select more than one commonly used submission mechanism. At midline, the overall percentages shifted in favor of web-based submissions (59.2%; a 15.5 percentage point increase) (Figure 2.22), but the most common submission mechanism remained via phone, text message, or radio transmission (78.6%) (Figure 2.21).

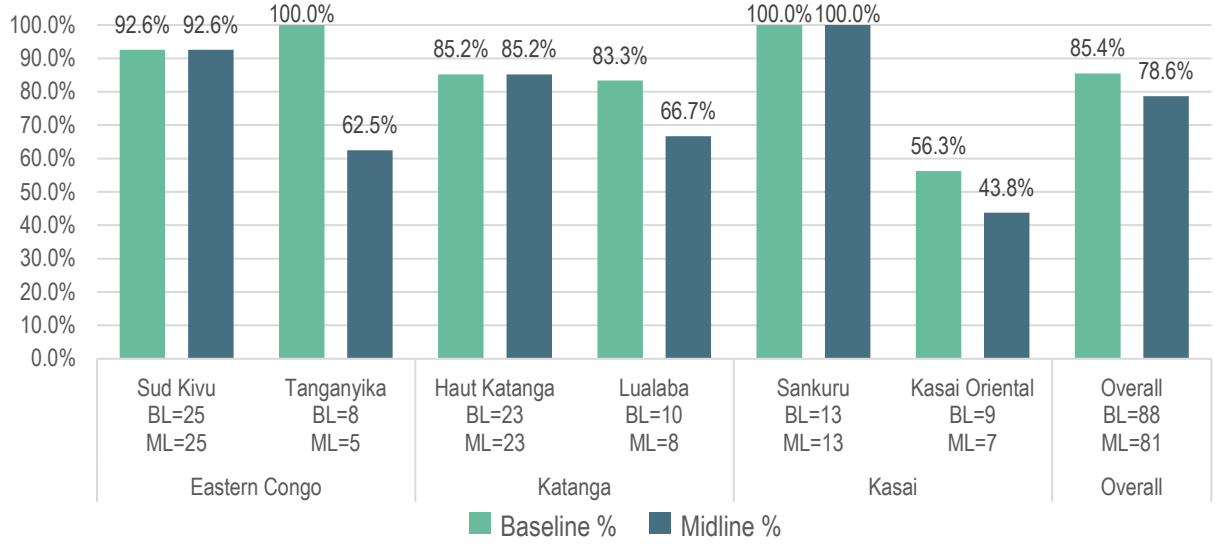
When asked about common reasons why MAPEPI reports may not be submitted on time, most health zone offices cited the lack of communication means (no cell or internet) or lack of transportation. Overall, 53.4 percent of health zone offices cited the lack of communication at baseline, which dropped to 46.6 percent at midline—a non-significant decline (Table 2.29). Focusing on midline data only, 44.8 percent of health zone offices cited communication issues as a potential reason for late submission of MAPEPI reports, which was most common in Sud Kivu (56.7%) and least common in Lomami (20.0%). Health zone offices also commonly reported transportation issues as a reason for late submissions. Overall, there was negligible change in this reported issue from baseline to midline, with a change of only 1.0 percentage point (Table 2.30). Among the reporting health zone offices across the nine surveyed provinces at midline, Tanganyika cited transportation issues in 45.5 percent of instances, whereas Lomami only reported it as an issue in 20.0 percent of instances.

Table 2.27. Provincial health office reporting of most recent MAPEPI DHIS2 cases within 24 hours, by province and survey round

	Matched panel†		Cross-section
	2019	2021	2021
	(N = 6)	(N = 6)	(N = 9)
	Percent	Percent	Percent
Overall	67.0	67.0	67.0
Eastern Congo			
Sud Kivu	Yes	Yes	Yes
Tanganyika	Yes	Yes	Yes
Katanga			
Haut Katanga	No	Yes	Yes
Lualaba	Yes	Yes	Yes
Haut Lomami			Yes
Kasai			
Sankuru	Yes	No	No
Kasai Central			No
Kasai Oriental	No	No	No
Lomami			Yes

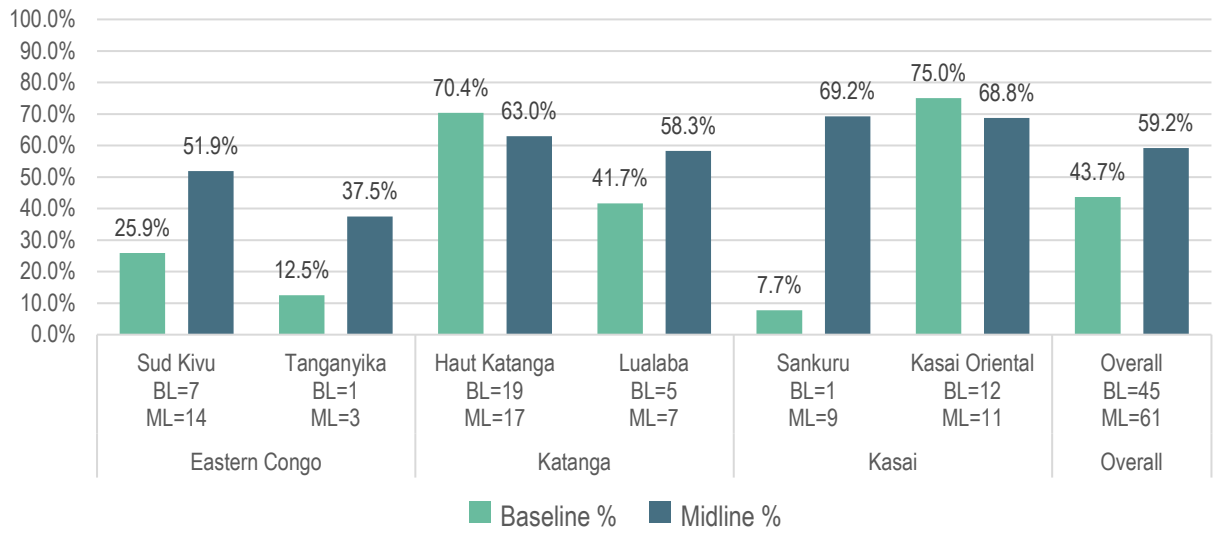
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental

Figure 2.21. Health zone common reporting mechanisms for MAPEPI report submission (phone/text/radio), by province and survey round†



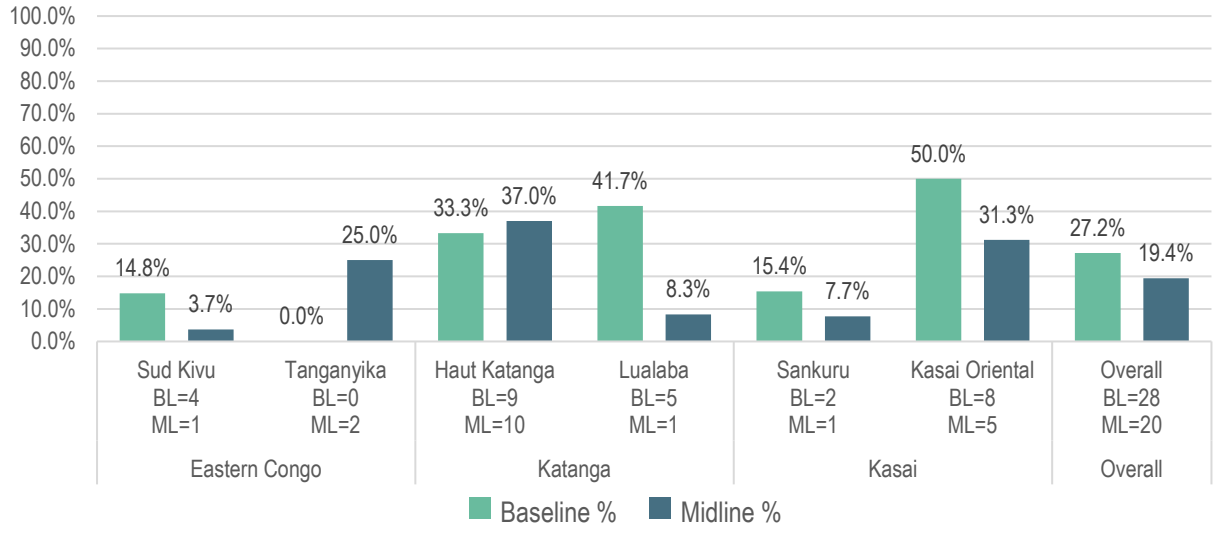
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental

Figure 2.22. Health zone common reporting mechanisms for MAPEPI report submission (web-based), by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental

Figure 2.23. Health zone common reporting mechanisms for MAPEPI report submission (face-to-face), by province and survey round†



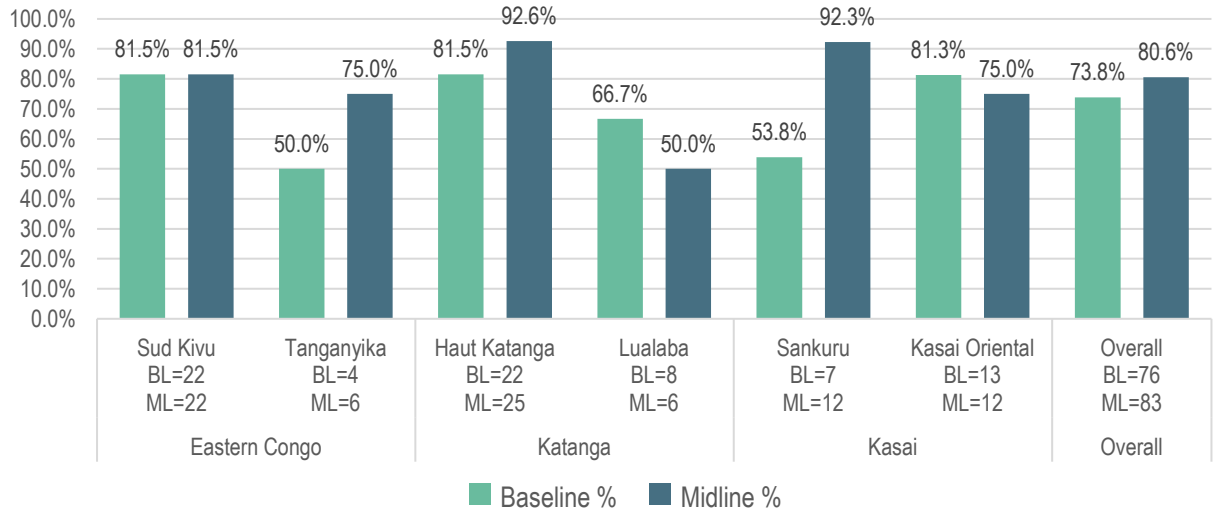
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental

Table 2.28. Health zone office reporting of most recent MAPEPI DHIS2 cases, by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 103)		2021 (N = 103)		PP difference	p-value	2021 (N = 174)	
	n	Percent	n	Percent			n	Percent
Overall	76	73.8	83	80.6	6.8	0.12	136	78.2
Eastern Congo								
Sud Kivu	22	81.5	22	81.5	0.0	1.00	25	83.3
Tanganyika	4	50.0	6	75.0	25.0	0.61	9	81.8
Katanga								
Haut Katanga	22	81.5	25	92.6	11.1	0.35	25	92.6
Lualaba	8	66.7	6	50.0	-16.7	0.63	7	50.0
Haut Lomami	0		0				10	62.5
Kasai								
Sankuru	7	53.8	12	92.3	38.5	0.07	15	93.8
Kasai Central	0		0				23	88.5
Kasai Oriental	13	81.3	12	75.0	-6.3	1.00	15	78.9
Lomami	0		0				7	46.7

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.24. Health zone office reporting of most recent MAPEPI DHIS2 cases, by province and survey round†



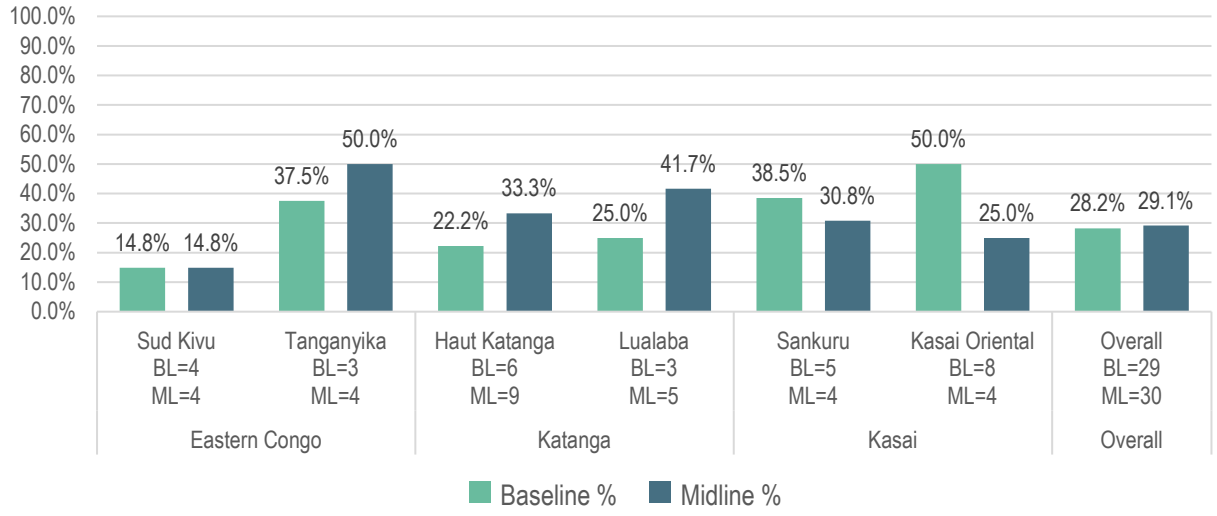
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.29. Health zone office reason for late submission of MAPEPI DHIS2 cases (communication issues), by province and survey round

	Matched panel†						Cross-section	
	2019 (N = 103)		2021 (N = 103)		PP difference	p-value	2021 (N = 174)	
	n	Percent	n	Percent			n	Percent
Overall	55	53.4	48	46.6	-6.8	0.33	78	44.8
Eastern Congo								
Sud Kivu	18	66.7	15	55.6	-11.1	0.40	17	56.7
Tanganyika	6	75.0	3	37.5	-37.5	0.31	5	45.5
Katanga								
Haut Katanga	13	48.1	13	48.1	0.0	1.00	13	48.1
Lualaba	4	33.3	5	41.7	8.3	1.00	6	42.9
Haut Lomami	0		0				6	37.5
Kasai								
Sankuru	9	69.2	7	53.8	-15.4	0.69	7	43.8
Kasai Central	0		0				14	53.8
Kasai Oriental	5	31.3	5	31.3	0.0	1.00	7	36.8
Lomami	0		0				3	20.0

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.25. Health zone office reason for late submission of MAPEPI DHIS2 cases (communication issues), by province and survey round†



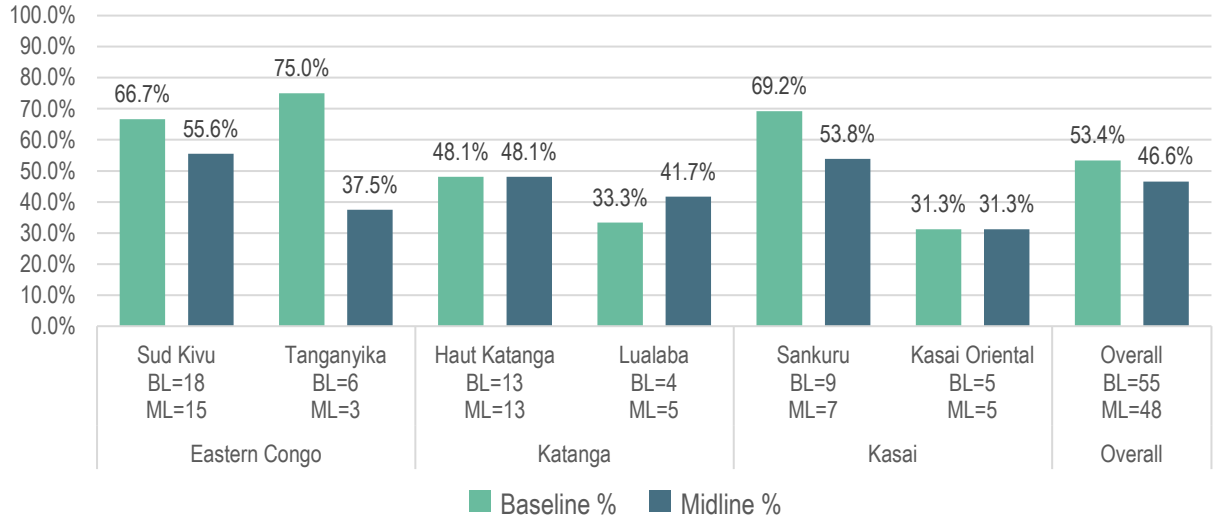
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 2.30. Health zone office reason for late submission of MAPEPI DHIS2 cases (transportation issues), by province and survey round

	Matched panel†						Cross-section	
	2019		2021				2021	
	(N = 103)		(N = 103)		PP difference	p-value	(N = 174)	
	n	Percent	n	Percent			n	Percent
Overall	29	28.2	30	29.1	1.0	0.88	44	25.3
Eastern Congo								
Sud Kivu	4	14.8	4	14.8	0.0	1.00	5	16.7
Tanganyika	3	37.5	4	50.0	12.5	1.00	5	45.5
Katanga								
Haut Katanga	6	22.2	9	33.3	11.1	0.36	9	33.3
Lualaba	3	25.0	5	41.7	16.7	0.67	5	35.7
Haut Lomami	0		0				4	25.0
Kasai								
Sankuru	5	38.5	4	30.8	-7.7	1.00	4	25.0
Kasai Central	0		0				4	15.4
Kasai Oriental	8	50.0	4	25.0	-25.0	0.27	5	26.3
Lomami	0		0				3	20.0

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Figure 2.26. Health zone office reason for late submission of MAPEPI DHIS2 cases (transportation issues), by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Strengthened Capacity of CSOs and Community Structures to Provide Health System Oversight: Community Monitoring and Oversight

Questions concerning CODESA groups were not asked at baseline and, as such, no comparisons could be made between survey time points. Nearly 50 percent of surveyed CODESA groups responding to this question were involved in community scorecard implementation (Table 2.31).

Table 2.31. CODESA implementation of community scorecard activities, by province and survey round

	2019	2021
	(n = 0)	(n = 61)
Overall*	-	30 (49.2%)
Eastern Congo		
Sud Kivu	-	8 (38.1%)
Tanganyika	-	2 (100.0%)
Katanga		
Haut Katanga	-	6 (60%)
Lualaba	-	4 (100.0%)
Haut Lomami	-	1 (100.0%)
Kasai		
Sankuru	-	0 (0.0%)
Kasai Oriental	-	7 (50.0%)
Kasai Central	-	2 (40.0%)
Lomami	-	0 (0.0%)

Note: *Includes all nine supported provinces.

About 55 percent of surveyed CODESA groups responding to this question had access to patient feedback and/or information about facility malfeasance (Table 2.32). Feedback may have taken the form of suggestions from the "suggestion box," notes from meetings/interviews with patients, patient surveys, or information from anti-corruption hotlines.

Table 2.32. CODESA access to patient feedback and/or information about facility malfeasance, by province and survey round

	2019	2021
	(n = 0)	(n = 61)
Overall*	-	34 (55.7%)
Eastern Congo		
Sud Kivu	-	13 (61.9%)
Tanganyika	-	1 (50.0%)
Katanga		
Haut Katanga	-	6 (60%)
Lualaba	-	2 (50.0%)
Haut Lomami	-	0 (0.0%)
Kasai		
Sankuru	-	0 (0.0%)
Kasai Oriental	-	7 (50.0%)
Kasai Central	-	2 (40.0%)
Lomami	-	3 (4.9%)

Note: *Includes all nine supported provinces.

All CODESA groups responding to this question took action to respond to patient feedback and/or information about facility malfeasance (Table 2.33).

Table 2.33. CODESA reactions to patient feedback and/or information about facility malfeasance, by province and survey round

	2019	2021
	(n = 0)	(n = 34)
Overall*	-	34 (100.0%)
Eastern Congo		
Sud Kivu	-	13 (100.0%)
Tanganyika	-	1 (100.0%)
Katanga		
Haut Katanga	-	6 (100%)
Lualaba	-	2 (100.0%)
Haut Lomami	-	0 (0.0%)
Kasai		
Sankuru	-	0 (0.0%)
Kasai Oriental	-	7 (100.0%)
Kasai Central	-	2 (100.0%)
Lomami	-	3 (8.8%)

Note: *Includes all nine supported provinces.

Percentage of Health Center Workers Who Reported Being Generally Satisfied with Their Jobs

Overall, nearly half (46.5%) of health workers reported being generally satisfied with their jobs. The percentage increased by nine percentage points, a statistically significant change (Table 2.34). Within the matched panel, female health workers were more likely to be satisfied in 2019, and male health workers were more likely to be satisfied in 2021. Both sexes experienced statistically significant increases in satisfaction. In the overall sample in 2021, female health workers were satisfied at statistically significantly higher rates ($p<0.01$). Significant increases were observed in all provinces, with the exceptions of Sankuru, where satisfaction decreased significantly, and Tanganyika, where it also decreased, but not significantly.

Table 2.34. Percentage of health workers who reported being generally satisfied with their jobs (health centers and hospitals combined), by province and survey round

	Matched Panel†						Cross-section	
	2019		2021		PP difference	p-value	2021	
	(n=1074)		(n=1090)				(n=1627)	
	n	Percent	n	Percent			n	Percent
Overall	416	38.7	520	47.7	9.0	<0.01***	756	46.5
Female	183	45.2	222	54.8	10.9	<0.01***	314	50.2
Male	223	43.9	298	56.1	12.2	<0.01***	442	44.1
Eastern Congo								
Sud Kivu	123	41.8	164	54.9	13.0	<0.01***	166	53.0
Tanganyika	56	59.6	51	53.1	-6.4	0.37	60	57.1
Katanga								
Haut Katanga	69	34.7	98	49.5	14.8	<0.01***	98	49.5
Lualaba	57	43.9	84	66.1	22.3	<0.01***	85	65.9
Haut Lomami	-	-	-	-	-	-	64	52.5
Kasai								
Sankuru	60	35.1	36	21.4	-13.7	<0.01***	36	21.4
Kasai Central	-	-	-	-	-	-	79	39.5
Kasai Oriental	51	27.4	87	43.1	15.7	<0.01***	87	43.1
Lomami	-	-	-	-	-	-	81	42.6

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Service Quality

Service Readiness

Preventive Services

Overall, there was a significant increase of 18 percentage points in the percentage of health centers offering the minimum package of preventive services, which includes ANC, intermittent preventive treatment (IPT) for malaria, postnatal care, vaccinations, growth monitoring, FP, and the administration of mebendazole and zinc (Table 3.1). Within the package, significant increases were observed for postnatal consultations (4 percentage points), FP (8 percentage points) and zinc supplementation (10 percentage points).

Table 3.1. Health centers that offered the MOH's minimum package of preventive services, by survey round

	Matched panel†					
	2019 (n=311)		2021 (n=311)		PP difference	p-value
	n	Percent	n	Percent		
Prenatal consultation	307	98.7	306	98.4	-0.3	0.74
Malaria IPT	297	95.5	293	94.2	-1.3	0.47
Postnatal consultations	285	91.6	297	95.5	3.9	0.05*
FP	246	79.1	271	87.1	8.0	0.01**
Vaccination	305	98.1	301	96.8	-1.3	0.31
Growth monitoring	282	90.7	289	92.9	2.3	0.31
Zinc supplementation	155	49.8	187	60.1	10.3	<0.01***
Mebendazole supplementation	232	74.6	219	70.4	-4.2	0.24
All select preventive services	83	26.7	139	44.7	18.0	<0.01***

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Health centers that offered all select services in the MOH's minimum package of preventive services ranged from 13 percent to 54 percent in 2021 (matched sample), with the lowest occurring in Sankuru and the highest in Lualaba (Table 3.2). There were improvements in all provinces, but they were statistically significant in Sud Kivu, Tanganyika, Haut Katanga, and Kasai Oriental. In the 2021 survey, 52 percent of health facilities in Kasai Central, 41 percent in Lomami, and 39 percent in Haut Lomami offered all select services in the MOH's minimum package of preventive services.

Table 3.2. Health centers that offered all select MOH minimum package of preventive services, by province and survey round

	Matched panel†						Cross-section	
	2019 (n=311)		2021 (n=311)		PP difference	p-value	2021 (n=553)	
	n	Percent	n	Percent			n	Percent
Overall	83	26.7	139	44.7	18.0	<0.01***	245	44.3
Eastern Congo								
Sud Kivu	25	33.3	40	53.3	20.0	<0.01***	49	49.5
Tanganyika	6	20.0	16	53.3	33.3	0.01**	18	54.5
Katanga								
Haut Katanga	25	34.7	38	52.8	18.1	0.03**	40	51.3
Lualaba	17	45.9	20	54.1	8.1	0.49	22	52.4
Haut Lomami	-	-	-	-	-	-	19	38.8
Kasai								
Sankuru	2	4.4	6	13.3	8.9	0.14	6	12.8
Kasai Central	-	-	-	-	-	-	48	52.2
Kasai Oriental	8	15.4	19	36.5	21.2	0.01**	20	35.1
Lomami	-	-	-	-	-	-	23	41.1

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Curative Services

The MOH's minimum package of curative services consists of HIV testing and treatment, TB testing and treatment, minor surgery, and normal deliveries (Table 3.3). Less than one percent of health facilities offered all curative services in 2019 and 2021. The largest and only significant increase over time was observed for the treatment of HIV (11 percentage points).

Table 3.3. Health centers that offered select MOH minimum package of curative services, by survey round

	Matched panel†					
	2019 (n=236)		2021 (n=236)		PP difference	p-value
	n	Percent	n	Percent		
HIV testing	122	51.7	119	50.4	-1.3	0.59
HIV treatment (post exposure prophylaxis kit)	52	22.0	79	33.5	11.4	0.01**
TB testing	54	22.9	59	25.0	2.1	0.59
TB treatment	97	41.1	105	44.5	3.4	0.46
Minor Surgery	17	7.2	24	10.2	3.0	0.25
Normal deliveries	217	91.9	225	95.3	3.4	0.13
All curative services	0	0.0	2	0.8	0.8	0.16

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

None of the health centers offered all curative services in 2019 and Haut Katanga was the only province that improved the availability of these services (3 percentage points) (Table 3.4). Like the matched panel, the prevalence of health facilities offering all curative services was low, with only 5 percent of the health facilities in the total sample offering these services. It was most common in Kasai Central (17%), and not available in Sud Kivu, Lualaba, Sankuru, and Kasai Oriental.

Table 3.4. Health centers that offered all curative services, by province and survey round

	Matched panel†						Cross-section	
	2019 (n=236)		2021 (n=236)		PP difference	p-value	2021 (n=553)	
	n	Percent	n	Percent			n	Percent
Overall	0	0.0	2	0.8	0.8	0.16	27	4.9
Eastern Congo								
Sud Kivu	0	0.0	0	0.0	0.0	N/A	0	0.0
Tanganyika	0	0.0	0	0.0	0.0	N/A	1	3.0
Katanga								
Haut Katanga	0	0.0	2	3.4	3.4	0.15	2	2.6
Lualaba	0	0.0	0	0.0	0.0	N/A	0	0.0
Haut Lomami	-	-	-	-	-	-	4	8.2
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	16	17.4
Kasai Oriental	0	0.0	0	0.0	0.0	N/A	0	0.0
Lomami	-	-	-	-	-	-	4	7.1

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Complementary Services

Laboratory Tests on the Day of the Survey

The minimum package of complementary services recommended by the MOH consists of parasitology, hematology, bacteriology, and biochemical testing (Table 3.5). The prevalence of these services in 2021 was high, ranging from 64 percent (gram stain) to 100 percent (malaria microscopy, hemoglobin testing, blood type crossmatch, and testing of HIV, syphilis, and hepatitis). Similarly, the baseline estimates measured in 2019 were also high, ranging from 69 percent to 100 percent. Significant increases were noted for three services: leukocyte formula (9 percentage points), syphilis testing (3 percentage points) and hepatitis testing (3 percentage points).

Table 3.5. Hospitals with capacity to conduct specific laboratory tests on the day of the survey (MOH complementary package of services), by survey round

	Matched panel†					
	2019 (n=102)		2021 (n=102)		PP difference	p-value
	n	Percent	n	Percent		
Parasitology						
Malaria microscopy	100	98.0	102	100.0	2.0	0.16
Stool direct microscopic exam	102	100.0	101	99.0	-1.0	0.32
Hematology						
Hemoglobin testing	102	100.0	102	100.0	0.0	N/A
White blood cell count	92	90.2	96	94.1	3.9	0.30
Leukocyte formula	86	84.3	95	93.1	8.8	0.05*
Sedimentation rate	93	91.2	98	96.1	4.9	0.15
Blood type crossmatch	102	100.0	102	100.0	0.0	N/A
Bacteriology						
Ziehl stain	96	94.1	96	94.1	0.0	1.00
Gram stain	70	68.6	65	63.7	-4.9	0.46
Urine analysis	101	99.0	101	99.0	0.0	1.00
Biochemical						
Blood glucose	95	93.1	99	97.1	3.9	0.20
HIV testing	102	100.0	102	100.0	0.0	N/A
Syphilis testing	99	97.1	102	100.0	2.9	0.08*
Pregnancy testing	101	99.0	101	99.0	0.0	1.00
Hepatitis testing	99	97.1	102	100.0	2.9	0.08*

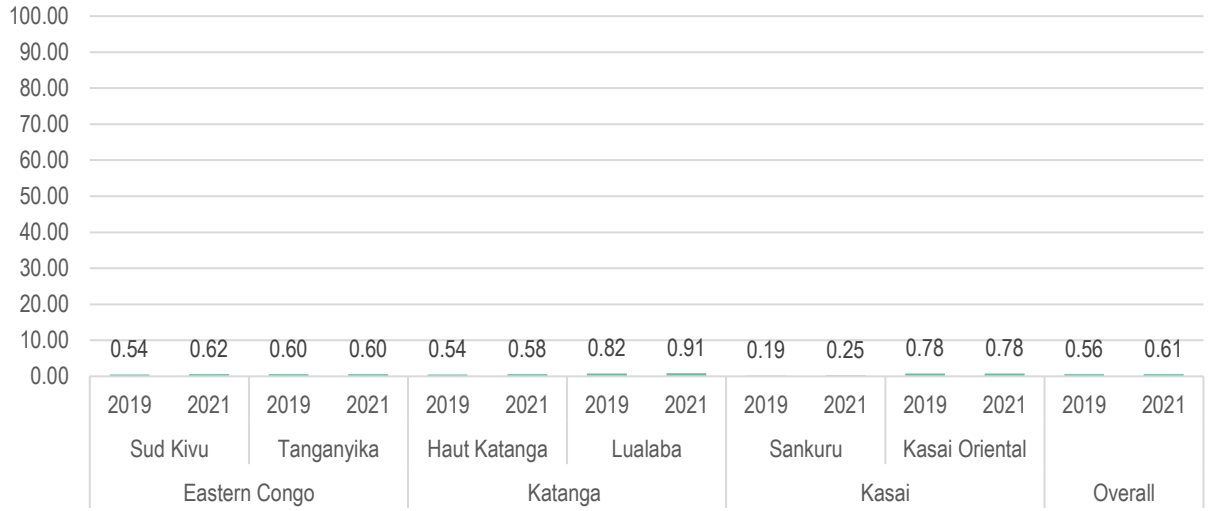
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

X-Ray, Ultrasound, and Autoclave Equipment

The minimum package of complementary services also recommends that hospitals are equipped with x-ray, ultrasound, and autoclave equipment. Figures 3.1, 3.2, and 3.3 show the percentage of hospitals in each province that had at least one X-ray, ultrasound, and autoclave machine, respectively.

The prevalence of hospitals with X-ray machines increased from 56 percent in 2019 to 61 percent in 2021 (Figure 3.1). Provincial analysis indicates that improvements were noted in Sud Kivu (from 54% to 62%), Haut Katanga (from 54% to 58%), Sankuru (from 19% to 25%), and Lualaba (from 82% to 91%). X-ray machines were most common in Lualaba and least common in Sankuru.

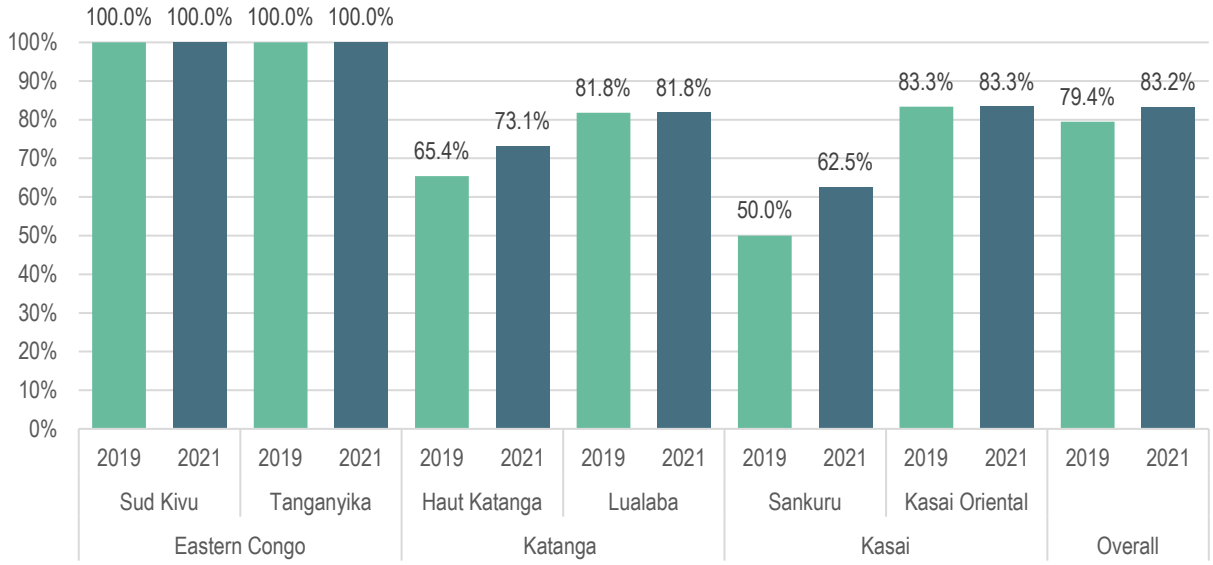
Figure 3.1. Hospitals with X-ray machines (MOH minimum package of complementary services), by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Figure 3.2 shows that the percentage of hospitals with ultrasound machines increased by 4 percentage points, from 79 percent in 2019 to 83 percent in 2021. All facilities in Sud Kivu and Tanganyika and more than 80 percent of facilities in Lualaba and Kasai Oriental had at least one ultrasound machine in both 2019 and 2021. For the remaining provinces, improvements were noted, with the largest in Sankuru (13 percentage points).

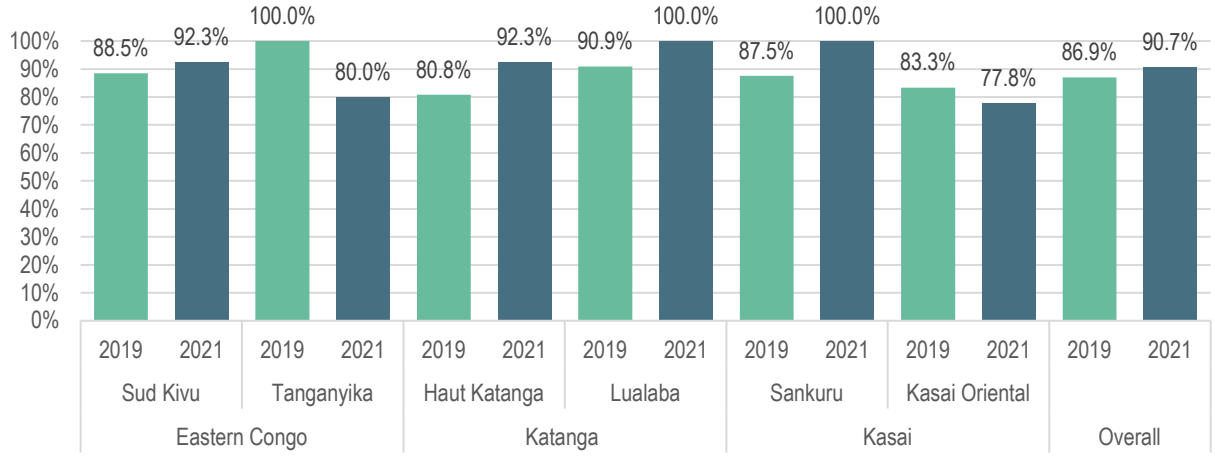
Figure 3.2. Hospitals with ultrasound machines (MOH minimum package of complementary services), by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

More than four in five hospitals had at least one autoclave in both 2019 and 2021, and the percentage increased by 4 percentage points over the years (Figure 3.3). The prevalence of autoclave equipment increased in all but two provinces. In Tanganyika, the prevalence declined from 100 percent in 2019 to 80 percent in 2021, and in Kasai Oriental, it declined by 5 percentage points.

Figure 3.3. Hospitals with autoclave equipment (MOH minimum package of complementary services), by province and survey round

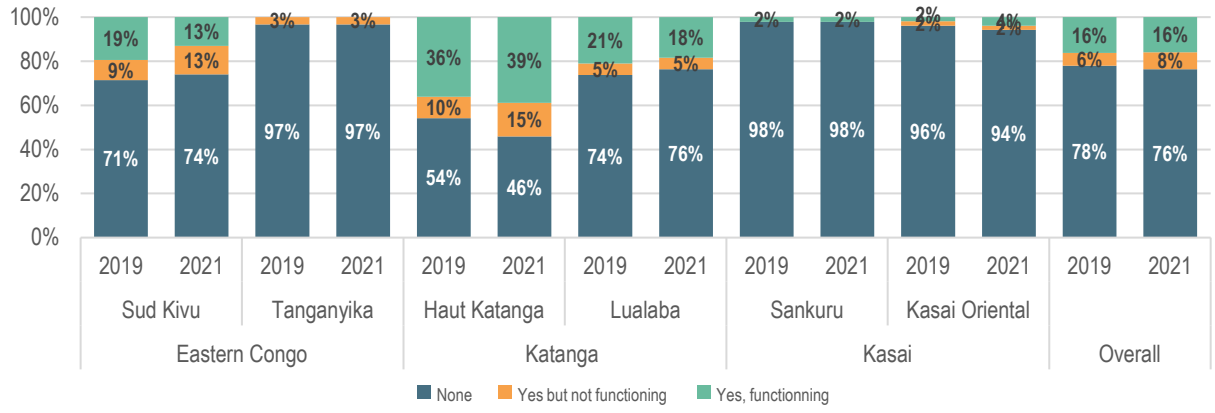


*Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Source of Electricity

The health center's source of electricity was measured in both surveys and categorized as either none, yes but not functioning, or yes and functions (Figure 3.4). The majority (78%) had no source of electricity in 2019, and this percentage declined by only 2 percentage points in 2021, to 76 percent. Sixteen percent had functioning electricity and fewer than 10 percent did not have functioning electricity in both years. In each province, functioning electricity was low in 2021, ranging from 0 percent (Tanganyika) to 39 percent (Haut Katanga). Improvements in the prevalence of health centers with functioning electricity were observed in Haut Katanga (3 percentage points) and Kasai Oriental (2 percentage points), whereas in Sud Kivu (6 percentage points) and Lualaba (3 percentage points), the prevalence decreased.

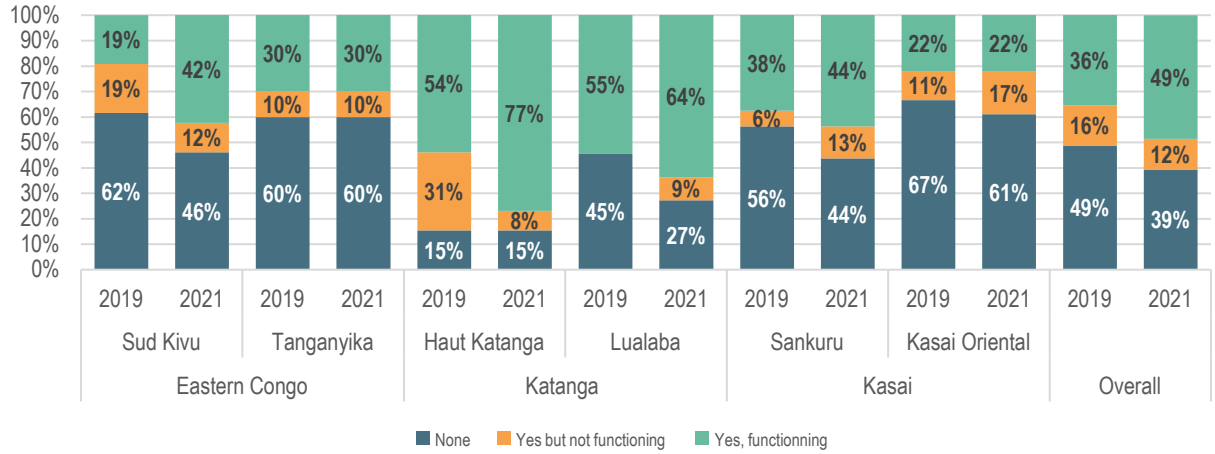
Figure 3.4. Health centers with electricity, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Hospitals' source of electricity was measured using the same criteria as for health centers (Figure 3.5). The prevalence of functioning electricity was much higher in hospitals than in health centers. Functioning electricity increased by 13 percentage points (from 36% to 49%), and non-functioning electricity and no source of electricity decreased by 4 percentage points and 10 percentage points, respectively. Improvement in functioning electricity was noted in Sud Kivu (23 percentage points), Haut Katanga (23 percentage points), Lualaba (9 percentage points), and Sankuru (6 percentage points).

Figure 3.5. Hospitals with electricity, by province and survey round†

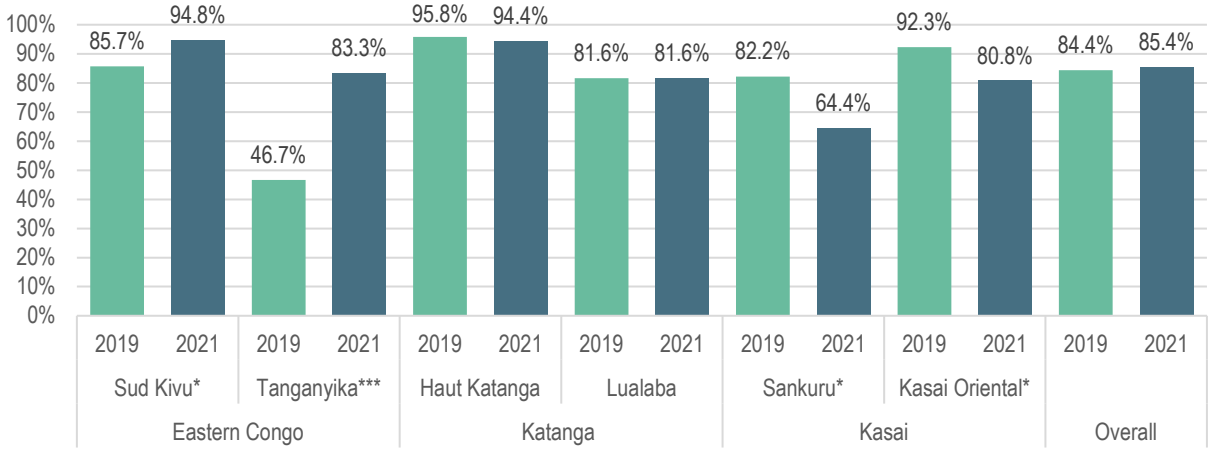


† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Improved Sanitation

As shown in Figure 3.6, the percentage of health centers with improved sanitation remained essentially the same. It increased by one percentage point, from 84 percent of health centers in 2019 to 85 percent in 2021. Sud Kivu and Haut Katanga had the most health centers with improved sanitation in 2021 (95% and 96%, respectively), and health centers with improved sanitation were least common in Sankuru (64%). It is worth noting that Tanganyika had about twice as many health centers with improved sanitation in 2021 compared with 2019 (83% versus 47%, p<0.01). Health facilities with improved sanitation declined in Sankuru and Kasai Oriental, by 18 percentage points and 11 percentage points, respectively, which were statistically significant changes.

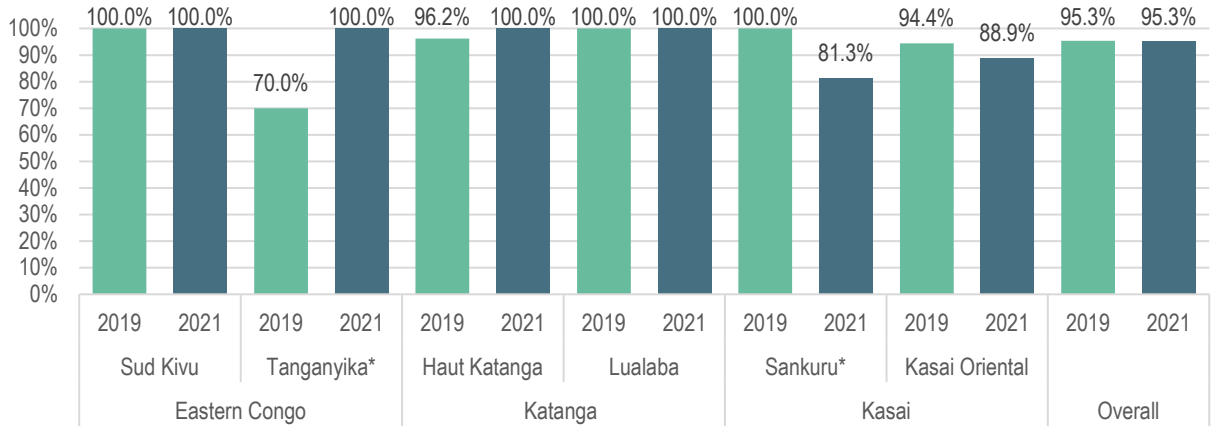
Figure 3.6. Health centers with improved sanitation, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Improved sanitation was much higher in hospitals than in health centers (Figure 3.7). Ninety-five percent of hospitals had improved sanitation in all the provinces. All hospitals in Sud Kivu and Lualaba had improved sanitation in both years, and all hospitals in Tanganyika (from 70% to 100%) and Haut Katanga (from 96% to 100%) had improved sanitation in 2021. For the remaining provinces, there were declines in the percentage of hospitals with improved sanitation. Sankuru had the largest decline (19 percentage points, from 100% to 81%). The changes in Tanganyika and Sankuru were statistically significant.

Figure 3.7. Hospitals with improved sanitation, by province and survey round†

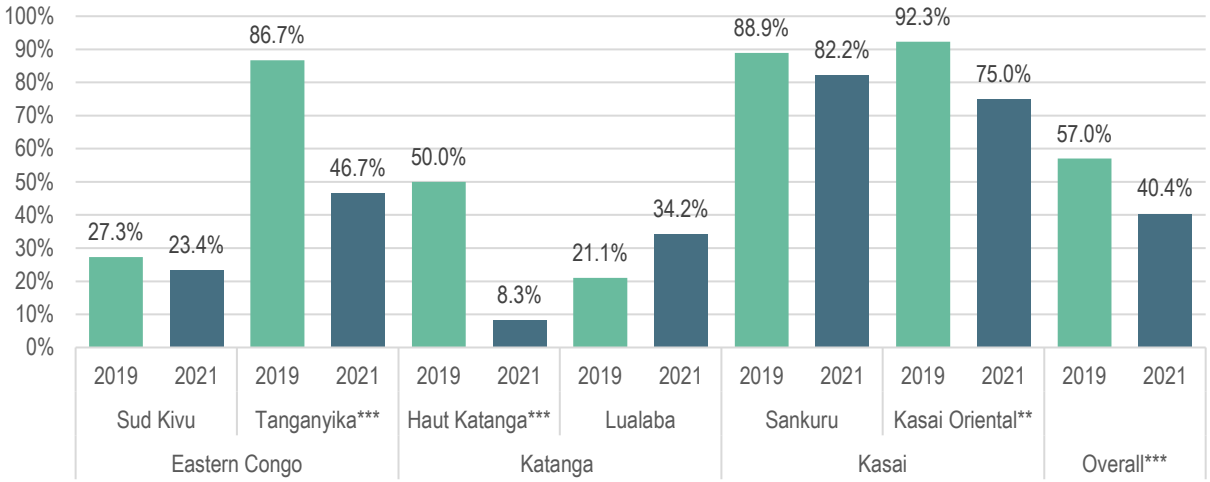


† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Private Delivery Rooms

Figure 3.8 shows the percentage of health centers with a private delivery room. Overall, there was a statistically significant decline over time at health centers (17 percentage points). Private delivery rooms were more common in Sankuru (82%) and Kasai Oriental (75%) in 2021. The only improvement was noted in Lualaba, and for the remaining provinces, private delivery room prevalence declined, with the largest declines occurring in Tanganyika (40 percentage points) and Haut Katanga (42 percentage points), both of which were statistically significant.

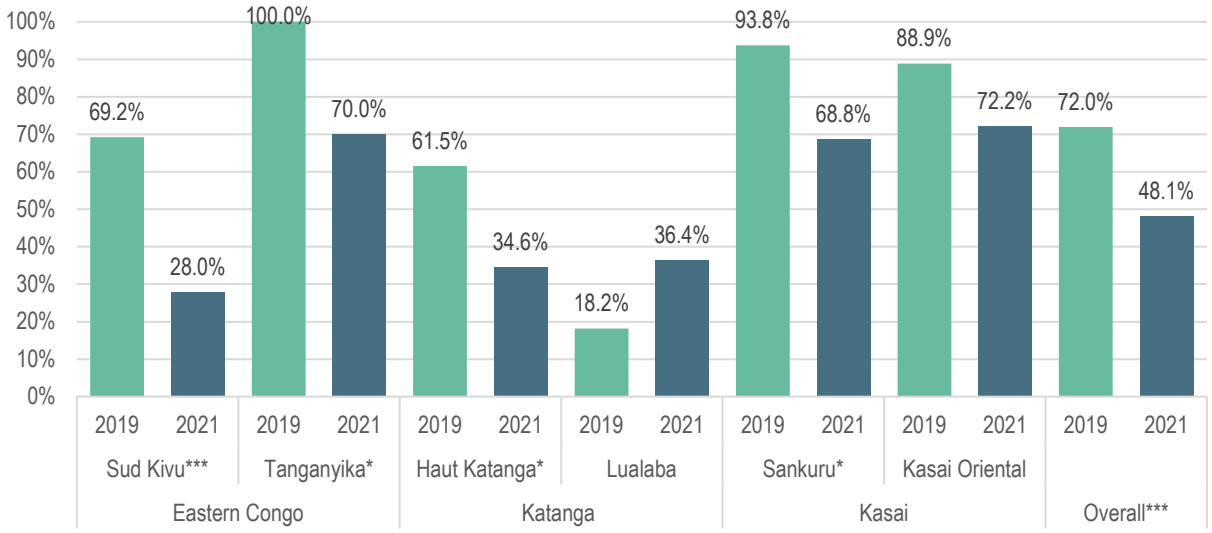
Figure 3.8. Health centers with a private delivery room, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

There was also a statistically significant decline in the percentage of hospitals with a private delivery room (Figure 3.9). In the provinces, the prevalence ranged from 18 percent to 100 percent in 2019, and 28 percent to 72 percent in 2021. The private delivery rooms were more common in Kasai Oriental (72%), Tanganyika (70%), and Sankuru (69%) in 2021. In the same year, they were least common in Sud Kivu (28%). Like the health centers, Lualaba was the only province with improvements, with twice the amount of private delivery rooms in hospitals in 2021 (from 18% to 36%); however, this gain was not statistically significant.

Figure 3.9. Hospitals with a private delivery room, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Tracer Drugs in Stock

Table 3.6 shows that improvements were seen in the health centers' availability of selected tracer drugs in stock on the day of the survey, with significant increases for oxytocin (8 percentage points), oral rehydration salts (22 percentage points), and iron sulfate (8 percentage points). More than 75 percent of health centers had oxytocin, artesunate-amodiaquine, and oral rehydration salts in 2021.

Table 3.6. Health centers that had selected tracer drugs in stock on the day of the survey, by survey round†

	Matched panel					
	2019 (n=313)		2021 (n=313)			
	n	Percent	n	Percent	PP difference	p-value
Oxytocin	246	78.6	271	86.6	8.0	0.01**
Artesunate-amodiaquine	223	71.2	242	77.3	6.1	0.08*
Oral rehydration salts	183	58.5	251	80.2	21.7	<0.01***
Depo Provera	179	57.2	201	64.2	7.0	0.07*
Folic acid	171	54.6	189	60.4	5.8	0.15
Iron sulfate	88	28.1	114	36.4	8.3	0.03**
Rifampicin and isoniazid	82	26.2	88	28.1	1.9	0.59
All tracer drugs	12	3.8	11	3.5	-0.3	0.83

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

The availability of all selected tracer drugs at health centers on the day of the survey was low, ranging from 0 percent (Sankuru) to 12 percent (Haut Lomami) (Table 3.7). Four percent of health centers in the matched sample had all tracer drugs in 2019 and 2021, and 5 percent of health facilities had all tracer drugs. In Tanganyika and Kasai Oriental, the availability of all tracer drugs improved (3 and 2 percentage points, respectively) but declined in Sud Kivu (1 percentage point), Haut Katanga (1 percentage point), and Lualaba (3 percentage points).

Table 3.7. Health centers that had all seven tracer drugs in stock on the day of the survey, by province and survey round

	Matched panel†						Cross-section	
	2019 (n=313)		2021 (n=313)		PP difference	p-value	2021 (n=553)	
	n	Percent	n	Percent			n	Percent
Overall	12	3.8	11	3.5	-0.3	0.83	26	4.7
Eastern Congo								
Sud Kivu	2	2.6	1	1.3	-1.3	0.56	1	1.0
Tanganyika	0	0.0	1	3.3	3.3	0.31	1	3.0
Katanga								
Haut Katanga	7	9.7	6	8.3	-1.4	0.77	6	7.7
Lualaba	3	8.1	2	5.4	-2.7	0.64	3	7.1
Haut Lomami	-	-	-	-	-	-	6	12.2
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	5	5.4
Kasai Oriental	0	0.0	1	1.9	1.9	0.32	1	1.8
Lomami	-	-	-	-	-	-	3	5.4

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

In hospitals, oxytocin was the most common drug available and iron sulfate was the least available drug on the day of the survey in both surveys (Table 3.8). The improvements in the availability of select tracer drugs varied, ranging from 3 percentage points (rifampicin and isoniazid) to 16 percentage points (folic acid). These improvements were significant for the availability of oral rehydration salts (12 percentage points) and folic acid (16 percentage points).

Table 3.8. Hospitals that had selected tracer drugs in stock on the day of the survey, by survey round†

	Matched panel					
	2019 (n=106)		2021 (n=106)		PP difference	p-value
	n	Percent	n	Percent		
Oxytocin	102	96.2	103	97.2	0.9	0.70
Artesunate-amodiaquine	80	75.5	87	82.1	6.6	0.24
Oral rehydration salts	80	75.5	93	87.7	12.3	0.02**
Depo Provera	67	63.2	72	67.9	4.7	0.47
Folic acid	68	64.2	85	80.2	16.0	0.01*
Iron sulfate	52	49.1	59	55.7	6.6	0.34
Rifampicin and isoniazid	82	77.4	85	80.2	2.8	0.61
All tracer drugs	11	10.4	23	21.7	11.3	0.03 **

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Twice the number of hospitals had all selected tracer drugs in stock in 2021 compared with 2019 (22% versus 10%) (Table 3.9). Although not significant, improvements were noted in all provinces, except in Lualaba, where a 10-percentage point decrease was detected. In the entire sample, half of the hospitals in Kasai Central and none of the hospitals in Lomami had all selected tracer drugs available. It is worth noting that fewer than one in five hospitals in Sankuru, Sud Kivu, and Tanganyika had all selected tracer drugs in stock on the day of the survey.

Table 3.9. Hospitals that had all seven tracer drugs in stock on the day of the survey, by province and survey round†

	Matched panel						Cross-section	
	2019 (n=106)		2021 (n=106)		PP difference	p-value	2021 (n=148)	
	n	Percent	n	Percent			n	Percent
Overall	11	10.4	23	21.7	11.3	0.03**	37	25.0
Eastern Congo								
Sud Kivu	1	3.8	4	15.4	11.5	0.16	4	12.1
Tanganyika	0	0.0	2	20.0	20.0	0.14	2	18.2
Katanga								
Haut Katanga	6	23.1	10	38.5	15.4	0.23	11	37.9
Lualaba	3	30.0	2	20.0	-10.0	0.61	5	35.7
Haut Lomami	-	-	-	-	-	-	3	33.3
Kasai								
Sankuru	0	0.0	1	6.3	6.3	0.31	1	6.3
Kasai Central	-	-	-	-	-	-	5	50.0
Kasai Oriental	1	5.6	4	22.2	16.7	0.15	6	31.6
Lomami	-	-	-	-	-	-	0	0.0

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Basic Equipment

Table 3.10 shows that the infant scale saw the largest and most significant improvement in the health centers' basic equipment. Two-thirds of the health centers had infant scales in 2019, and by 2021, 77 percent of the health facilities had this equipment. Improvements were also noted for all other basic equipment, apart from the blood pressure monitor. For this equipment, there was a reduction of 2 percentage points. Overall, significant improvements were noted in the percentage of health centers with all six pieces of basic equipment on the day of the survey (10 percentage points).

Table 3.10. Health centers with selected basic equipment on the day of the survey, by survey round†

	Matched panel					
	2019 (n=281)		2021 (n=281)		PP difference	p-value
	n	Percent	n	Percent		
Stethoscope	254	90.4	256	91.1	0.7	0.77
Thermometer	245	87.2	245	87.2	0.0	1.00
Blood pressure monitor	231	82.2	225	80.1	-2.1	0.52
Adult scale	231	82.2	241	85.8	3.6	0.25
Infant scale	186	66.2	217	77.2	11.0	<0.01***
Light source (spotlight)	186	66.2	201	71.5	5.3	0.17
All basic equipment	107	38.1	136	48.4	10.3	0.01**

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

The percentage of health centers with all six pieces of basic equipment increased in all provinces, except Sankuru (no change) and Tanganyika (4 percentage point decline) (Table 3.11). More than half of the health centers in Sud Kivu, Haut Katanga, Lualaba, and Haut Lomami had health facilities with all basic equipment on the day of the survey. It was most common in Haut Katanga (68%). The prevalence was lowest in Sankuru, where only 2 percent of health centers had all six pieces of basic equipment.

Table 3.11. Health centers with all six pieces of basic equipment on the day of the survey, by province and survey round†

	Matched panel						Cross-section	
	2019 (n=281)		2021 (n=281)				2021 (n=553)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	107	38.1	136	48.4	10.3	0.01**	249	45.0
Eastern Congo								
Sud Kivu	36	50.0	47	65.3	15.3	0.06*	64	64.6
Tanganyika	9	33.3	8	29.6	-3.7	0.77	9	27.3
Katanga								
Haut Katanga	37	56.1	46	69.7	13.6	0.11	53	67.9
Lualaba	13	41.9	18	58.1	16.1	0.20	24	57.1
Haut Lomami	-	-	-	-	-	-	25	51.0
Kasai								
Sankuru	1	2.3	1	2.3	0.0	1.00	1	2.1
Kasai Central	-	-	-	-	-	-	37	40.2
Kasai Oriental	11	26.2	16	38.1	11.9	0.24	18	31.6
Lomami	-	-	-	-	-	-	18	32.1

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

A majority of hospitals had one of the basic pieces of equipment and the changes were minimal and non-significant (Table 3.12). Nearly all hospitals had a blood pressure monitor (99%), stethoscope (98%), and thermometer (97%). The spotlight or light sources were the least prevalent equipment, although 88 percent hospitals had this equipment.

Table 3.12. Hospitals with selected basic equipment on the day of the survey, by survey round

	Matched panel†					
	2019 (n=101)		2021 (n=101)			
	n	Percent	n	Percent	PP difference	p-value
Stethoscope	98	97.0297	99	98.0198	1.0	0.65
Thermometer	98	97.0297	98	97.0297	0.0	1.00
Blood pressure monitor	99	98.0198	100	99.0099	1.0	0.56
Adult scale	96	95.0495	96	95.0495	0.0	1.00
Infant scale	100	99.0099	96	95.0495	-4.0	0.10
Light source (spotlight)	87	86.1386	89	88.1188	2.0	0.67
All basic equipment	82	81.1881	80	79.2079	-2.0	0.72

† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

There was a decline in the percentage of hospitals with all six pieces of basic equipment, from 81 percent in 2019 to 79 percent in the 2021 (Table 3.13). These declines were mainly driven by the declines in Tanganyika (20 percentage points) and Kasai Oriental (21 percentage points). Overall, three- fourths of the total sample had all six pieces of equipment, and they were most prevalent in Sud Kivu (91%), followed by Haut Lomami (89%) and Lualaba (86%). Provinces in the Kasai region had the lowest prevalence, where fewer than 70 percent of hospitals had all equipment. The lowest percentage was in Lomami (43%).

Table 3.13. Hospitals with all six pieces of basic equipment on the day of the survey, by province and survey round†

	Matched panel						Cross-section	
	2019 (n=101)		2021 (n=101)		PP difference	p-value	2021 (n=148)	
	n	Percent	n	Percent			n	Percent
Overall	82	81.2	80	79.2	-2.0	0.72	113	76.4
Eastern Congo								
Sud Kivu	22	88.0	23	92.0	4.0	0.64	30	90.9
Tanganyika	9	90.0	7	70.0	-20.0	0.26	8	72.7
Katanga								
Haut Katanga	22	84.6	22	84.6	0.0	1.00	24	82.8
Lualaba	7	70.0	8	80.0	10.0	0.61	12	85.7
Haut Lomami	-	-	-	-	-	-	8	88.9
Kasai								
Sankuru	9	56.3	10	62.5	6.3	0.72	10	62.5
Kasai Central	-	-	-	-	-	-	6	60.0
Kasai Oriental	13	92.9	10	71.4	-21.4	0.14	12	63.2
Lomami	-	-	-	-	-	-	3	42.9

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Adequate Infection Control Equipment

The infection control equipment included in this evaluation were safe final disposal of biohazardous materials, gowns, sharps box, gloves, sink or basin, clean water, autoclave (steam sterilizer), disinfectant (chlorine powder), masks, eye protection, and test strips. In the total sample, only one health center in Sud Kivu had all 11 pieces of infection control equipment on the day of the survey (Table 3.14). All health centers in the other provinces did not have all these pieces of infection control equipment. It is worth noting that one health center in Haut Katanga had all pieces in 2019, but in 2021 it did not. In Sud Kivu, there was a 1.3 percentage point increase in the percentage of health centers with all 11 pieces of infection control equipment.

Table 3.14. Health centers with all 11 pieces of infection control equipment, by province and survey round†

	Matched panel						Cross-section	
	2019 (n=308)		2021 (n=308)		PP difference	p-value	2021 (n=553)	
	n	Percent	n	Percent			n	Percent
Overall	1	0.3	1	0.3	0.0	1.00	1	0.2
Eastern Congo								
Sud Kivu	0	0.0	1	1.3	1.3	0.32	1	1.0
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	1	1.4	0	0.0	-1.4	0.32	0	0.0
Lualaba	0	0.0	0	0.0	0.0	N/A	0	0.0
Haut Lomami	-	-	-	-	-	-	0	0.0
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	0	0.0
Kasai Oriental	0	0.0	0	0.0	0.0	N/A	0	0.0
Lomami	-	-	-	-	-	-	0	0.0

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

The prevalence of all infection control equipment was higher in hospitals than in health centers, although it was low (Table 3.15). Ten percent of hospitals in the total sample had all 11 pieces of infection control equipment, ranging from 0 percent (Sankuru, Kasai Central, Tanganyika, and Haut Lomami) to 27 percent (Sud Kivu). Sud Kivu saw the largest and only significant improvement (27 percentage points). Haut Katanga and Kasai Oriental also improved, but their change was not significant.

Table 3.15. Hospitals with all 11 pieces of adequate infection control equipment, by province and survey round†

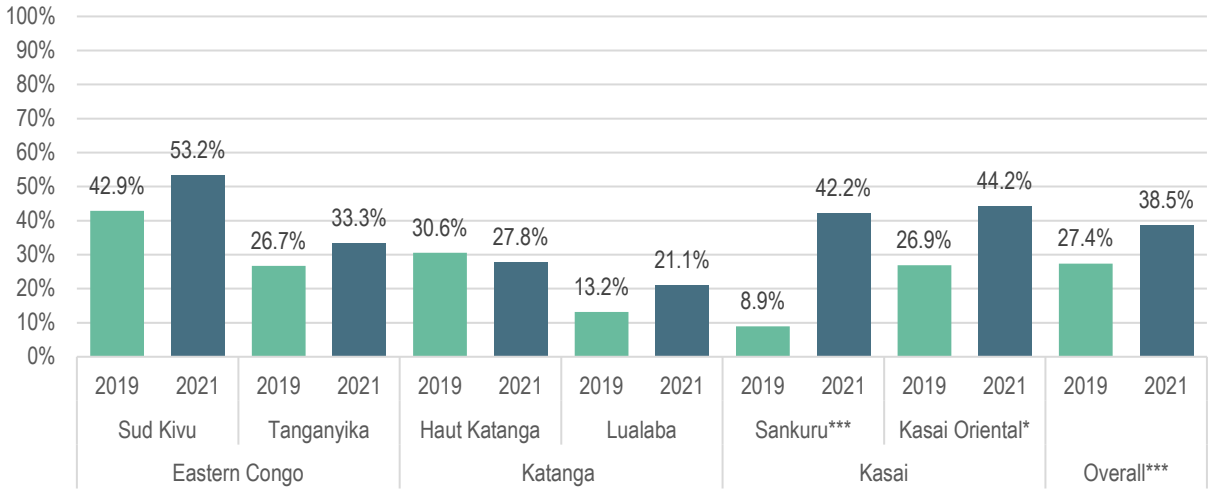
	Matched panel						Cross-section	
	2019 (n=107)		2021 (n=107)		PP difference	p-value	2021 (n=148)	
	n	Percent	n	Percent			n	Percent
Overall	1	0.9	12	11.2	10.3	<0.01***	14	9.5
Eastern Congo								
Sud Kivu	1	3.8	8	30.8	26.9	0.01**	9	27.3
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	0	0.0	3	11.5	11.5	0.07*	3	10.3
Lualaba	0	0.0	0	0.0	0.0	N/A	1	7.1
Haut Lomami	-	-	-	-	-	-	0	0
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	0	0.0
Kasai Oriental	0	0.0	1	5.6	5.6	0.31	1	5.3
Lomami	-	-	-	-	-	-	0	0.0

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Comprehensive Sexual and Gender-Based Violence Services

Figures 3.10 and 3.11 show the percentages of health centers and hospitals that offered a package of comprehensive sexual and gender-based violence services (SGBV). The prevalence of these services at health centers improved significantly overall, ranging from 7 percentage points (Tanganyika) to 33 percentage points (Sankuru). This overall change was largely driven by a statistically significant gain in Sankuru. Non-significant gains were noted in all but one province, and in Haut Katanga, the prevalence declined from 31 percent to 28 percent.

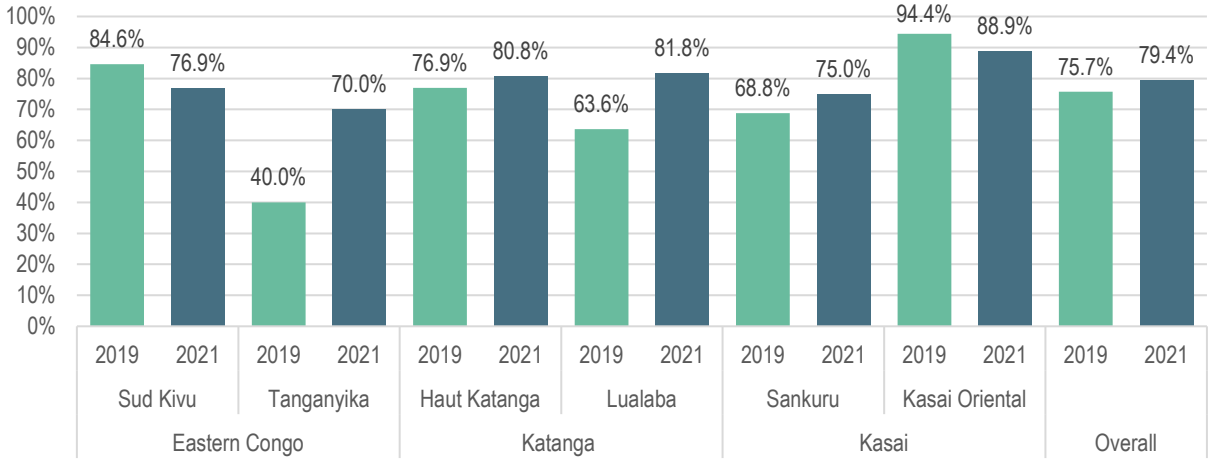
Figure 3.10. Health centers offering a package of comprehensive SGBV services, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

The prevalence of the comprehensive package of SGBV at hospitals was high, with more than 70 percent of the hospitals offering these services in all provinces in 2021. It was most common in Kasai Oriental, although there was a six-percentage point decline between 2019 and 2021. Improvements were noted in Tanganyika (30 percentage points), Lualaba (18 percentage points), Sankuru (6 percentage points), and Haut Katanga (4 percentage points).

Figure 3.11. Hospitals offering a package of comprehensive SGBV, by province and survey round†

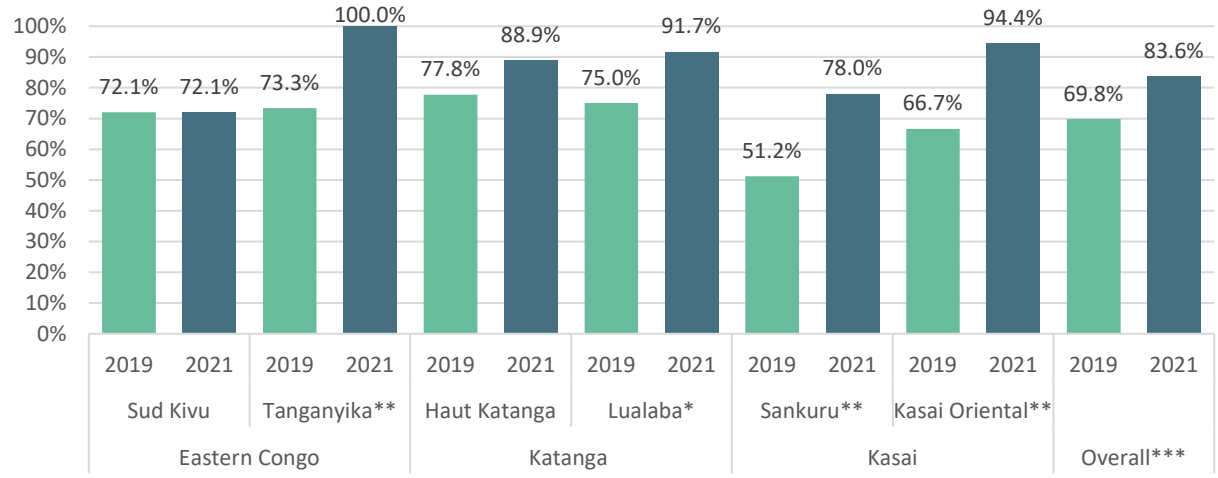


† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Long-Acting Methods of FP

Overall, significant improvements were noted in the percentage of health centers that offered long-acting methods of FP (14 percentage points), and by 2021, 84 percent of health centers offered long-acting methods of FP (Figure 3.12). There were improvements in all provinces, except in Sud Kivu, where there was no change. Sankuru and Kasai Oriental saw the largest increases in prevalence (28 percentage points and 27 percentage points, respectively), and all or nearly all the facilities in Tanganyika, Kasai Oriental, and Lualaba offered a method in 2021.

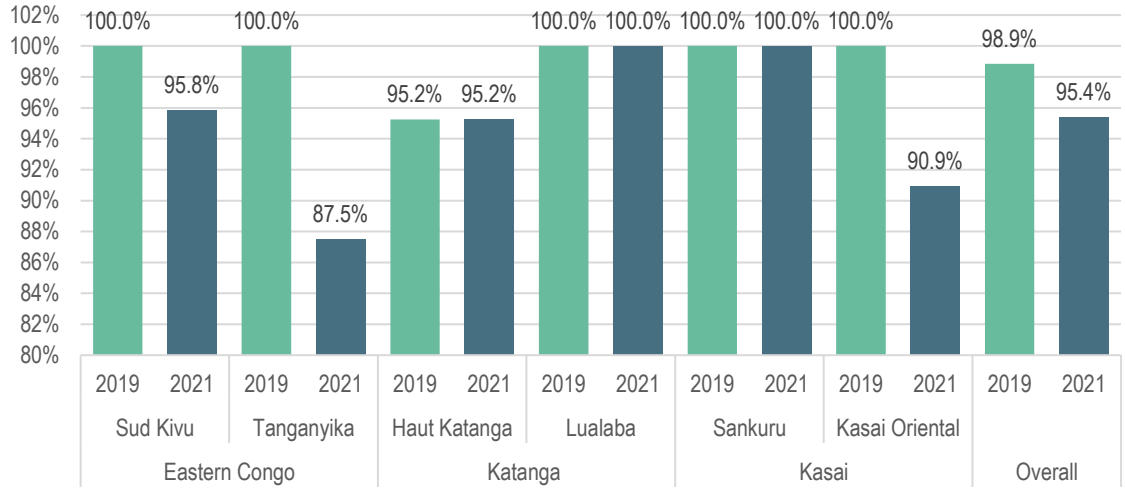
Figure 3.12. Health centers offering a long-acting or permanent method of FP, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

There was a decline of 3 percentage points in the overall prevalence of long-acting FP methods at hospitals. This was largely driven by the declines in Tanganyika (13 percentage points), Kasai Oriental (9 percentage points), and Sud Kivu (4 percentage points). All hospitals in Haut Katanga, Lualaba, and Sankuru provided long-acting methods in both surveys.

Figure 3.13. Hospitals offering a long-acting or permanent method of FP, by province and survey round†

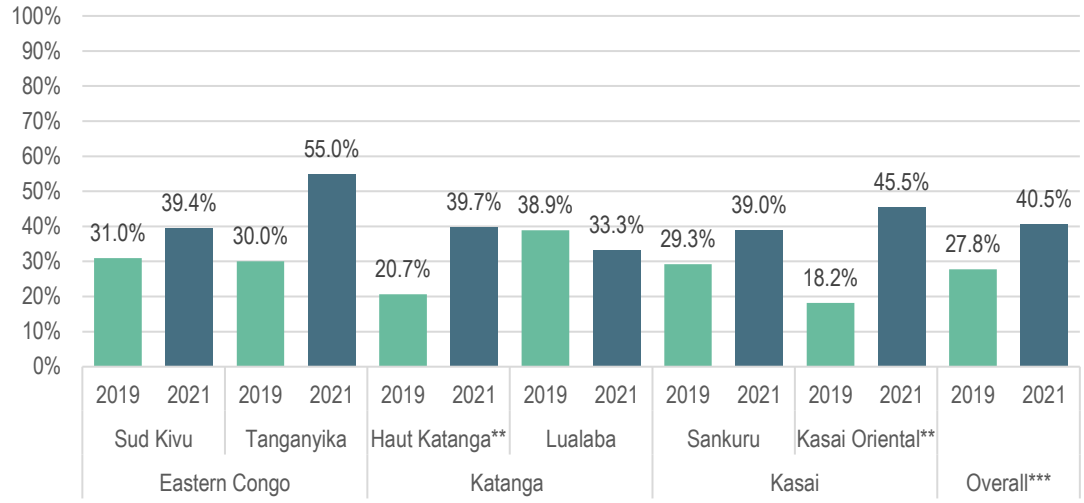


†Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Health Worker Training in Youth-Friendly FP Services

Fewer than three in five health centers in any province had at least one health worker trained in youth-friendly FP services in both surveys (Figure 3.14); however, there was a statistically significant increase overall. Kasai Oriental and Haut Katanga saw significant improvements with trained health workers.

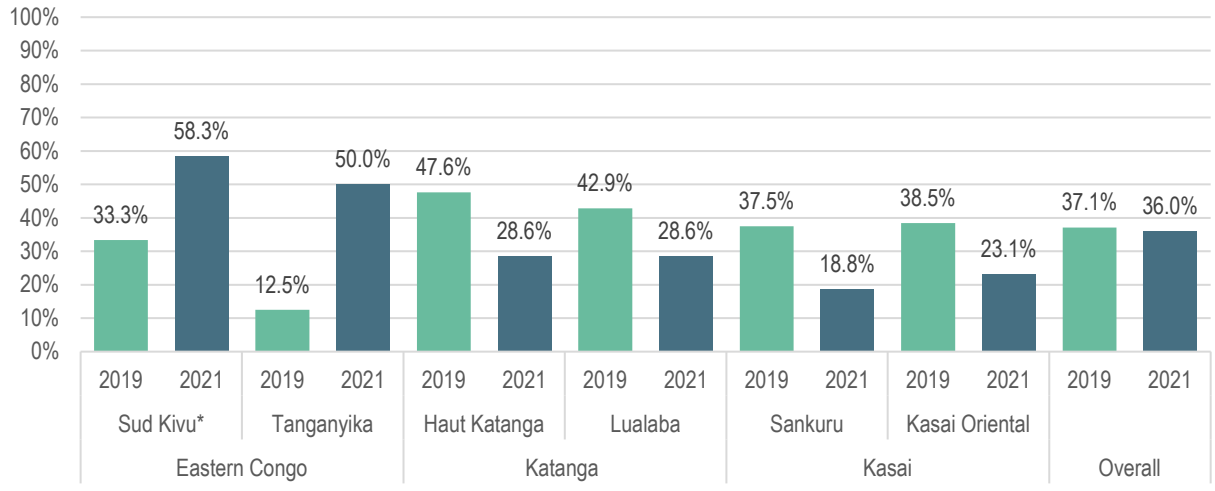
Figure 3.14. Health centers with at least one health worker trained in youth-friendly FP services, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Hospitals had more health workers trained in youth-friendly FP services in 2019, but in 2021 the inverse was observed (Figure 3.15). Thirty-six percent of hospitals had trained workers compared with 41 percent at health centers. There were reductions in every province, except for the Eastern Congo region. Sankuru and Haut Katanga had the largest declines in the percentage of hospitals with trained health workers in youth-friendly FP services (19 percent in both provinces). Only one province, Suk Kivu, experienced a statistically significant increase.

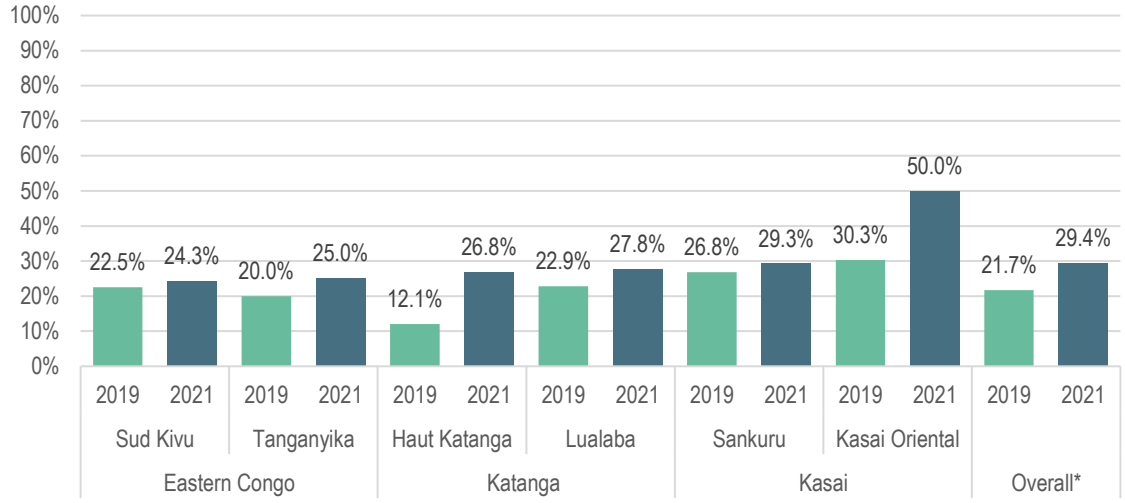
Figure 3.15. Hospitals with at least one health worker trained in youth-friendly FP services, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Figures 3.16 and 3.17 show the percentage of health centers and hospitals with FP information and resources specific to youth. In most provinces, fewer than half of the health centers had information and resources specific to youth in both surveys. Half of the health centers in Kasai Oriental had these resources and information in 2021, and they saw the largest improvement (20 percentage points). Overall, there was a statistically significant increase.

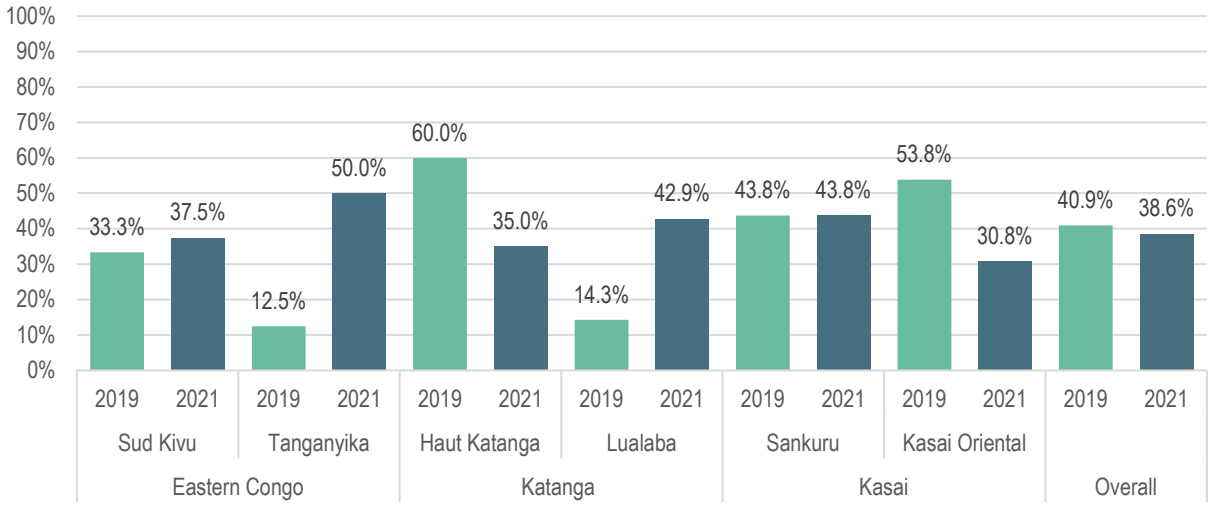
Figure 3.16. Health centers with FP information and resources specific to youth, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

The prevalence was also low at hospitals in all provinces in both surveys; however, improvements were noted in Tanganyika (38 percentage points), Lualaba (29 percentage points), and Sud Kivu (4 percentage points) (Figure 3.17). Interestingly, hospitals in Haut Katanga and Kasai Oriental with FP information and resources specific to youth decreased substantially (25 percentage points and 23 percentage points, respectively), which probably drove the decline seen in the overall sample.

Figure 3.17. Hospitals with FP information and resources specific to youth, by province and survey round†



† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Minimum Standards to Support the Provision of Long-Acting or Permanent Contraceptive Methods

To provide long-acting or permanent methods of contraception, health facilities need to meet a minimum standard for essential staff, supplies, and equipment. The standard differs depending on the type of procedure performed. (See pages 59-62 of the baseline report for the minimum standards list for each method.) Tables 3.16 and 3.17 present the percentage of health centers and hospitals that met all requirements listed for the minimum standards for each long-acting and permanent contraceptive method examined.

None of the health centers in any province met all requirements to support the provision of male sterilization, female sterilization, and intrauterine devices (Table 3.16). Haut Katanga was the only province with a health center that met all requirements to support the provision of implants, specifically Norplant, Jadelle, and Sino-Implant II (1%). Implanon was the only method that had multiple provinces meeting all requirements listed in the minimum standards. Fewer than five percent of the health centers in Sud Kivu (1%), Haut Katanga (3%), Haut Lomami (2%), Kasai Central (1%), and Lomami (2%) met all requirements in the minimum standards to insert and remove the Implanon implant.

Table 3.16. Health centers meeting all minimum standards for essential staff, supplies, and equipment to support the provision of long-acting or permanent methods of contraception, by province and survey round

	Matched panel†						Cross-section	
	2019 (n=313)		2021 (n=313)		PP difference	p-value	2021 (n=553)	
	n	Percent	n	Percent			n	Percent
Male sterilization								
Overall	0	0.0	0	0.0	0.0	N/A	0	0.0
Eastern Congo								
Sud Kivu	0	0.0	0	0.0	0.0	N/A	0	0.0
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	0	0.0	0	0.0	0.0	N/A	0	0.0
Lualaba	0	0.0	0	0.0	0.0	N/A	0	0.0
Haut Lomami	-	-	-	-	-	-	0	0.0
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	0	0.0
Kasai Oriental	0	0.0	0	0.0	0.0	N/A	0	0.0
Lomami	-	-	-	-	-	-	0	0.0
Female sterilization								
Overall	0	0.0	0	0.0	0.0	N/A	0	0.0
Eastern Congo								
Sud Kivu	0	0.0	0	0.0	0.0	N/A	0	0.0
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	0	0.0	0	0.0	0.0	N/A	0	0.0
Lualaba	0	0.0	0	0.0	0.0	N/A	0	0.0
Haut Lomami	-	-	-	-	-	-	0	0.0

	Matched panel†						Cross-section	
	2019 (n=313)		2021 (n=313)		PP difference	p-value	2021 (n=553)	
	n	Percent	n	Percent			n	Percent
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	0	0.0
Kasai Oriental	0	0.0	0	0.0	0.0	N/A	0	0.0
Lomami	-	-	-	-	-	-	0	0.0
Intrauterine device								
Overall	0	0.0	0	0.0	0.0	N/A	0	0.0
Eastern Congo								
Sud Kivu	0	0.0	0	0.0	0.0	N/A	0	0.0
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	0	0.0	0	0.0	0.0	N/A	0	0.0
Lualaba	0	0.0	0	0.0	0.0	N/A	0	0.0
Haut Lomami	-	-	-	-	-	-	0	0.0
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	0	0.0
Kasai Oriental	0	0.0	0	0.0	0.0	N/A	0	0.0
Lomami	-	-	-	-	-	-	0	0.0
Implant (insertion and removal): Norplant, Jadelle, Sino-Implant II								
Overall	1	0.3	1	0.3	0.0	1.00	1	0.2
Eastern Congo								
Sud Kivu	0	0.0	0	0.0	0.0	N/A	0	0.0
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	1	1.4	1	1.4	0.0	1.00	1	1.3
Lualaba	0	0.0	0	0.0	0.0	N/A	0	0.0
Haut Lomami	-	-	-	-	-	-	0	0.0
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	0	0.0
Kasai Oriental	0	0.0	0	0.0	0.0	N/A	0	0.0
Lomami	-	-	-	-	-	-	0	0.0
Implant (insertion and removal): Implanon								
Overall	1	0.3	3	1.0	0.6	0.32	6	1.1
Eastern Congo								
Sud Kivu	1	1.3	1	1.3	0.0	1.00	1	1.0
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0

	Matched panel†						Cross-section	
	2019 (n=313)		2021 (n=313)		PP difference	p-value	2021 (n=553)	
	n	Percent	n	Percent			n	Percent
Katanga								
Haut Katanga	0	0.0	2	2.8	2.8	0.15	2	2.6
Lualaba	0	0.0	0	0.0	0.0	N/A	0	0.0
Haut Lomami	-	-	-	-	-	-	1	2.0
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	1	1.1
Kasai Oriental	0	0.0	0	0.0	0.0	N/A	0	0.0
Lomami	-	-	-	-	-	-	1	1.8

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

The prevalence of hospitals that met all requirements to support the provision of long-acting or permanent methods of contraception was low, ranging from 3 percent (male sterilization) to 10 percent (Implanon) (Table 3.17). Sud Kivu was the only province with hospitals that met all requirements for male sterilization (15%). For each method assessed, Sud Kivu was the only province with hospitals that met all requirements. Last, there were no significant improvements or declines over time in the percentage of health facilities that met all minimum standards for any of the long-acting or permanent contraceptive methods.

Table 3.17. Hospitals meeting minimum standards for essential supplies and equipment to support the provision of long- acting or permanent methods of contraception, by province and survey round

	Matched panel†						Cross-section	
	2019 (n=107)		2021 (n=107)		PP difference	p-value	2021 (n=148)	
	n	Percent	n	Percent			n	Percent
Male sterilization								
Overall	5	4.7	5	4.7	0.0	1.00	5	3.4
Eastern Congo								
Sud Kivu	2	7.7	5	19.2	11.5	0.30	5	15.2
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	2	7.7	0	0.0	-7.7	0.17	0	0.0
Lualaba	1	9.1	0	0.0	-9.1	0.33	0	0.0
Haut Lomami	-	-	-	-	-	-	0	0.0
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	0	0.0
Kasai Oriental	0	0.0	0	0.0	0.0	N/A	0	0.0
Lomami	-	-	-	-	-	-	0	0.0

	Matched panel†						Cross-section	
	2019		2021		PP difference	p-value	2021	
	(n=107)		(n=107)				(n=148)	
	n	Percent	n	Percent			n	Percent
Female sterilization								
Overall	8	7.5	6	5.6	-1.9	0.57	7	4.7
Eastern Congo								
Sud Kivu	4	15.4	3	11.5	-3.8	0.69	3	9.1
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	2	7.7	1	3.8	-3.8	0.55	1	3.4
Lualaba	1	9.1	1	9.1	0.0	0.94	2	14.3
Haut Lomami	-	-	-	-	-	-	0	0.0
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	0	0.0
Kasai Oriental	1	5.6	1	5.6	0.0	0.93	1	5.3
Lomami	-	-	-	-	-	-	0	0.0
Intrauterine device								
Overall	4	3.7	5	4.7	0.9	0.70	6	4.1
Eastern Congo								
Sud Kivu	3	11.5	4	15.4	3.8	0.69	4	12.1
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	0	0.0	1	3.8	3.8	0.30	1	3.4
Lualaba	1	9.1	0	0.0	-9.1	0.33	1	7.1
Haut Lomami	-	-	-	-	-	-	0	0.0
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	0	0.0
Kasai Oriental	0	0.0	0	0.0	0.0	N/A	0	0.0
Lomami	-	-	-	-	-	-	0	0.0
Implant (insertion and removal): Norplant, Jadelle, Sino-Implant II								
Overall	5	4.7	4	3.7	-0.9	0.74	6	4.1
Eastern Congo								
Sud Kivu	3	11.5	2	7.7	-3.8	0.64	2	6.1
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	0	0.0	1	3.8	3.8	0.31	1	3.4
Lualaba	1	9.1	0	0.0	-9.1	0.33	0	0.0
Haut Lomami	-	-	-	-	-	-	1	11.1

	Matched panel†						Cross-section	
	2019 (n=107)		2021 (n=107)		PP difference	p-value	2021 (n=148)	
	n	Percent	n	Percent			n	Percent
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	1	10.0
Kasai Oriental	1	5.6	1	5.6	0.0	1.00	1	5.3
Lomami	-	-	-	-	-	-	0	0.0
Implant (insertion and removal): Implanon								
Overall	5	4.7	10	9.3	4.7	0.18	15	10.1
Eastern Congo								
Sud Kivu	3	11.5	6	23.1	11.5	0.27	8	24.2
Tanganyika	0	0.0	1	10.0	10.0	0.31	1	9.1
Katanga								
Haut Katanga	1	3.8	1	3.8	0.0	1.00	1	3.4
Lualaba	1	9.1	0	0.0	-9.1	0.31	0	0.0
Haut Lomami	-	-	-	-	-	-	1	11.1
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-	-	2	20.0
Kasai Oriental	0	0.0	2	11.1	11.1	0.15	2	10.5
Lomami	-	-	-	-	-	-	0	0.0

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Service Delivery

Adequate Staffing Numbers and Mix According to Government Guidelines

Government guidelines state that rural health centers should have a minimum of four nurses (A1/A2), two midwives, one laboratory technician, and one maintenance technician. Urban health centers should have a minimum of eight nurses (A1/A2), four midwives, two laboratory technicians, and one maintenance technician. In the six provinces surveyed in 2019, none of the health centers were fully staffed according to government guidelines (results not shown). Three health centers were fully staffed in 2021: a rural health center in Lomami, a rural health center in Kasai Oriental, and an urban health center in Kasai Oriental (data not shown).

When considering each cadre of health worker individually, health centers were most likely to have an adequate number of nurses. This was followed by laboratory technicians, maintenance technicians, and finally, midwives.

Among all health centers surveyed in 2021, 35.4 percent had an adequate number of nurses (Table 3.18). This percentage was highest in Sankuru, at 61.7 percent, and lowest in Tanganyika, at 9.1 percent. Sankuru was the only province to experience a statistically significant change in the percentage of health centers with an adequate number of nurses, increasing 19.6 percentage points between 2019 and 2021.

Table 3.18. Health centers with an adequate number of nurses according to government guidelines, by province and survey round

	Matched panel†						Cross-section	
	2019 (n=337)		2021 (n=337)				2021 (n=551)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	79	23.4	96	28.5	5.1	0.14	195	35.4
Eastern Congo								
Sud Kivu	34	37.8	39	43.3	5.6	0.45	41	42.3
Tanganyika	4	13.3	3	10.0	-3.3	0.69	3	9.1
Katanga								
Haut Katanga	12	16.0	14	18.7	2.7	0.67	16	20.8
Lualaba	6	14.3	5	11.9	-2.4	0.75	5	11.9
Haut Lomami	-	-	-	-	-		13	26.5
Kasai								
Sankuru	20	43.5	29	63.0	19.6	0.06*	29	61.7
Kasai Central	-	-	-	-	-		7	12.3
Kasai Oriental	3	5.6	6	11.1	5.6	0.30	56	60.2
Lomami	-	-	-	-	-		25	44.6

† Six of the nine USAID-IHP supported provinces were surveyed in both 2019 and 2021: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

The percentage of health centers with the recommended number of midwives is shown in Table 3.19. Overall, in 2021, only 3.8 percent of health centers had an adequate number of midwives. In four provinces (Sud Kivu, Tanganyika, Lualaba, and Kasai Central), no health centers had the recommended number. Among the health centers surveyed in both years, there was a statistically significant decrease in the percentage of health centers with adequate numbers of midwives overall and in Sud Kivu.

Table 3.19. Health centers with an adequate number of midwives according to government guidelines, by province and survey round

	Matched panel†						Cross-section	
	2019 (n=337)		2021 (n=337)				2021 (n=551)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	9	2.7	3	0.9	-1.8	0.08*	21	3.8
Eastern Congo								
Sud Kivu	4	4.4	0	0.0	-4.4	0.04**	0	0.0
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	3	4.0	2	2.7	-1.3	0.65	2	2.6
Lualaba	2	4.8	0	0.0	-4.8	0.15	0	0.0
Haut Lomami	-	-	-	-	-		3	6.1
Kasai								
Sankuru	0	0.0	1	2.2	2.2	0.32	1	2.1
Kasai Central	-	-	-	-	-		0	0.0
Kasai Oriental	0	0.0	0	0.0	0.0	N/A	9	9.7
Lomami	-	-	-	-	-		6	10.7

† Six of the nine USAID-IHP supported provinces were surveyed in both 2019 and 2021: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

In 2021, 11.1 percent of surveyed health centers had an adequate number of laboratory technicians (Table 3.20). This percentage ranged from zero in Tanganyika to 22.6 percent in Kasai Oriental. Again, only Sankuru experienced a significant increase between 2019 and 2021, with a 13.0 percentage point improvement in the percentage of health centers with an adequate number of laboratory technicians.

Table 3.20. Health centers with an adequate number of laboratory technicians according to government guidelines, by province and survey round

	Matched panel†						Cross-section	
	2019 (n=337)		2021 (n=337)		PP difference	p-value	2021 (n=551)	
	n	Percent	n	Percent			n	Percent
Overall	26	7.7	29	8.6	0.9	0.67	61	11.1
Eastern Congo								
Sud Kivu	11	12.2	9	10.0	-2.2	0.64	9	9.3
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut Katanga	11	14.7	8	10.7	-4.0	0.46	9	11.7
Lualaba	4	9.5	4	9.5	0.0	1.00	4	9.5
Haut Lomami	-	-	-	-	-		2	4.1
Kasai								
Sankuru	0	0.0	6	13.0	13.0	0.01**	6	12.8
Kasai Central	-	-	-	-	-		3	5.3
Kasai Oriental	0	0.0	2	3.7	3.7	0.15	21	22.6
Lomami	-	-	-	-	-		7	12.5

† Six of the nine USAID-IHP supported provinces were surveyed in both 2019 and 2021: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Table 3.21 displays the percentage of health centers that had the recommended number of maintenance technicians on staff. Overall, 12.7 percent of health centers had the recommended number; ranging from zero in Sankuru to 38.8 percent in Haut Lomami. Among health centers surveyed in both years, there was an overall statistically significant increase. This was driven by provincial-level increases that were statistically significant in Sud Kivu, Tanganyika, and Lualaba. Only one province, Kasai Oriental, experienced a statistically significant decrease.

Table 3.21. Health centers with an adequate number of maintenance technicians according to government guidelines, by province and survey round

	Matched panel†						Cross-section	
	2019 (n=337)		2021 (n=337)		PP difference	p-value	2021 (n=551)	
	n	Percent	n	Percent			n	Percent
Overall	13	3.9	23	6.8	3.0	0.09*	70	12.7
Eastern Congo								
Sud Kivu	1	1.1	9	10.0	8.9	<0.01***	9	9.3
Tanganyika	0	0.0	4	13.3	13.3	0.04**	5	15.2
Katanga								
Haut Katanga	7	9.3	5	6.7	-2.7	0.55	6	7.8
Lualaba	1	2.4	5	11.9	9.5	0.09*	5	11.9
Haut Lomami	-	-	-	-	-		19	38.8
Kasai								
Sankuru	0	0.0	0	0.0	0.0	N/A	0	0.0
Kasai Central	-	-	-	-	-		1	1.8
Kasai Oriental	4	7.4	0	0.0	-7.4	0.04**	17	18.3
Lomami	-	-	-	-	-		8	14.3

† Six of the nine USAID-IHP supported provinces were surveyed in both 2019 and 2021: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

Health Worker Attitudes

Health workers working in health centers were asked the degree to which they agreed with a set of statements about interactions with patients. The results are shown in Table 3.22. Overall, in 2021, health workers were most likely to agree that "I consider my patients to be worthy of respect no matter how poor or low status they are," with more than 97 percent having that view. Conversely, the smallest percentage agreed with the statement that, "patients often treat me without respect, so it is hard to treat them with respect," at 9.4 percent overall. In the matched panel, five of the seven statements showed statistically significant improvements in the desired direction and two worsened.

Table 3.22. Health center-based health worker attitudes toward patients, by survey round

	Matched panel†						Cross-section	
	2019 (n=726)		2021 (n=732)		PP difference	p-value	2021 (n=2015)	
	n	Percent	n	Percent			n	Percent
Patients I care for are not educated enough to make good health decisions for themselves (-)	407	56.1	341	46.6	-9.48	<0.01***	1035	51.4
Patients I care for are not grateful for the efforts I make when I care for them (-)	283	39.0	248	33.9	-5.1	0.01**	746	37.0
Patients often treat me without respect, so it is hard to treat them with respect (-)	51	7.0	72	9.8	2.82	<0.01***	190	9.4
Patients I care for make bad decisions regarding their health no matter what I tell them (-)	206	28.4	144	19.7	-8.7	<0.01***	473	23.5

	Matched panel†						Cross-section	
	2019 (n=726)		2021 (n=732)		PP difference	p-value	2021 (n=2015)	
	n	Percent	n	Percent			n	Percent
I consider my patients to be worthy of respect no matter how poor or low status they are (+)	702	96.7	712	97.3	0.58	0.56	1,961	97.3
Engaging patients in discussions leads to better health outcomes than just telling them what is best for them (+)	654	90.2	626	85.5	-4.69	0.01**	1,735	86.2
My patients will work hard to improve their health when they are given the proper information (+)	655	90.3	678	92.6	2.28	0.06*	1,808	89.8

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Health workers working in health centers were also asked the degree to which they agreed with a set of statements about their roles (Table 3.23). Overall, in 2021, health workers were most likely to agree that communication was a part of their job. The most frequently supported statement was "when medicine is given, it is important that I explain well what it does for the patient and how it helps them," with more than 97 percent holding this view. High percentages also agreed that "an important part of my job is to communicate with patients to make sure they understand their care" and "I think it is important to spend enough time with each patient, even if I have other job demands." In the matched panel, two of the eight statements showed statistically significant improvement in the desired direction and two worsened.

Table 3.23. Health center-based health worker attitudes toward their roles, by survey round

	Matched panel†						Cross-section	
	2019 (n=726)		2021 (n=732)		PP difference	p-value	2021 (n=2015)	
	n	Percent	n	Percent			n	Percent
My role is to provide clinical care, not to teach patients about how to take care of themselves (-)	150	20.7	155	21.2	0.45	0.34	447	22.2
I do not spend a lot of thought about what patients may think about their experience at the clinic as I have other things to worry about (-)	82	11.3	108	14.8	3.42	0.05*	288	14.3
I was trained to provide clinical care; being respectful to every patient is not my job (-)	189	26.2	190	26.0	-0.25	0.53	542	27.0
My job is to diagnose and treat patients, not to be a health educator (-)	67	9.3	90	12.3	2.97	<0.01***	259	12.9
An important part of my job is to communicate with patients to make sure they understand their care (+)	688	95.3	705	96.3	1.02	0.24	1,926	95.8
I try hard to think about all the patients' health care needs, not just solving their immediate problem (+)	131	77.5	618	84.4	6.92	0.40	1,696	84.4
When medicine is given, it is important that I explain well what it does for the patient and how it helps them (+)	693	96.4	720	98.4	1.98	0.03**	1,954	97.6
I think it is important to spend enough time with each patient, even if I have other job demands (+)	607	84.4	657	89.8	5.33	<0.01***	1,775	88.6

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Overview of Clinical Vignettes

In both survey rounds, surveyed health workers were asked to indicate whether they regularly provided family planning services, child health services, and antenatal care. Additionally, at midline, they were asked whether they regularly provided adult health services. They were then asked to respond to clinical vignettes corresponding to the services that they provide. The vignettes gave a short description of the patient and his symptoms. It asked the health workers what questions they would ask to fully understand the condition of the patient. After the questions by the health worker about the condition of the patient were collected, more information was given about the patient. Then, the vignette asked how the health worker would conduct the physical exam and, after gathering this information, the data collector provided the results of the physical exam. Based on these results, the health worker was asked to give a differential diagnosis and order laboratory tests. The vignette provided the results of the laboratory tests. Based on those results, the health worker was asked to determine a final diagnosis, indicate the appropriate treatment, and describe the counseling to be given to the patient or their caregiver before leaving the clinic.

The purpose of the vignettes was to assess providers' knowledge, attitudes, and self-reported clinical practices. It should be noted, however, that clinical vignettes do not measure actual clinical practices. The vignettes for child health and antenatal care were changed between baseline and midline, because in many cases the same health workers would respond in both rounds. It was important that the respondent did not remember the correct answers from baseline. Further, although both vignettes were based on common conditions with which health workers should be very familiar, they may not be directly comparable. The focus of the family planning vignette is on assessing health worker attitudes rather than knowledge, so that vignette was repeated exactly in both rounds.

In this report, we present the percentage of health center-based health workers who gave a correct differential diagnosis, test, and treatment in the six provinces that were surveyed in both survey waves for child health, antenatal care, and family planning. We present data from all nine provinces surveyed at midline for adult health services, which was a case about COVID-19.

Clinical Vignette on FP

Health workers who stated that they regularly provided FP services were administered a clinical vignette presenting a 22-year-old woman who visited a clinic because she was interested in using contraceptives. The vignette first asks the health workers what questions they would ask the woman. The vignette then describes the obstetrical history of the woman and provides some information on her marital status, parity, and sexual activity; notably, that she is married, has no children, and wants to delay having children for at least three years. After that, the vignette asks whether the health workers would counsel the woman in choosing a contraceptive method and what information they would provide when counseling the woman about the FP method she is starting. Last, the woman emphasizes that she does not want anyone to know that she is using contraception and askes that it be kept confidential. The vignette asks how the health workers would respond to her concerns about confidentiality.

The two most common questions that health center-based health workers said that they would ask the patient pertained to her social history; the most frequent question was her marital status (63.2% in 2021), followed by the number of children she had (51.3%) (Table 3.24). The percentage of health workers who inquired about her number of children increased significantly between 2019 and 2021, as did other social history-related questions, including age of youngest child and length of marriage. In terms of health history, there were significant increases in questions about her menstrual history, contraceptive preferences, and recent intercourse. Notably, the percentage who asked about her husband's knowledge and/or attitudes toward her use of contraception decreased significantly between survey rounds.

Table 3.24. Questions that health workers asked about the hypothetical client in the FP vignette, by survey round

	Matched panel†						Cross-section	
	2019 (n=227)		2021 (n=421)		PP difference	p-value	2021 (n=720)	
	n	Percent	n	Percent			n	Percent
Marital status	229	68.0	277	65.8	-2.2	0.53	455	63.2
Number of children	126	37.4	209	49.6	12.3	<0.01***	369	51.3
Menstrual history	126	37.4	183	43.5	6.1	0.09*	302	41.9
Gynecologic and obstetrical history	116	34.4	136	32.3	-2.1	0.54	256	35.6
Drug history, including contraceptive use	76	22.6	112	26.6	4.1	0.20	214	29.7
Age of youngest child	60	17.8	98	23.3	5.5	0.07*	207	28.8
Contraceptive preferences	94	27.9	90	21.4	-6.5	0.04**	199	27.6
Length of marriage	38	11.3	109	25.9	14.6	<0.01***	196	27.2
Recent intercourse	51	15.1	94	22.3	7.2	0.01**	190	26.4
Occupation (self)	28	8.3	45	10.7	2.4	0.27	105	14.6
Other health conditions and behaviors	23	6.8	34	8.1	1.3	0.52	99	13.8
Sexual history	29	8.6	39	9.3	0.7	0.75	95	13.2
Education level	19	5.6	29	6.9	1.3	0.48	86	11.9
Pregnancy intentions	32	9.5	42	10.0	0.5	0.83	85	11.8
Occupation (husband)	19	5.6	22	5.2	-0.4	0.80	77	10.7
Husband's knowledge/attitudes	53	15.7	36	8.6	-7.2	<0.01***	62	8.6
History of intimate partner violence and/or sexual violence	4	1.2	11	2.6	1.4	0.16	41	5.7
Religious affiliation	6	1.8	3	0.7	-1.1	0.18	14	1.9
No questions	4	1.2	6	1.4	0.2	0.78	36	5.0

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Overall, in 2021, 41.9 percent of health workers said that they would prescribe the woman contraception (Table 3.25). In the matched panel, female health workers were more likely to prescribe contraception in 2019, while males were more likely in 2021. While both sexes saw increases, neither increase was statistically significant. There was no statistically significant difference overall in 2021 (p=0.17).

There was variation among the provinces, ranging from 76.9 percent in Tanganyika to 21.3 percent in Kasai Oriental. Notably, Kasai Oriental was the only province that exhibited a statistically significant decrease, dropping 16.9 percentage points between 2019 and 2021.

Table 3.25. Health workers who would prescribe the hypothetical client contraception, by province and survey round

	Matched panel†						Cross-section	
	2019		2021				2021	
	(n=337)		(n=421)				(n=720)	
	n	Percent	n	Percent	PP difference	p-value	n	Percent
Overall	150	47.0	169	53.0	-3.0	0.23	302	41.9
Female	46	43.0	61	57.0	10.4	0.63	107	38.8
Male	104	49.1	108	50.9	1.8	0.27	195	43.9
Eastern Congo								
Sud Kivu	63	48.8	70	56.5	7.6	0.23	73	57.5
Tanganyika	18	90.0	26	74.3	-15.7	0.16	30	76.9
Katanga								
Haut Katanga	18	30.0	15	22.4	-7.6	0.33	15	22.4
Lualaba	7	29.2	9	27.3	-1.9	0.88	11	31.4
Haut Lomami	-	-	-	-	-		48	64.0
Kasai								
Sankuru	31	44.3	33	37.9	-6.4	0.42	33	37.9
Kasai Central	-	-	-	-	-		16	21.3
Kasai Oriental	13	38.2	16	21.3	-16.9	0.06*	41	37.6
Lomami	-	-	-	-	-		35	33.0

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

When health workers who would refuse to prescribe contraception were asked their reasons, the majority (82.3% overall in 2021) stated that it was because the woman had no children (Table 3.26). More than half (63.4%) were also unwilling to prescribe contraception because the women's husband was not present, and 47.1 percent stated that the fact that she was married was a problem for them. All three of these reasons increased significantly between 2019 and 2021.

Table 3.26. Health workers' stated reasons for not prescribing contraception, by survey round

	Matched panel†						Cross-section	
	2019		2021				2021	
	n=187		n=252		PP difference	p-value	n=418	
	n	Percent	n	Percent			n	Percent
She has no children	67	35.8	111	44.1	8.2	0.08*	344	82.3
Her husband is not present	117	62.6	198	78.6	16.0	<0.01***	265	63.4
She is married	106	56.7	163	64.7	8.0	0.09*	197	47.1
Condoms are sufficient	9	4.8	21	8.3	3.5	0.15	41	9.8
Provider's religious beliefs	1	0.5	1	0.4	-0.1	0.83	6	1.4

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Among health workers who agreed to prescribe contraception, the most common counseling topic was about side effects (64.6% overall in 2021), followed by the types of methods available (57.6%) (Table 3.27). There was a statistically significant 15.5 percentage point increase in the number of health workers who said that they would counsel the woman on the correct use of methods.

Table 3.27. Counseling topics that health workers would cover after agreeing to prescribe contraception, by survey round

	Matched panel†						Cross-section	
	2019		2021		PP difference	p-value	2021	
	n=150		n=169				n=302	
	n	Percent	n	Percent			n	Percent
Side effects including lack of periods	96	64.0	109	64.5	0.5	0.93	195	64.6
Types of contraceptive methods available today	99	66.0	101	59.8	-6.2	0.25	174	57.6
Effectiveness of methods in preventing pregnancy	62	41.3	79	46.8	5.4	0.33	142	47.0
Correct use of methods	38	25.3	69	40.8	15.5	<0.01***	141	46.7
Duration of protection from pregnancy	63	42.0	77	45.6	3.6	0.52	137	45.4
Types of contraceptive methods available consistently	46	30.7	65	38.5	7.8	0.15	117	38.7
Safety of the method	21	14.0	32	18.9	4.9	0.24	81	26.8
Effectiveness of methods in protecting against sexually transmitted infections, such as HIV	34	22.7	24	14.2	-8.5	0.05	57	18.9
Cost of methods	6	4.0	13	7.7	3.7	0.16	39	12.9
Pain/discomfort during administration	8	5.3	12	7.1	1.8	0.52	36	11.9
Provider's recommendation of a specific method	8	5.3	7	4.1	-1.2	0.62	26	8.6
No counseling	0	0.0	1	0.6	0.6	0.35	4	1.3

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Last, health workers explained what they would do if the woman emphasized that she wanted her contraceptive use kept confidential (Table 3.28). More than three quarters (75.8% overall in 2021) of the health workers said that they would reassure her that they would not tell anyone. More than half (51.7%) would encourage her to tell her husband, and six percent said that after hearing that she did not want anyone to know, would refuse to provide her a method until she informed her husband. There were no significant changes between 2019 and 2021.

Table 3.28. Health workers' responses to a request for confidentiality, by survey round

	Matched panel†						Cross-section	
	2019		2021		PP difference	p-value	2021	
	n=150		n=169				n=302	
	n	Percent	n	Percent			n	Percent
Reassure her that you will not tell anyone	125	83.3	132	78.1	-5.2	0.24	229	75.8
Encourage her to tell her husband	57	38.0	76	44.97	7.0	0.21	156	51.7
Encourage her to tell other people	3	2.0	5	3.0	1.0	0.59	12	4.0
Refuse to provide a method until she informs her husband	7	4.7	5	3.0	-1.7	0.42	18	6.0

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Clinical Vignette on Child Health

A total of 1,285 health center-based health workers (707 at baseline and 578 at midline) responded to a vignette about child health. At baseline, the vignette described a hypothetical case of a four-year-old boy with diarrhea who was brought to the clinic by his mother. At midline, the vignette described a case of a four-year-old boy with a painful, wheezing cough who was brought to the clinic by his mother. **Table 3.29** shows the respondents' distribution, by survey round and province.

Table 3.29. Total number of health center-based health workers who responded to the child health vignette, by survey round and province

	Eastern Congo		Kasai		Katanga		Overall
	Sud Kivu	Tanganyika	Kasai Oriental	Sankuru	Haut Katanga	Lualaba	
2019	194	53	120	114	180	46	707
2021	159	57	128	91	108	35	578
n	**353**	**110**	**248**	**205**	**288**	**81**	**1,285**

Differential Diagnosis

Overall, only 41.6 percent of health workers correctly indicated dysentery/shigellosis as part of the differential diagnosis at baseline. At midline, the percentage naming the correct diagnosis of pneumonia was much higher, at 69.9 percent. As shown in **Table 3.30**, the proportions of correct differential diagnosis were variable across survey rounds and provinces. At baseline, the lowest proportions of correct diagnosis were in Sankuru and Kasai Oriental, and the highest were observed in Lualaba. At midline, the lowest proportions were in Kasai Oriental and Tanganyika and the highest was in Haut Katanga.

Table 3.30. Percentage of health workers who correctly identified bacterial dysentery/shigellosis (baseline) or pneumonia (midline) as a likely diagnosis, by survey round and province

	Eastern Congo		Kasai		Katanga		Overall
	Sud Kivu	Tanganyika	Kasai Oriental	Sankuru	Haut Katanga	Lualaba	
2019	50.0	52.8	32.5	13.2	46.1	69.6	41.6
2021	76.7	63.2	52.3	74.7	81.5	65.7	69.9

Laboratory Tests

Among health workers at baseline, 91 percent correctly mentioned direct microscopic examination of stool as the laboratory test to be ordered. However, only 15 percent of them mentioned conducting a stool culture, which is recommended to be conducted in addition to direct microscopic stool examination. The proportion of those mentioning both tests was even lower (13.4%) (**Table 3.31).** The performance levels of the various provinces were relatively similar at baseline.

Pneumonia may be diagnosed using one or more of four tests. Overall, at midline, 87.4 percent of health workers stated that they would use at least one of those tests. The most frequently mentioned was a blood test, followed by sputum culture. Kasai Oriental and Sankuru were the lowest performing provinces at midline.

Table 3.31. Percentage of health center-based health workers who ordered the correct tests for bacillary dysentery/shigellosis at baseline, and pneumonia at midline, by province

	Eastern Congo		Kasai		Katanga		Total
	Sud Kivu	Tanganyika	Kasai Oriental	Sankuru	Haut Katanga	Lualaba	
2019							
Direct microscopic stool exam	94.3	86.8	88.3	96.5	87.2	89.1	91.0
Stool culture	18.6	30.2	20.0	0.9	10.6	21.7	15.0
Both tests	17.0	24.5	15.8	0.9	10.6	21.7	13.4
n	**194**	**53**	**120**	**114**	**180**	**46**	**707**
2021							
Blood test	88.7	96.5	50.0	59.3	82.4	85.7	74.9
Sputum culture	34.6	45.6	39.1	23.1	41.7	31.4	36.0
X-ray	28.9	33.3	11.7	0.0	40.7	11.4	22.2
Pulse oximetry	6.9	0.0	0.0	0.0	4.6	2.9	2.9
Any test	98.1	98.3	71.9	74.7	93.5	91.4	87.4
n	**159**	**57**	**128**	**91**	**108**	**35**	**578**

Treatment

Overall, at baseline, fewer than one-half of the health workers correctly mentioned fever treatment as part of the management of the sick child, but three-quarters of them correctly mentioned fluids for dehydration and metronidazole for *Shigella* dysentery. Across provinces, health workers in Tanganyika had the lowest proportions of correct treatment for fever and dehydration, whereas those in Haut Katanga had the lowest proportion (70%) of correct treatment for *Shigella* dysentery. Health workers in Sankuru had the highest proportions of correct treatment for dehydration (82.5%) and *Shigella* dysentery (82.5%) and those in Lualaba had the highest proportion for correct treatment of fever (60.9%), as shown in **Table 3.32.**

At midline, 86.2 percent of health workers correctly mentioned antibiotic as the treatment for bacterial pneumonia, and 60 percent stated that they would prescribe medicine to reduce fever and discomfort. The strongest performances were in the Eastern Congo and Katanga provinces, while the provinces in the Kasai region lagged behind.

Table 3.32. Percentage of health workers who mentioned the correct treatments for diarrhea (baseline) and bacterial pneumonia (midline), by province

	Eastern Congo		Kasai		Katanga		
	Sud Kivu	Tanganyika	Kasai Oriental	Sankuru	Haut Katanga	Lualaba	Overall
2019							
Metronidazole (Flagyl)	70.1	71.7	80.8	82.5	70.0	71.7	74.1
Fluids (oral or IV)	81.4	32.1	73.3	82.5	76.7	78.3	75.1
Treatment for fever	43.8	26.4	58.3	42.1	50.0	60.9	47.4
2021							
Antibiotic	95.6	93.0	75.0	74.7	95.4	74.3	86.2
Medicine to reduce fever/discomfort	75.5	68.4	43.0	53.9	63.9	42.9	60.0
Cough suppressant	40.3	17.5	32.8	9.9	49.1	22.9	32.2
Intravenous fluids	21.4	10.5	7.8	13.2	21.3	20.0	15.9

Clinical Vignette on ANC

A total of 627 health center-based health workers responded to the baseline vignette, which presented a 19-year-old woman making her first ANC visit. The woman was visibly pregnant, and she estimated that she was at least 20 weeks into her pregnancy. She had not taken a pregnancy test and did not come for an ANC visit earlier because she lived far from the HC.

At midline, 521 health workers responded to the vignette featured a 23-year-old woman making her second ANC visit for her second pregnancy. She had no history of miscarriage. Her first child was alive and in good health. The woman explained that for this pregnancy she made the first antenatal visit when she was already pregnant for six months because she already had some experience from the first pregnancy. She was then advised to attend the second antenatal visit at the 32nd week of amenorrhea. She had no particular complaints and felt generally healthy. **Table 3.33** presents the distribution of health workers who responded to this vignette by province and survey round.

Table 3.33. Total number of health workers who responded to the ANC vignette, by facility type and province

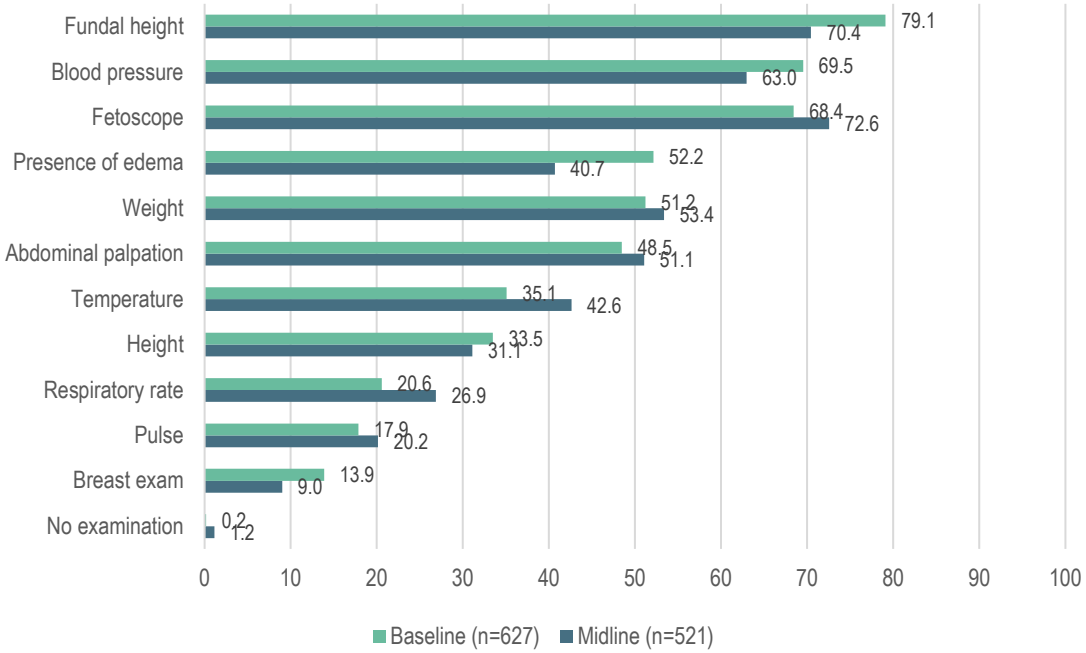
	Eastern Congo		Kasai		Katanga		
	Sud Kivu	Tanganyika	Kasai Oriental	Sankuru	Haut Katanga	Lualaba	**Overall**
2019	166	52	118	88	168	35	627
2021	140	43	117	89	95	37	521
n	**188**	**64**	**158**	**117**	**230**	**47**	**804**

The vignette first asked the health workers what questions they would ask the woman before proceeding with a physical examination. Subsequently, the vignette gave the results of the physical examination and asked the health worker to order the most appropriate laboratory tests based on the physical examination results. The vignette then provided the results of the laboratory tests. Using the results of the physical examination and laboratory tests, the health worker was requested to assess the condition of the woman, prescribe a treatment, and propose counseling messages. In this report, we present the percentage who mentioned aspects of the clinical examination, differential diagnosis, and treatment.

Clinical Examination

Figure 3.18 shows that at baseline and midline, more than 50 percent of health workers correctly indicated that they should examine the fundal height, blood pressure, fetal heartbeat, and weigh the patient. There were minor positive and negative changes in the percentage of health workers who indicated that they would perform the various aspects of physical examination. Health workers were least likely to measure pulse, respiratory rate, or conduct a breast exam.

Figure 3.18. Percentage of health workers who stated that they would perform various examinations, by survey round



Assessment of Patient's Condition

Table 3.34 shows the percentage of health workers' assessments of the patient's condition. Overall, 64.8 percent of health workers correctly assessed the patient's condition as preeclampsia at baseline, and only 21.9 percent correctly diagnosed fetal malposition at midline. In fact, more health workers thought that the patient had preeclampsia at midline, and nearly twice as many health workers thought that the woman was having a healthy pregnancy.

At baseline, Sud Kivu and Sankuru scored the highest, and Tanganyika and Haut Katanga had the poorest performance. At midline, Sud Kivu was again the strongest performer, followed by Haut Katanga. Sankuru and Lualaba performed the worst.

Table 3.34. Percentage of health workers who gave various assessments, by province

	Eastern Congo		Kasai		Katanga		Overall
	Sud Kivu	Tanganyika	Kasai Oriental	Sankuru	Haut Katanga	Lualaba	
2019							
Preeclampsia*	76.2	50.0	57.1	75.9	50.0	55.8	64.8
Healthy pregnancy	8.3	18.6	2.9	12.1	22.7	21.2	14.0
Other/don't know	15.5	31.4	40.0	12.1	27.3	23.1	21.2
n	**166**	**52**	**118**	**88**	**168**	**35**	**627**
2021							
Fetal malposition*	31.4	20.9	18.8	15.7	23.2	8.1	21.9
Preeclampsia	34.3	20.9	18.0	23.6	30.5	13.5	25.5
Healthy pregnancy	37.1	67.4	46.2	31.5	50.5	32.4	42.8
Other/don't know	17.9	0.0	34.2	38.2	11.6	46.0	24.4
n	**140**	**43**	**117**	**89**	**95**	**37**	**521**

*Indicates the correct diagnosis.

Treatment

Overall, fewer than one-half of the health workers (44.7%) indicated that they would refer a preeclampsia case to the hospital, and 41.5 percent stated that they would refer a case of fetal malposition (which the DRC MOH guidelines recommend in both cases) (**Table 3.35**). Across the provinces, Sankuru had the highest percentage of referrals to a hospital for preeclampsia (75.3%) and Sud Kivu had the lowest percentage (28%). Sud Kivu had the highest percentage of referrals for fetal malposition (57.1%) and Kasai Oriental had the lowest (29.1%).

Table 3.35. Percentage of health workers who recommended various treatment options, by province

	Eastern Congo		Kasai		Katanga		Overall
	Sud Kivu	Tanganyika	Kasai Oriental	Sankuru	Haut Katanga	Lualaba	
2019							
Transfer to hospital*	28.0	34.8	57.1	75.3	31.8	36.5	44.7
Hypotensive drug	62.5	44.1	22.9	28.9	23.9	59.6	42.3
Anticonvulsive drug	10.7	11.0	0.0	1.8	15.9	7.7	8.3
Induction of labor	1.2	2.0	0.0	0.6	1.2	0.0	1.0
No treatment	4.2	5.9	22.9	4.8	5.7	19.2	7.2
n	**166**	**52**	**118**	**88**	**168**	**35**	**627**
2021							
Transfer to hospital*	57.1	37.2	29.1	41.6	36.8	37.8	41.5
Induction of labor	12.1	11.6	3.4	5.6	4.2	5.4	7.1
No treatment/closely monitor	18.6	51.2	35.9	16.9	34.7	37.8	29.2
n	**140**	**43**	**117**	**89**	**95**	**37**	**521**

Clinical Vignette on Adult Health (COVID-19)

Health workers were presented with the case of a fifty-five-year-old man who was brought to the health center by his wife. The man had experienced a severe cough and fever for the past three days. His wife brought him to the health center because he began having difficulty breathing and became confused and disoriented. The case went on to explain that the man was a religious leader who returned from a meeting in Lubumbashi seven days earlier. Since he became ill, he has had a constant fever and has slept most of the time. He has taken a cough suppressant, but it had not made a difference. His wife noted that he has not wanted to eat, stating that he cannot even taste the food. His wife also has a fever and a sore throat that started today. The physical exam found that the patient had confusion, a temperature of 40*, heart rate 130/minute, RR 25/minute.

Table 3.36 shows the health workers' differential diagnoses for this case. Overall, 69.2 percent correctly suspected that the patient had COVID-19. This ranged from 55 percent in Lualaba to 84.7 percent in Kasai Oriental. Other conditions that were commonly suspected were malaria and pneumonia.

After the vignette confirmed that the patient had COVID-19, health workers were asked what they would do with the patient (**Table 3.37**). Overall, 85.6 percent stated, appropriately, that they would transfer the patient from the health center to another facility. Transfer rates were higher than 80 percent in all provinces except Tanganyika, where only 52.8 percent said that they would transfer a COVID-19 patient. Less than one percent of health workers said that they would send the patient home.

Health workers were also asked to list the parties that they would notify when they had a suspected case of COVID-19, if any (**Table 3.38**). Nearly all respondents stated that they would notify someone, most frequently the health zone office (88.8%). Overall, 17 percent stated that they would call the national case reporting line; however, this percentage varied among provinces, ranging from 2.1 percent in Sankuru to 40.5 percent in Haut Katanga.

Table 3.36. Percentage of health workers who correctly identified COVID-19 as a likely diagnosis, by province

	Eastern Congo		Kasai				Katanga			Overall
	Sud Kivu	Tanganyika	Kasai Oriental	Kasai Central	Lomami	Sankuru	Haut Katanga	Lualaba	Haut Lomami	
COVID-19	71.3	60.4	84.7	67.6	82.1	59.4	81.7	55.0	61.4	69.2
Malaria	77.1	75.5	52.0	46.0	50.0	72.9	63.4	54.3	56.2	61.9
Pneumonia	76.4	67.9	62.2	64.9	82.1	52.1	72.5	45.0	40.5	61.2
Bronchitis	14.0	13.2	20.4	10.8	35.9	16.7	24.4	9.3	20.9	18.6
Meningitis	8.9	0.0	5.1	0.0	9.0	5.2	24.4	4.7	3.3	7.9
Shigella	1.9	3.8	0.0	0.0	9.0	1.0	7.6	0.0	0.7	2.6
Pertussis	1.3	0.0	2.0	0.0	1.3	1.0	5.3	0.0	5.2	2.3
n	**157**	**53**	**98**	**37**	**78**	**96**	**131**	**129**	**153**	**932**

Table 3.37. Percentage of health workers who would refer, keep, or send home a patient suspected of having COVID-19, by province

	Eastern Congo		Kasai				Katanga			Overall
	Sud Kivu	Tanganyika	Kasai Oriental	Kasai Central	Lomami	Sankuru	Haut Katanga	Lualaba	Haut Lomami	
Transfer to another facility	81.5	52.8	94.9	91.9	96.2	83.3	88.6	93.8	80.4	85.6
Keep at own facility	17.8	47.2	5.1	2.7	3.9	16.7	11.5	5.4	10.5	12.5
Send home	0.6	0.0	0.0	5.4	0.0	0.0	0.0	0.8	2.0	0.8
n	**157**	**53**	**98**	**37**	**78**	**96**	**131**	**129**	**153**	**932**

Table 3.38. Percentage of health workers who would notify various parties of a suspected COVID-19 case, by province

	Eastern Congo		Kasai				Katanga			Overall
	Sud Kivu	Tanganyika	Kasai Oriental	Kasai Central	Lomami	Sankuru	Haut Katanga	Lualaba	Haut Lomami	
No one	0.0	0.0	0.0	2.7	0.0	0.0	0.8	0.0	0.0	0.2
Facility director	33.8	11.3	27.6	5.4	32.1	26.0	52.7	20.2	22.9	28.8
Health zone office	89.2	98.1	77.6	78.4	94.9	91.7	93.1	93.0	83.0	88.8
Provincial health office	17.2	13.2	2.0	2.7	10.3	11.5	33.6	9.3	12.4	14.1
National case reporting line	18.5	13.2	32.7	5.4	6.4	2.1	40.5	12.4	7.8	17.0
n	**157**	**53**	**98**	**37**	**78**	**96**	**131**	**129**	**153**	**932**

Affordability of Services

Facilities were assessed on whether they had a standard fee schedule, whether a standard fee schedule was posted for patients to see, and whether they had a fee schedule for indigent patients. Overall, in 2021, 82.7 percent of health centers had a standard fee schedule, and 62.7 percent posted it (Table 3.39). Slightly more than half of the health centers had an indigent fee schedule. There were no significant differences between 2019 and 2021.

Table 3.39. Presence of fee schedules in health centers, by survey round

	Matched panel†						Cross-section	
	2019		2021		PP difference	p-value	2021	
	n=341		n=351				n=549	
	n	Percent	n	Percent			n	Percent
Facility has standard fee schedule	264	77.4	288	82.1	4.6	0.13	454	82.7
Standard fee schedule is posted	214	62.8	221	63.0	0.2	0.96	344	62.7
Facility has indigent fee schedule	159	46.6	176	50.1	3.5	0.36	288	52.5

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Nearly all hospitals (96.6 percent) had a standard fee schedule in 2021, and three-in-four hospitals posted it for patients to see (Table 3.40). Again, slightly more than half (53.1%) had an indigent fee schedule. There were no significant differences between 2019 and 2021.

Table 3.40. Presence of fee schedules in hospitals, by survey round

	Matched panel†						Cross-section	
	2019		2021		PP diff	p-value	2021	
	n=115		n=121				n=147	
	n	Percent	n	Percent			n	Percent
Facility has standard fee schedule	110	95.7	117	96.7	1.0	0.676	142	96.6
Standard fee schedule is posted	85	73.9	89	73.6	-0.4	0.950	111	75.5
Facility has indigent fee schedule	58	50.4	61	50.4	0.0	0.997	78	53.1

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Facility representatives were asked whether they accepted payment after treatment in cases of emergency or labor and delivery (Tables 3.41 and 3.42). More than 95 percent of health centers and hospitals allowed payment after treatment in these situations. The percentage of health centers accepting payment after labor and delivery increased significantly (5.1 percentage points) between 2019 and 2021.

Table 3.41. Acceptance of payment after treatment of emergencies and labor and delivery at health centers, by survey round

	Matched panel†						Cross-section	
	2019		2021		PP difference	p-value	2021	
	n=341		n=351				n=549	
	n	Percent	n	Percent			n	Percent
Accepts payment after treatment of emergencies	316	92.7	335	95.4	2.8	0.12	520	94.7
Accepts payment after labor and delivery	308	90.3	335	95.4	5.1	<0.01***	523	95.3

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Table 3.42. Acceptance of payment after treatment of emergencies and labor and delivery in hospitals, by survey round

	Matched panel†						Cross-section	
	2019		2021		PP difference	p-value	2021	
	n=115		n=121				n=147	
	n	Percent	n	Percent			n	Percent
Accepts payment after treatment of emergencies	109	94.8	16	95.9	1.1	0.69	140	95.2
Accepts payment after labor and delivery	112	97.4	117	96.7	-0.7	0.75	142	96.6

† Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

Medical Record Review

While on site at the facilities, the surveyors reviewed the facility registers and recorded the volume of specified types of cases and services for the last completed calendar month as a means of assessing the quality of care being delivered. Here, we provide results related to labor and delivery care. Overall, records were reviewed for 3,300 deliveries at HCs and 1,090 deliveries at hospitals at baseline, and 3,332 deliveries at HC's and 543 deliveries at hospitals at midline.

In HCs at baseline, 71.4 percent (n=2,355) of the records included a delivery outcome (survival or mortality); at hospitals, 89.3 percent (n=973) of the delivery records included an outcome. At midline, 96.9 percent of HC records and 96.7 percent of hospital records included a delivery outcome. It appears that medical record-keeping at facilities has improved between baseline and midline, at least in terms of completeness. **Figures 3.19** and **3.20** show maternal delivery outcomes separately for HCs and for hospitals, where an outcome was recorded.

Maternal delivery outcomes were very stable across survey waves, even given the increased level of completeness at midline. The registers showed that 93.6 percent of women at baseline and 93.8 percent of women at midline who delivered in HCs survived childbirth with no complications, as did 88.4 percent (baseline) and 88.6 percent (midline) who delivered in hospitals, which presumably have a higher percentage of high-risk deliveries. The percentage of women who had complications but survived was between five and six percent at HCs and 10 percent at hospitals. The maternal death rate was recorded as one percent at HCs and less than two percent at hospitals.

Figure 3.19. Health center maternal delivery outcomes, among those for whom an outcome was recorded, by survey round

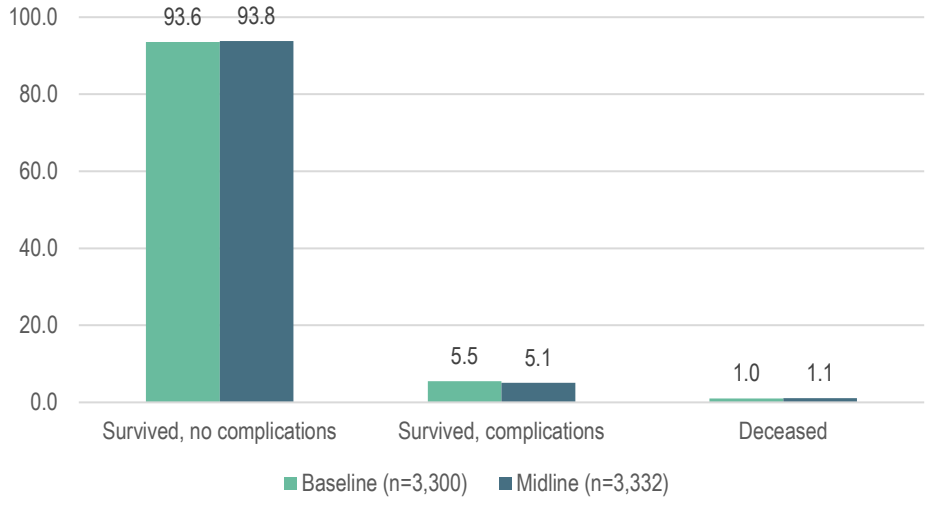
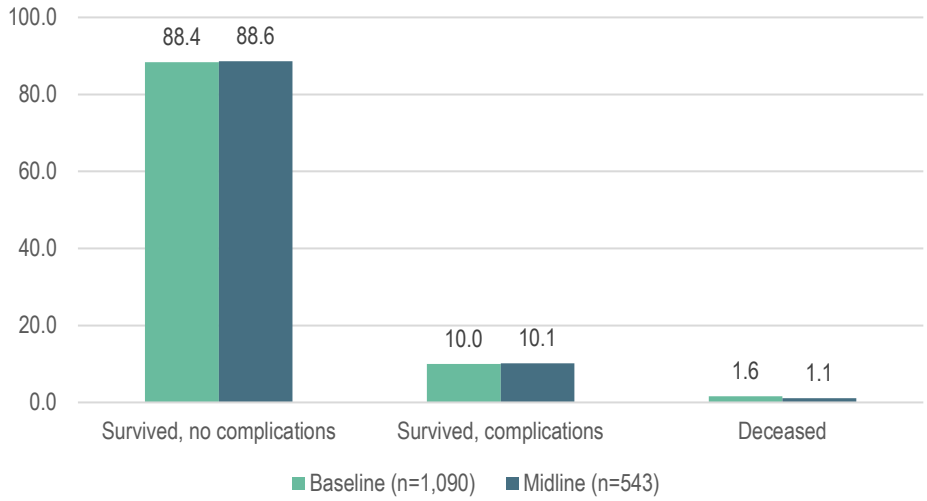


Figure 3.20. Hospital maternal delivery outcomes, among those for whom an outcome was recorded, by survey round



Health workers record certain delivery-related complications in the facility register; specifically, antepartum hemorrhage, postpartum hemorrhage, and postpartum infection. Among the women who died in childbirth at a HC, nearly 70 percent at baseline and nearly 89 percent at midline had no complication recorded (**Figure 3.21**). The only complication recorded for women who died in childbirth at a HC at baseline was postpartum hemorrhage, at 30.4 percent. Other complications were recorded for less than 10 percent of cases across survey rounds.

A larger percentage of women who died during childbirth in hospitals had an associated complication recorded at baseline (**Figure 3.22**). The most common was postpartum hemorrhage, followed by antepartum hemorrhage and postpartum infection. No complications were recorded for women who died in childbirth in hospitals at midline.

Figure 3.21. Percentage of women who died during childbirth at a health center who experienced complications, by survey round

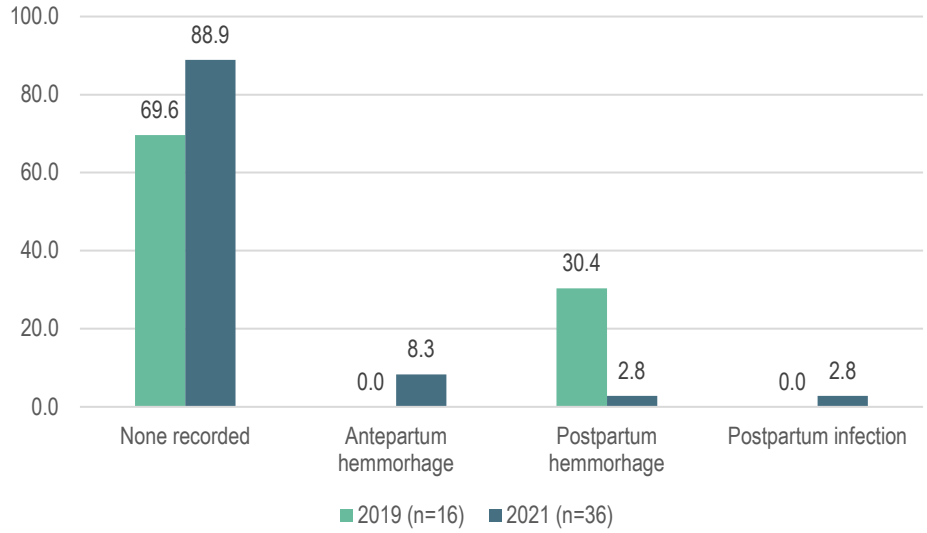
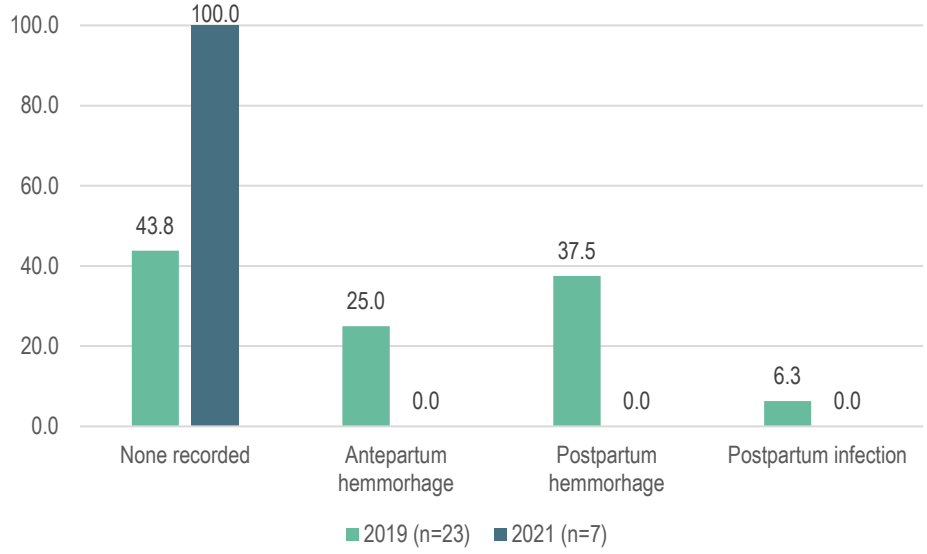


Figure 3.22. Percentage of women who died during childbirth at a hospital who experienced complications, by survey round



Most of the women who did not die in childbirth had no recorded complications **(Figures 3.23 and 3.24)**. The most common complication among women who survived childbirth was postpartum hemorrhage, followed by antepartum hemorrhage, then postpartum infection.

Figure 3.23. Complications recorded for women who did not die during childbirth at a health center, by survey round

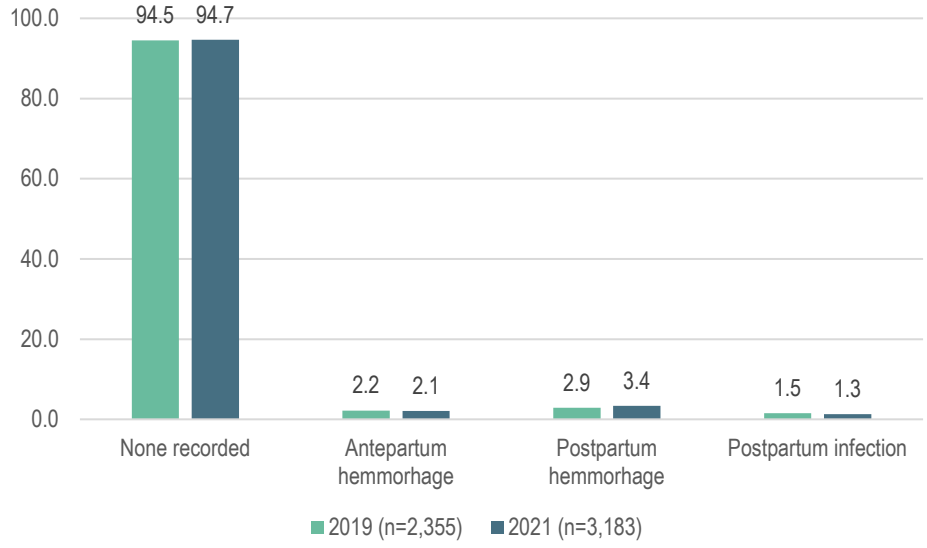
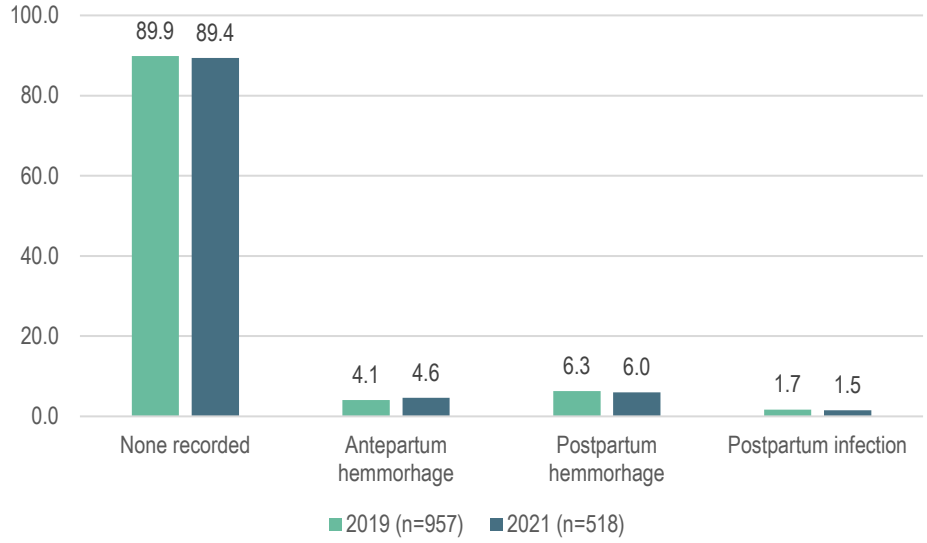


Figure 3.24. Complications recorded for women who did not die during childbirth at a hospital, by survey round



Qualitative Findings

Impacts of COVID-19

Background Information

From March through June 2021, we carried out key informant interviews remotely with IHP staff at the central (5) and provincial levels (3), USAID representatives (2), MOH officials at the central (1) and provincial levels (2), and an implementing partner collaborating on IHP activities. All informants personally knew Congolese citizens who had contracted COVID-19 and all except one of our informants had a friend or colleague who had died from COVID-19. Virtually all the people known to have died from COVID-19 lived in Kinshasa and worked as physicians, public health experts, or university faculty. Four informants reported that family members had contracted the virus, and in one case, a family member had died from COVID-19. Some key informants also had friends or former colleagues who had died of COVID-19 in Europe or South Africa. Key informants stated that knowing someone who had died of COVID-19 heightened awareness of the dangers of the disease and the necessity to follow preventive measures.

All informants believed they were at risk for contracting the disease, with many noting that their work in public health increased the possibility of exposure. Those treating patients expressed heightened concern about the risk of infection and contamination of family members, with some mentioning that they cannot know who is carrying the virus.

Many informants reported lifestyle changes since the start of the pandemic, including setting up handwashing stations, limiting household visitors, and refraining from social interactions at home, with several key informants mentioning that the pandemic changed the way they interacted and socialized with non-family members. One Kinshasa based key informant adopted new eating and exercise habits in an attempt to build immunity against the virus.

COVID-19 in the DRC and the Government's Response

Introduction to COVID-19 in the DRC

Prior to the announcement of the first confirmed COVID-19 case in the DRC, key informants followed news about the disease on the television, radio, and internet. Our key informants expressed alarm by the rapid spread of the virus and concern that the introduction of COVID-19 in the DRC would be catastrophic due to the poor health infrastructure, lack of equipment and supplies to treat COVID-19, and poor hygiene and water systems. One IHP provincial director said:

> *"The first reaction was of fear and regret, because no one had a clear vision about the outcome, we saw what was happening in Europe and elsewhere, and we thought to ourselves that in Africa, with the terrible sanitary conditions, if ever the pandemic arrived at the same pace (as in Europe), it would be a disaster. That is why everyone was afraid, deeply fearful. Fear occupied our whole being during this time."*

Some IHP informants in provincial capitals mentioned that the DRC government did little to prepare for COVID-19. Others reported concern about how the pandemic would affect their work.

On March 10, 2021, representatives from the MOH announced that an adult male who had recently traveled from Europe to Kinshasa and was staying in a hotel in Kinshasa tested positive for COVID-19. Kinshasa police guarded the hotel where the infected person was staying until he was transferred to a hospital in N'Djili commune. Upon hearing that a COVID-19 patient was admitted, other hospital patients fled the facility. After the man was discharged from the hospital, he and his wife made a televised statement denying that he had had

COVID-19; this led to rumors and doubts about the diagnosis. One USAID key informant based in Kinshasa said:

> *"Patients left the hospital, and afterwards the situation had to be managed; the Minister of Health tried to explain, but people refused to believe it, claiming it was not true. After leaving the hospital, the person who tested positive made a statement while standing next to his wife that he did not have COVID-19. This precipitated a lot of rumors and raised questions about the authenticity of the case. There were many interpretations, and doubts began to enter people's heads regarding the reality of COVID-19."*

Shortly after the announcement of the first case, a minister and his family members tested positive. All initial COVID-19 cases had recently traveled to Europe, including a United States Embassy worker.

During the initial phase, mentioned sources of information included social networks, national and international radio and television, internet sites providing scientific information (several mentioned the WHO website), and word of mouth, with much of the information based on rumors. Key informants reported that at the outset the scientific information was often contradictory, making it challenging to understand what to believe.

Initial Preventive and Control Measures

Prior to the declaration of the first confirmed COVID-19 case, the DRC government established a COVID-19 multisectoral committee and subcommittees and identified hospitals and health centers where positive cases could be quarantined and treated. On March 19, the President of the DRC declared a health emergency and the government, led by the MOH, began enforcing protective measures. The MOH established COVID-19 treatment protocols, which were distributed to all the provinces, and developed directives regarding contact tracing and testing and transport of samples. In addition, the MOH set up systems to monitor new and hospitalized COVID-19 cases and COVID-19-related deaths on a national level and in each of the provinces.

In Kinshasa, initial preventive approaches involved awareness raising about disease signs and symptoms and transmission and barrier measures involving social distancing and avoidance of physical contact such as handshaking. The government also promoted handwashing with soap and the use of hand sanitizer. Offices, banks, markets, and supermarkets set up temperature checks and handwashing stations and instituted restrictions on the number of people in these venues at one time. The Kinshasa provincial government mandated the closure of schools, churches, markets, and bars. Some businesses closed and others reduced their personnel. The government also placed restrictions on the number of people allowed in public transport vehicles and curtailed international and interprovincial air travel. Subsequently, the government mandated restrictions on the number of people attending meetings. The Kinshasa government also established rules regarding burial ceremonies; this entailed the prohibition of public viewings and a mandate requiring that bodies are transported to the morgue immediately after the death. Several weeks after the first case was reported, mask wearing was mandated. Key informants reported that initially citizens followed mask mandates out of fear of being fined by police, who tried to profit from the situation, but that requirements eased after several weeks.

In Kinshasa, a major first step was the closure of Gombe, the home of government agencies, major financial institutions, and international organizations, and the center of economic activity for Kinshasa residents. Gombe is also the Kinshasa commune where expatriates and wealthy and powerful Congolese reside. For about four months, police set up barriers at entrance points and only allowed people with access cards to enter Gombe. According to our key informants, this initial period was extremely difficult for many Kinshasa residents who rely on daily wages earned in Gombe to meet basic needs.

At the provincial level, governments established committees charged with sharing COVID-19-related information with other government services. Prevention and control efforts involved training facility-based

health workers on identification and treatment of cases and informing RECOs about disease signs and symptoms and barrier methods. Government authorities attempted to enforce barrier methods, promoted handwashing, and conveyed information about the virus to the public through RECOS, banners, and posters, although some key informants reported that communication efforts were inadequate. Provincial governments also tried to enforce restrictions on the number of people convening in one setting. This included health services such as CPN, CPS, and vaccination sessions, which attract large numbers of people. In addition, provincial governments placed restrictions on sharing of public vehicles and motorcycles and interprovincial travel. Provincial governments also set up checkpoints at entrances to major cities to assess the body temperature of people entering the cities. Other approaches varied according to the number of cases detected in the province. For instance, in Sud Kivu, where the case count was relatively high, the provincial government initially restricted travel to the interior of the province. Health personnel attempted to set up surveillance systems, contact tracing, safe transport of samples, and treatment centers.

USAID IHP and USAID

Prior to the closure of Gombe, USAID IHP set up internet banking systems to avoid interruptions in program funding. Shortly after identification of the first COVID-19 case, both USAID and USAID IHP mandated that staff work from home, which key informants reported required a major shift in workstyles. Both agencies instituted restrictions on travel and participation in meetings, with USAID enforcing stricter measures. USAID IHP key informants reported that at the outset some staff failed to work full days; in response, the organization set up mechanisms to track working hours in home settings. Several USAID IHP and USAID key informants admitted that working from home required a lot of discipline, while others reported working harder and longer hours and spending more quality time reading and reviewing documents and writing.

USAID IHP worked with the government to institute preventive measures across all nine target provinces, notwithstanding COVID-19 caseloads. Specifically, USAID IHP distributed masks and handwashing materials and introduced COVID-19 disease surveillances systems, which involved training of RECOs on identification of COVID-19 signs and symptoms. USAID IHP carried out infection prevention and control (IPC) training and distributed kits for prevention of infections to healthcare structures across the nine provinces. Some USAID IHP key informants mentioned that government collaborators had high expectations regarding USAID IHP's involvement in COVID-19 control and mitigation efforts and that it was impossible to respond to all the needs. USAID IHP followed directives from USAID regarding what COVID-19-related assistance could be provided.

Changes to Prevention and Control Measures

Starting in July 2020, the lockdown in Gombe gradually lifted, and interprovincial travel began to open around August 2020. Around the same time, Kinshasa government officials instituted a strict curfew from 9 pm to 6 am. Enforcement of barrier methods and transport restrictions gradually became more relaxed as most people doubted the existence of the virus, according to our key informants.

During this period, key informants at the central and provincial levels reported that they continued to follow barrier methods and restrictions on the numbers of people convening for work. With the opening of Gombe, USAID IHP established a committee to follow COVID-19 cases in the DRC. The organization set up a rotating system whereby a percentage of staff worked in the office on given days, with the number of people allowed in the office at one time dependent on the caseload in Kinshasa. USAID IHP also allowed staff with limited access to electricity at home to use the office to charge electronic devices.

Loss of Human Life

A tragic consequence was that many university professors, including those on the COVID-19 task force, got infected and died. When talking about members of the COVID-19 task force, one Kinshasa key informant stated:

"During their committee meetings they got infected, or while burying a professor, they were all there to accompany him, others were exposed. They lost a lot of people from COVID-19, and for a while COVID-19 stayed in a very closed environment. That is what made the population say that it is a disease of a certain category of people."

Key informants reported that public health professionals rapidly became aware of people who died from COVID-19, exposing them firsthand to the dangers of the virus. One MOH central level key informant said:

"We lost colleagues, teachers; we knew victims, great teachers who taught us, die of COVID-19. There were collaborators who traveled with me, the next day they could not travel due to COVID-19."

Economic Implications

Central level key informants reported that control measures followed in Kinshasa, particularly the lockdown in Gombe, had severe economic consequences on the general population, especially people working in the informal sector and relying on daily wages. The closure of offices, markets, and small businesses such as bars and restaurants, along with restrictions in movement, prevented people from obtaining work and selling goods, which resulted in extensive wage and job loss. In addition, reductions in visitors traveling to Kinshasa affected the service industry. In general, informants reported that fewer goods circulated, and the cash flow was reduced, causing loss of capital critical to the survival of businesses. One informant reported delays in payment of government civil servants, which he suggested further reduced the circulation of cash. Kinshasa informants also stated that economic constraints affected the ability of poorer residents to seek health care. One USAID key informant said:

"When people don't have money, they can't go to health centers for treatment and so they treat themselves at home. In Kinshasa, the dire economic situation must have affected people's ability to get treatment in facilities."

Other sectors of the population reported to be most affected by the pandemic included health workers, and government officials, whose earning opportunities changed due to decreases in work-related missions.

Informants at the central level reported that the most difficult period lasted six to seven months. During that time, pressure from friends and family members for financial assistance increased. A USAID key informant in Kinshasa stated:

"COVID-19 has affected the economy of the people here. A lot of people live on daily wages, which is to say that every day they look for something to eat. With COVID-19, the markets closed, a lot of activities stopped, a lot of offices closed, so it really affected a lot of people. Those who worked had to help family members who weren't working. It was really difficult. People leave the house in the morning, look for some money, bring something back home to eat. If for a whole week people could not do that, they suffered to the point that they revolted, asking why they were forbidden, what the government would do to meet their needs, asking the government to lift all the preventive measures."

In Kinshasa, some residents took aggressive actions, such as attacking government vehicles because they were angry about the extreme economic effects of the lockdown.

At the provincial level, key informants reported that city dwellers were most affected due to reductions in travel, decreases in commerce, and changes in the service industry. In addition, key informants mentioned that closures of organizations and businesses had serious economic effects. Changes in air travel reduced the

availability of goods from Kinshasa and Lubumbashi, resulting in increases in food prices and commodities. Cities such as Bukavu and Goma, as well as towns that border with Angola, experienced severe economic losses due to reductions in trade associated with border closures. Restrictions on interprovincial travel also impacted trade, particularly of agricultural goods. While people in rural areas could subsist on their agricultural crops for family consumption, limitations on movement hampered their ability to sell produce in large cities. One informant reported rises in security threats in conflict-affected areas.

Variations and Similarities Across Provinces

Key informants reported that three IHP provinces, including Haut Katanga and Sud Kivu during the first wave, and Lualaba (around 600 cases) during the second wave, had higher caseloads of COVID-19, with most cases detected in urban centers. In Sud Kivu, 880 cases had been detected at the time of the interview in May 2021, with the vast majority of cases identified in the provincial capital of Bukavu. Other isolated provinces such as Sankuru and Lomami reported zero or very few cases; this included Kasai Oriental, where informants reported seven to eight detected COVID-19 cases at the time of the interview. Provinces with higher numbers of cases instituted stricter measures to control disease transmission. For instance, and as previously mentioned, in Sud Kivu, movement within the province was restricted. USAID IHP offices in Bukavu and Lubumbashi closed for several days because people working in or visiting the offices tested positive. The USAID IHP office in Kasai Oriental reduced office hours for several months.

Provinces adapted different strategies to maintain USAID IHP activities; for instance, in Kasai Oriental and Lualaba, the MOH instituted an approach whereby meetings and trainings were held in small groups or "pools" in rural health zones. The Kasai Oriental MOH limited the numbers of people participating in supervisory visits and their duration, while in Lualaba supervision continued as usual. Sud Kivu informants reported that travel restrictions to the interior of the province forced IHP staff to monitor activities remotely. This informant from Sud Kivu stated:

> *"The fact that we had reduced outings, field trips, we therefore had monitoring problems, and when monitoring problems arise, the quality may be impacted in a negative way."*

USAID IHP staff led IPC training with DPS offices and worked with provincial government officials to distribute infection prevention equipment and institute preventive measures in all nine target provinces. Key informants at the central level indicated that protective equipment was inadequate for distribution to all health workers, particularly at the zonal and community levels. Provincial level informants reported challenges distributing protective gear, particularly in isolated provinces. Closure or limited operations of other implementing partners increased the workload on USAID IHP related to COVID-19 control and prevention.

Health Service Provision and Utilization

In Sud Kivu and Lualaba, informants stated that many health workers contracted the disease, and informants from Sud Kivu mentioned that several Bukavu based health workers died from COVID-19. Provincial level informants reported a decrease in utilization of health facilities in populated settings at the outset of the pandemic, particularly facilities set up to treat COVID-19 cases. Informants claimed that facility-based health workers, especially in areas with higher caseloads, feared having direct contact with patients exhibiting signs associated with COVID-19, which affected the quality of care and created a general sense of distrust. At the same time, sick patients circumvented health facilities to avoid getting diagnosed or infected by COVID-19. Informants also mentioned that a COVID-19 diagnosis carried stigma. A key informant from Sud Kivu said:

> *"In Bukavu, five doctors and other health workers died due to COVID-19. People feared going to health centers…Providers were also afraid, in different structures providers died, and that made people afraid to get treatment. We started to be more demanding about infection prevention equipment, we knew patients were afraid to go to the*

structures due to risks of being infected, the risk of being exposed to COVID-19 when you had a different type of health problem. Also, because the clinical symptomatology of COVID-19 is not very different from flu or malaria, people would say I may have malaria, but if I show up in the health structure there is a risk of being labeled with COVID-19. COVID-19 was perceived as a stigmatizing disease."

Key informants claimed that people with symptoms associated with COVID-19 opted to self-medicate or go to traditional healers. Some informants suggested that reductions in health facility visits affected facility revenue and health worker payment. Several informants suggested that COVID-19 illuminated inadequacies in treatment facilities and the capacity of health workers to deal with an epidemic.

Initially, laboratories at the provincial level did not have the capabilities to test for COVID-19, forcing them to rely on the national laboratory in Kinshasa, which key informants reported would send results up to three weeks after the patient was tested and, in some cases, had died. Over time, testing capacity increased, but at the time of our interviews testing in provinces continued to be relatively limited. Some key informants suggested that lack of testing and diagnosis biased local perceptions about sectors of the population affected by COVID-19.

Provincial level informants mentioned that many health workers and residents living in remote, rural areas remained unaware of COVID-19 and appropriate preventive measures. An informant from Lualaba said:

"The quality of service, it did not change much in rural areas, but only there were no crowds, no long waits. Many rural providers did not have much information on barrier measures that should be applied, they continued to perform the same way. For those who did follow barrier methods, perhaps the most important element is the humanization of care, that the patient must be kept at a distance, so the patients felt reduced because the doctor or nurse was wary and created a distance, affecting the quality of care and the human side of care."

Generally, key informants reported reductions in community activities, particularly events involving large groups of people and household visits. In provinces more affected by COVID-19, such as Sud Kivu, RECOs primarily used megaphones to convey messages. There was also a stronger reliance on message dissemination in churches or through community radio.

Unforeseen Improvements to Public Health

Provincial level informants contended that infection prevention measures, such as masks and gloves and handwashing, became more systematic in health structures and led to a reduction in other pathogens transmitted through poor hand hygiene, physical contact, and spread of respiratory droplets. One IHP provincial director said:

"You know, in public health, a problem can become a solution for something else. I see that with COVID-19. Usually, we have other disease outbreaks that affect a lot of people. These outbreaks are caused by diseases transmitted through dirty hands, like cholera or diarrhea. From an epidemiological standpoint, I have the impression that these outbreaks have decreased. Is it a simple coincidence, or is it related to these barrier measures that we have instituted to prevent COVID-19? Preventive measures for these diseases are almost the same. It has helped to better establish these measures."

Another USAID IHP provincial level informant stated:

"I just came from a meeting where there was disinfectant and masks available at the entrance. I said to myself that we have become more attentive to good hygiene. That, for me, is a positive point."

Informants described other adjustments that led to improvements. For instance, Kasai Oriental informants maintained that changing the meeting venue from the provincial capital to health zone settings reduced distractions that often disrupt the attention of meeting participants.

Attitudes toward COVID-19

Sources of Information at the Time of the Interviews

At the time of the interviews, our informants obtained COVID-19-related information from mass media, with some specifying that they followed daily case counts reported by the MOH on the radio and television. Other sources of information included the internet, colleagues responsible for gathering data on COVID-19, contacts at the MOH, and firsthand experiences with the disease. Kinshasa key informants mentioned that the general population relied on radio and television, social media, and word of mouth. Several informants expressed concern about widespread misinformation on social media, underlining that only when people are well informed will they follow protective measures. The MOH key informant at the central level said:

"To reduce the risk, everybody should be aware and make a commitment to follow the right direction. We are still a long way off, starting here in Kinshasa. We have everything, television, newspapers, but people go to social networks for information. I think people involved in social networks are criminals, people who circulate false rumors, cybercrime, should be punished, those people who give wrong information."

A USAID key informant stated:

"In my opinion, we cannot condemn them, and we cannot exonerate them. Some people abuse the fact that people will believe anything. The virus touches the world, and people anywhere in the world can weigh in. Everyone has become a COVID-19 specialist, and people believe whatever they read is true. People do not check the validity of the information before sharing it with others."

At the provincial level, key informants obtained information from television, radio, the internet, the MOH national bulletin, and the INRB laboratory in Kinshasa, as well as provincial level surveillance systems that tracked COVID-19 cases. Key informants reported that the general population received information during health worker consultations, from RECOs and village criers trained to disseminate information on COVID-19, the radio, and, to a lesser extent, television. There was agreement that rural residents had less access to information.

Common Beliefs

Key informants reported that Congolese had different initial reactions to COVID-19, with several mentioning that some people panicked. However, they agreed that the general population, both in Kinshasa and the provinces, questioned the existence of the virus and public health recommendations, with many raising conspiracy theories and claiming that the government had ulterior motives. According to our key informants, many people speculated that the government fabricated stories of COVID-19-related deaths to get WHO funding for disease prevention and control. One USAID IHP key informant at the central level said:

"There were a lot of doubts, some thought that cases were made up, most thought it was something the government contrived to get money from WHO; if they did not declare a case, the WHO could not give money. So, that was the reaction, the government declared a case because WHO was going to give money for COVID-19."

Another USAID IHP based key informant in Kinshasa said:

"At the beginning, the general population did not believe in the disease. The general population said that it was a disease of people in Europe, a disease of people who have a lot of money. During the lockdown in Gombe, because Gombe was the epicenter, the people living in the city said it was a disease of the rich, because at that time all cases were people in the presidency and at the center of power, people working in the ministries, those who travelled to Europe and came back with the disease. So, the general population said no, it is not our disease, it is the disease of people who came from Europe. They did not believe this disease was in Congo."

Similarly, a USAID informant in Kinshasa said:

> *"It was difficult for people to understand, at first many did not believe it; for example, people living in communes towards the east, on the side of Masina, N'djili, towards the airport when you cross the N'djili river and you are on the other side of the airport, at the beginning there were hardly any cases. When we published the results, announced the statistics on TV or social networks, people realized that it was much more concentrated in and around Gombe, and therefore the interpretation was it is a disease of the rich because people living there have more means. Secondly, this disease is for people who travel to Europe a lot."*

As more information on COVID-19 was disseminated, isolated incidents occurred that involved violent acts. For instance, some key informants mentioned that before interprovincial travel restrictions were put in place, they received reports that people who traveled from provinces with higher caseloads were harassed or even stoned.

Over time, two camps emerged including people who took the virus seriously and those who claimed that the virus did not exist in the DRC. Our key informants reported that educated people living in urban centers, and people with family members overseas, had greater access to scientific information and were more likely to believe that the virus circulated in the DRC. At the same time, many key informants knew intellectuals, including medical colleagues, who doubted the existence of COVID-19.

Key informants stated that the general population continued to doubt the disease, contending that they had little known direct experience with COVID-19. One USAID key informant said:

> *"COVID-19 has affected many families. Depending on what we have lived, what we have experienced individually, influences how you view COVID-19 today. So, for people like us who have seen doctors, friends we graduated with, die of COVID-19, people who are the same age, who have been on the same journey, we see things differently. People who have seen it from afar, who have not known cases, it is different. Those of us who have known people who died from this, people who taught us at university, professors, famous people, or relatives of people we know, the perception depends on how it affected you. Those who were not really affected, they can continue to doubt and say that all measures are useless, but for those who have experienced tragedies in their families or lost loved ones it is different. When you know cases around you it changes your way of perceiving things, whether you take the rumors seriously."*

At the time of our interviews, key informants asserted that most people referred to COVID-19 as "other people's disease" or a disease of people with means, and often attributed COVID-19 disease signs and symptoms to common illnesses such as malaria or flu. A USAID IHP informant based in Kinshasa reported:

> *"Not many believe in COVID, they think COVID-19 is an invention, they don't really think COVID-19 is something real. Even when I went to the provinces, a collaborator asked me, 'Have you ever seen someone who has COVID-19?' Laughing I said, 'Yes, I know people who suffered from COVID-19.' He felt it did not exist since he had never seen a case, he had only seen the numbers, but had never seen a case."*

Another Kinshasa based USAID IHP key informant said:

> *"There was first the fear, and after the initial fear everyone started to observe. And while observing, two camps stood out: groups of intellectuals, informed people who felt that this story was indeed true, that COVID-19 exists; and the working-class neighborhoods who doubted, because they did not see the cases as such, because for them COVID-19 signs were the same as the flu. So, they said we get the flu every day. As it evolved, and as well-known people died, it started to catch more people's attention."*

Those people who associated COVID-19 with the flu proposed antidotes involving traditional herbs or spices or taking a sauna using boiled eucalyptus leaves.

Key informants reported that religious beliefs also influenced non-believers, stating that some church leaders persuaded their congregations that the virus did not exist or that church members claimed they are "children of God" and cannot be affected by the virus. Contradictory scientific information disseminated by the international medical community also contributed to confusion about the virus. Key informants asserted that many beliefs evolved, such as that COVID-19 is a white person's disease, an imported or disease of others, a disease found in cold climates, or a disease that does not affect poor people. Some believed that COVID-19 was fabricated to discourage people from circulating at night and drinking alcohol. Another belief was that the virus was created by people from western countries to control people living in other parts of the world. A MOH provincial-level informant said:

"They say that it was created in a laboratory to control others remotely, people created COVID-19 to manage or to watch over others …it is the international system, the new world order."

A couple of key informants mentioned that people associated the virus with evil spirits. This informant added:

"There are many beliefs, some believe that sorcerers came together to create something to kill humanity; the COVID is a diabolical illness to kill all the people in the world, it is the devil who wants to kill."

While most of our informants remained guarded about sharing personal beliefs and practices, one provincial based informant said that during a recent visit to Kinshasa he intentionally circulated communities to develop COVID-19 antibodies.

Key informants reported that common beliefs influenced people to disregard preventive measures. Some suggested that control measures impacting finances or opposing cultural practices, such as restrictions on burial practices, were particularly difficult to enforce, as indicated by this USAID informant:

"In the custom here, when someone dies, there is a funeral vigil. The body is brought, and people view the body, are around the body, especially women. Now, we have prohibited all these burial practices. We made a decision that as soon as someone dies the body must be taken directly from the morgue to the cemetery and even there the number of people should be limited. But, over time the funeral vigils have resumed, but not with the dead body. People go to the house of the deceased, they sit there at night almost in the same conditions as before, they cry, they sing songs, and all that, and its crowded. And now, instead there are ceremonies that take place at the morgue for maybe an hour, people come there, and then after they remove the body, they leave. The difference is that the body is no longer exposed for a whole night before bringing it to the cemetery."

Key informants contended that refusal of many prominent politicians and celebrities to wear masks also affected the population's behavior. Several informants mentioned that people living in more isolated areas considered mask wearing bizarre or a sign that the person was from Kinshasa or infected with COVID-19. When describing a recent experience traveling to an isolated province, this USAID IHP key informant from Kinshasa said:

"The people who wear the masks are those who come either from Kinshasa or who work in NGOs, but in the general community there is no one who wears masks. Yesterday, I went to a mourning. There were a lot of people, but in (X—the capital city of a remote province) there are hardly any cases. Everyone was looking at me like 'what does he want to show us, what is this story?' I had to withdraw a little and remove the mask. Then, I tried to keep a distance. It was embarrassing to be alone and wearing a mask while so many people were staring at me."

Many stressed the continued need to sensitize the population about the disease and to promote the use of barrier measures, with several expressing concern that the general population refuses to follow barrier measures and has become complacent.

Perceptions of Vaccines

Our informants recognized the importance of introducing COVID-19 vaccines, with most stating that it was the best path to controlling the virus. However, only one of our informants had been vaccinated at the time of the interviews. Most key informants did not plan to get vaccinated immediately but preferred first to observe how the vaccine rollout transpired.

Key informants described heated debates among intellectuals about the efficacy and risks of the AstraZeneca vaccine, the first COVID-19 vaccine available in the DRC, and widespread vaccine hesitancy among the general population. Informants reported that in preparation for administration of the AstraZeneca vaccine, the government developed a strategy to target people over 55 years, people with comorbidities, and health personnel working in five provinces most affected by COVID-19. Around the time of the launch of a vaccine promotion campaign, information that the AstraZeneca vaccine caused blood clots circulated. Shortly thereafter, there was a strong international push to introduce the vaccine in Africa. This, combined with contradictory and misinformation on the internet and social media about the virus, including that the virus was being spread intentionally, and the relatively low effectiveness and risks associated with the AstraZeneca vaccine, elevated concerns about why the vaccine was being introduced. Further, many people in leadership roles, including the President of the DRC, voiced strong opposition to or refused to take the vaccine. All of this contributed to mass confusion about the virus and vaccine. One USAID informant stated:

> *There is this problem of trust, of trust in health professionals, and trust in politicians, trust in scientists. People say it is a plan to control the world, it is a plan to poison Africans, it is a plan to exterminate African populations. So, you see, people interpret it as an international conspiracy, people are using it to get rich, that COVID-19 is not true. And when they see scientists, and especially from western countries, because the reality is that people have more confidence in information that comes from the west, give contradictory stories, where scientists contradict each other in a blatant way, they say look at those people who generally give reliable information. Even among colleagues the opinions are very, very divided. It is the first time that I am living such an experience, this experience raises questions about how health professionals should communicate information to gain people's trust. We must recognize the difficulties, to have humility, and to reinvent another way of communicating to gain trust in this current context."*

> *I said to myself, the only way to communicate is to get vaccinated, that's all. Now, when people come to me, that's the only thing I say: 'the vaccine is okay.' There are a lot of things being said, but I was vaccinated for such and such a reason, and so here I am a living example. Because everything else, people do not believe.*

Informants shared many rumors associated with the vaccine, including that it was sent from India or China with the objective to sterilize and depopulate the world, particularly in Africa. The fact that the AstraZeneca vaccine was subsidized and a gift from philanthropic organizations also raised doubts, with many people claiming that vaccines sent to the DRC have "intended for Africa" written on the vials and are different from vaccines distributed in other countries. Others made reference to historical discrimination and suppression of Africans, stating that the vaccines come with the hidden agenda to exterminate Africans so that westerners can control the continent. The fact that similar debates were occurring in western countries appeared to add credence to doubters, with informants reporting that many Congolese believed that in the future (six months, one- to seven-years' time) people who get vaccinated will die or develop a chronic condition. Several informants reported knowing health professionals, including doctors, who adamantly opposed vaccines due to beliefs that COVID-19 does not exist. One USAID IHP informant in Kinshasa recounted:

> *"At the office, people are aware and believe, but not all our MOH partners in the provinces. The last time I was in Lubumbashi, I was shocked to learn that someone working on surveillance data did not believe that the pandemic exists. He said that he would never take the vaccine, someone like that, a doctor who works in the health sector. When he goes to his family, tells his uncle not to take the vaccine, that complicates things. His uncle will start to say that he has a son who works as a doctor but who advised this, this, and this. It is very dangerous because you do not know what they (people in authority positions who don't believe in the virus) are telling other people."*

Key informants mentioned that many frontline health workers, including nurses, were also opposed to receiving the vaccine.

Key informants indicated that the general population would be better convinced about vaccine efficacy and safety if leaders, such as politicians and doctors, first got vaccinated. One informant emphasized the need for messaging aimed to allay concerns about harmful side effects and raise trust in the vaccine.

Impact of COVID-19 on the Program

Communication and Collaboration

Restrictions on travel and the number of people convening at one time forced USAID IHP staff to collaborate with government officials and USAID colleagues via teleconference and telephone. Key informants reported that good telecommunication systems facilitated ongoing communication between USAID IHP Kinshasa personnel and their provincial offices and USAID and USAID IHP staff. However, key informants stated that government officials generally lacked adequate capacity to communicate through telecommunications, which posed major challenges to collaboration. Particularly at the outset, it was problematic holding meetings online with MOH officials located at the central and provincial levels, and those meetings that were held were poorly attended. In some cases, MOH personnel did not even have laptops or smartphones; one informant reported that only one or two of the 26 provinces had the technical capabilities to use teleconference. Communication was particularly challenging in isolated provinces such as Sankuru, Lomami, and Tanganyika, where internet connections are limited at best, or in rural health zones that lack phone networks, all locations that require more technical assistance. Even when provincial offices were able to connect, breaks in the internet connection disrupted online meetings or trainings, making communication much more time-consuming and increasing the overall workload. Some MOH provincial level informants reported that though limited telecommunications forced them to reduce meetings with colleagues during the travel restriction period, virtual meetings gradually increased over time.

Several key informants emphasized that government workers are accustomed to in-person meetings, and it was difficult for them to change their work habits. Particularly at the outset of the pandemic, many government officials refused to attend virtual meetings due to lack of incentives, stating that they normally receive a per diem for participating in meetings. To incentivize participation, USAID IHP provided MOH officials with phone credit. Another challenge was that USAID IHP collaborating organizations used different internet software. Key informants also stated that power outages and internet interruptions caused by network problems or incoming phone calls were more frequent when working from home.

USAID IHP and USAID key informants at the central level mentioned that the inability to hold discussions in person, particularly when dealing with complicated issues such as budget reviews, was a major constraint. Several informants asserted that in-person meetings facilitate the exchange of ideas, problem solving, and the identification of appropriate corrections. When in-person meetings were held, some invitees held reservations about participating due to possible exposure to the virus.

Key informants at the central and provincial levels reported that restrictions on the number of people working in the office at one time and convening in one room affected routine meetings, monitoring and evaluation workshops, and trainings, and required major work shifts. They asserted that these restrictions impacted the effectiveness of planning and implementation of activities. A national level MOH official reported that limitations on numbers of meeting participants affected their ability to review and validate program initiatives, with coordination of program activities highlighted as a major challenge. He specified that meetings to review program initiatives generally include 80-100 participants, but that COVID-19 restrictions only permitted 20 people. The same key informant mentioned that information related to donor financing became less clear, preventing central level government officials from responding to provincial requests for technical support and negatively affecting the quality of health services and timeline of activities. The MOH official reported that reduced contact with USAID IHP collaborators negatively affected the work quality.

Monitoring of Activities

Central level informants reported that data collection, analysis, and validation, and report writing continued. We learned from provincial level key informants that some zonal monitoring meetings were cancelled, and that meeting restrictions sometimes prevented key monitoring actors from participating. USAID IHP provincial offices continued to hold weekly and monthly monitoring sessions to assess the status of activities.

Key informants at the central level indicated that DHIS2 data did not show significant changes in healthcare utilization across or within provinces that could be attributed to the pandemic, although some suggested an initial dip between March and June 2020 when information about COVID-19 circulated widely. Several key informants attributed any changes in healthcare utilization to patient concerns about visiting health centers and economic hardship caused by the pandemic. Some key informants reported differences in provincial level indicators that they speculated reflected the degree to which USAID IHP activities were implemented.

Central level experts involved in monitoring and evaluation expressed frustration that they could not participate in data validation meetings. These informants reported concerns about data quality, with one informant mentioning increases in data inconsistencies. One informant highlighted the importance of monitoring visits, which allow technicians to better understand and address problems related to data quality. The informant also claimed that provincial level staff treat data validation meetings more seriously when external experts attend, saying:

> *"With the closure of airports and restrictions put in place, supervision and data quality control missions suffered. When we carry out visits, we can ensure that the data is of good quality. These visits permit us to assist the health zone to improve data management and quality. I still work on monitoring and harmonization of data with colleagues at the ministry, but when no one from the program attends DPS validation meetings there is another dimension. When someone from the program is there, people take things seriously. Now, we must be satisfied with the meeting reports. While we are told that the meeting was held to validate the data, analyze the data, when you see the data there are a lot of inconsistencies, a lot of atypical data, and you realize that the job was not done properly. This is among the things impacted by COVID-19."*

The same informant mentioned that discussions about the monitoring data are often complicated and time consuming and that it is difficult to convey key messages during teleconference meetings. When central level informants went to the field, they found that their colleagues had a different vision and understanding regarding what had been discussed.

National level key informants shared data showing that all health zones continued to receive supervisory visits by the DPS, although some provincial level informants reported reductions in visits to health zones, particularly from March to July 2020. Provincial level informants suggested that restrictions on the number of people permitted in vehicles reduced supervision of activities in more remote health zones. Challenges getting cash to the field for supervision also caused delays in supervisory visits.

One USAID IHP provincial director mentioned that during the height of travel restrictions CHEMONICS staff worked from home, preventing them from visiting CDRs to monitor medication stocks and causing delays in distribution of medication.

Technical Assistance

USAID IHP activities reported to suffer most were those that required technical assistance from experts in Kinshasa or outside the country, particularly training and supervision of interventions. With travel restrictions in place, USAID IHP was forced to rely on local consultants; however, key informants emphasized that local consultants often lacked adequate expertise. Kinshasa based key informants claimed that the inability to interact directly with collaborators to explain program activities and to understand implementation processes

and challenges, and to verify firsthand whether activities were being implemented as planned, undermined their ability to provide quality technical assistance. One USAID informant based in Kinshasa said:

"For a program as big as this, travel restrictions gravely affected the work, the ability to follow on the ground activities, it was affected. What I really missed was the field visits, for me that's it, because if I don't have that I'm not very sure whether my feedback is based on reality. I read, but I am a person who likes to see and interact with people on the ground, you go to a community, you go in the health center, you can see how what you read compares to what you see there, whether there is a match compared to that, that, and that. That is what affects the quality, because I am not sure that I give the best of me when I read about something in the office. But if I have firsthand information from the field, I can give much better support."

Particularly at the height of travel restrictions from April to October, key informants claimed that they were unable to give adequate guidance, forcing health personal at the provincial level to work in isolation. In addition, programmatic decisions conveyed by phone were not considered official, according to key informants. One central level USAID IHP director said:

"Since people could no longer travel from one level to another, it affected operations and the work quality at the provincial level, for a period, provincial teams were practically left alone. Each team had to use their skills, what they know, do whatever they could without waiting for support from a supervisor to check what they are doing. You know we are in a context where the health system is more than 60 percent dependent on the support of external partners. With the pandemic, many partners closed their offices, whether at the provincial level or in Kinshasa, many offices were closed so that health structures that normally received support from various partners found themselves practically alone, without resources, and began to work with the little means they had. You understand that under these conditions the quality of service should suffer enormously."

"To ensure activities are executed as planned, we must follow implementation in the field, we must see whether what we have planned is what is being done and make the necessary adjustments, so that we can do better afterwards. It was planned that we go to the provinces to discuss activity implementation, but when there was COVID-19 we could no longer go to the provinces. At the beginning, especially, it was very difficult. We were practically cut off. The work requires lively discussions, but we didn't even know what internet platforms to use. Afterwards, we made adaptations to follow activities better, to see whether activities were implemented as planned."

While IHP staff resumed travel between November 2020 and February 2021, initial visits were limited to provincial capitals. USAID IHP provincial level key informants reported that several visitors tested positive for COVID-19, forcing those potentially exposed into quarantine and further impacting activities.

Workplans

Provincial informants reported that delays in technical assistance from Kinshasa resulted in postponement of and reductions in activities, with some noting that changes in training schedules especially affected workplans. One USAID IHP key informant at the central level reported that 60 percent of activities in the USAID IHP workplan had been carried out at the time of the interview; the DPS in Kasai Oriental mentioned that only 25-35 percent of planned USAID IHP activities had been completed. The USAID IHP key informant at the central level said:

"The change is first in implementation. When we did an evaluation to understand changes in the annual workplan, we were around 60 percent. You plan activities, but you do not know what will actually be executed due to constraints. This is one thing, then we must look at the quality, the close to 60 percent of activities carried out, what is the quality of those interventions, without supervision, without control, without support, that is yet another problem."

Two informants reported major delays in the implementation of VIVA activities. Even when technical assistance resumed, it was difficult to reestablish planned schedules. One USAID IHP provincial director said:

> *"The work quality has been affected. We have the workplan, colleagues from Kinshasa are supposed to come visit us. Ministry of Health representatives are also supposed to come to train trainers here. During seven months, eight months, we could not carry out much of the work in the plan, so the workplan was affected. In our evaluation of workplans, we indicated which activities were affected by COVID-19…we tried to recover certain activities, but it is important to acknowledge that the result of those activities was not very good. We have not recovered. Later, the trips were resumed and people came to provide technical assistance."*

Furthermore, provincial based collaborators were prohibited from traveling to Kinshasa to participate in important meetings including the review of the annual operational plan.

Many provincial level informants mentioned that the focus on COVID-19-related activities also affected their capacity to follow annual operational plan timelines. Health officials faced challenges coordinating and integrating COVID-19 activities into ongoing health services. Some reported inadequate supplies and materials to adhere to COVID-19 treatment and prevention workplans.

Availability of Medications and Supplies

Several key informants claimed that international and interprovincial travel restrictions that lasted five to six months compounded challenges related to distribution of provisions such as mosquito nets and medications, which some key informants believed contributed to dips in healthcare utilization between March and July 2020. When USAID IHP staff first started making field visits, they found stockouts of certain medications, with some specifying that distribution of medicines for neglected tropical diseases and Global Fund activities stopped for a period. At the same time, key informants discovered unused drug stocks and family planning supplies in some health facilities, which they attributed to decreased oversight of activities. One informant noted that iCCMs did not receive supplies and medications.

Budgetary Implications

Key informants reported that changes associated with COVID-19 had major budgetary implications. For example, restricting trainings to 20 people necessitated an increase in trainers and renting of conference rooms. Provincial level informants maintained that budgets did not change, forcing them to reduce the overall number of training participants or to postpone or cancel some trainings. In some provinces, trainings and meetings were held in more distant locations, or in health zones rather than the provincial capital, all of which had major budgetary implications. For instance, informants from Kasai Oriental indicated that they held three-day training sessions in 19 health zones rather than one training session in the provincial capital. Key informants reported that USAID IHP prevention and control efforts involving IPC training and the purchase and distribution of protective equipment such as masks, head coverings, hand sanitizer, and uniforms for health workers and RECOS, as well as soap and water for handwashing stations, involved major costs. Unexpected events also had cost consequences. For example, USAID IHP was required to cover costs incurred for the treatment and quarantine period of government collaborators who tested positive while providing technical assistance in the field. In one instance, a team of government officials had to remain in Sankuru for several weeks due to flight cancellations; the officials incurred extensive costs that had to be absorbed by the program. Table 3.43 presents the negative impacts COVID-19 had on the program.

Table 3.43. Impact of COVID-19 on the USAID IHP, as reported by key informants

Impact of COVID-19 on the program

• Decreased communication with collaborators, leading to misunderstandings
• Reductions in monitoring visits and provision of technical assistance by experts
• Delays in the delivery of supplies and medications
  o Stockouts of medications
  o Excess of certain medications and family planning supplies
  o Lack of medications available in iCCMs
• Increases in data inconsistencies
• Decreased supervisory visits by DPS staff, particularly to remote health zones
• Postponement of, and reductions in, activities
• Inability to follow central and provincial level workplans
• Changes in the quality of interventions
• Increased costs caused by:
  o Restrictions on meeting participants
  o Distribution of IPC equipment
  o Expenses incurred covering costs of collaborators testing positive for COVID-19

Work Improvements

Many Kinshasa-based key informants reported that working from home allowed them to be more productive. Several mentioned that not having to commute, which can take two to four hours each way, saved tremendous time and eased unnecessary stress that impacts work performance. Another commonly mentioned benefit related to improvements in their capacity to use technology and teleconference software and internet systems, which over time experts in Kinshasa used to provide technical assistance and lead trainings, and to participate in trainings outside of the DRC. At the same time, increased reliance on the internet illuminated the limited information technology capacity of government institutions and the importance of improving internet systems and providing certain types of technical assistance via teleconferencing. Central level MOH offices collaborating on USAID IHP benefitted from USAID assistance involving the reconstruction of offices, installation of V-SAT systems, and receipt of new computers.

Aspects of Work That Had Not Returned to Normal

At the time of the interviews, Kinshasa informants either worked from home daily or several days a week. USAID IHP informants mentioned that work changes associated with COVID-19, especially the distribution of barrier methods, continued to have major budgetary implications. Much work-related communication was still being done via telephone, particularly with collaborators at the community level, causing challenges. One central level USAID IHP key informant highlighted that the continuation of reduced interpersonal communication especially affected the quality of community-based activities, stating:

> *"At the community level, this is where activities have really changed, because behavior change first and foremost involves discussion and persuasion. And now you can't do that. Now, we are more focused on sharing messages in churches than at the household level or sharing information through the media."*

While central level MOH officials resumed provincial travel in March 2021, and at the time of our interviews had visited all nine provinces, planned schedules to provide technical assistance still lagged. At the time of our interviews, provincial informants were still not traveling to Kinshasa to attend meetings, and, most notably, to review annual operational workplans for each province. Unexpected events involving identification of positive COVID-19 cases continued to occur in the provinces, forcing people with potential exposure to COVID-19 cases to quarantine and incurring unexpected costs. Key informants reported that the continuation of restrictions on the number of people attending meetings impeded work activities.

Progress toward Program Objectives

In June and July 2021, we carried out key informant interviews remotely with five USAID IHP staff and one USAID representative based at the central level. Findings from key informant interviews are presented by USAID IHP objectives and intermediary results, starting with information collected on Objective 1 and ending with Objective 3. Findings related to Objectives 1 and 3 are divided into sub-sections, which include strategies that USAID IHP aims to use, activities implemented up to the time of the interview, observed changes, and challenges. To avoid redundancy, we followed a slightly different format when presenting findings related to Objective 2, which focuses on the six technical programs.

Objective 1: Strengthen Health Systems, Governance, and Leadership at Provincial, Health Zone, and Facility Levels in Target Health Zones

Strategies that USAID IHP Aims to Use

Fundamental to Objective 1 is capacity strengthening of institutions and individuals at all levels of the health system. USAID IHP aims to set up mechanisms so that health officials can continue to manage health systems and mobilize resources once donor assistance is no longer available.

The program plans to build leadership, management, and organizational skills to improve the execution of operations at the central, provincial, and zonal levels. As part of these efforts, USAID IHP is committed to supporting the development of annual action and workplans. In addition, USAID IHP aims to introduce tools and provide training designed to build individual and institutional capacities to plan, manage, execute, and monitor health activities. Central to capacity building is Participatory Institutional Capacity Assessment and Learning (PICAL), an evaluation tool used to diagnose capabilities in different domains such as leadership, management, administration, organization, and communication and to guide the development of institutional action plans to address weaknesses and strengthen capacity. USAID IHP aims to introduce PICAL in all health zones but is presently targeting health zones (60 of 178) located in the economic corridor where activities are more intensive.

Activities Implemented to Date

USAID IHP provincial offices have worked with *Equipe cadres de la DPS* (ECDPS) to plan activities. In these efforts, USAID IHP has supported ECDPS and *Equipe Cadre de la Zone de Santé* (ECZS) on the development of action and workplans, including the annual operational action plan, which delineates all activities according to program objectives. One key informant explained that the process starts at the health area (HA) level with *Infirmier Titulaire* (IT's), or "head nurses" in English, who are required to develop annual workplans, which they present during monitoring meetings. Subsequently, the ECZS assesses HA workplans and prioritizes and consolidates key activities, which are subsequently presented to the ECDPS.

As part of this process, USAID IHP has provided technical and financial support to each DPS and five health zones in each province to implement the PICAL tool. The exercise is carried out at the beginning of the fiscal year and corrective actions are monitored from the first to last quarter, when an assessment is carried out to assess changes and accomplishments in terms of management, leadership, planning, and monitoring and evaluation. One key informant noted that the provinces of Lualaba and Haut Katanga are using "mini PICAL," an abbreviated version of PICAL, and building on PICAL results from the predecessor program. During year two and part of the third year of the project, travel restrictions associated with COVID-19 impeded the execution of the PICAL evaluations, which are supported by Training Resources Group (TRG), in all provinces. However, informants asserted that with USAID support, provincial offices are becoming equipped to carry out the PICAL exercise independently and to assist ECZS to implement PICAL evaluations.

At the DPS and BCZS levels, USAID IHP provided assistance on the prioritization of actions to include in annual workplans that are realistic and based on available resources, as well as the development of systems to monitor progress of the annual workplan, such as setting up monthly and weekly workplans. USAID IHP supports monthly BCZS reviews, quarterly DPS reviews, and biannual DPS steering committee reviews of action plans where key indicators are assessed and corrections in workplans are made. USAID IHP has also assisted the DPS with the development and monitoring of other action plans, such as plans for the *contrat unique* (single contract), a contract signed by donors and implementing partners declaring the amount of funding they commit and which activities they will lead in the province. One USAID IHP key informant mentioned that program efforts to improve planning have produced many documents, but that lack of ownership and actual execution of activities poses a problem, stating:

> *"Almost all provinces have been able to do the planning; almost all of them have an operational action plan. And there are action plans they developed and signed as part of the single contract. So, there have been efforts on that side, but planning remains a document. What is more important is the execution of the action plan. They are too dependent on outside support, it is really us who push to plan the activities, to conduct the activities. We are pushing all the time because planning is continuous. There is the operational plan, and they have to make monthly and weekly plans. Our teams go to the DPS, talk to them, make plans, and even execute those plans. When I look at the completion rate, some provinces have a very good completion rate, others have a low rate. Because USAID IHP activities are in the annual operational action plan, it is due to our pressure that they follow up, go to the field. If we weren't there, I don't think they would work at the same rate."*

The program has supported a wide range of training on topics including general management and leadership at the DPS level, management of primary healthcare at the DPS and zonal level and with IPS *Inspection Provinciale de la Santé* (Provincial Health Inspectorate) staff, and the monitoring of capacity building action plans at the DPS and zonal levels. USAID IHP also works with coaches at the central level on mentoring approaches to use with DPS staff when tackling problems related to planning, leadership, and monitoring, as well as formative supervision involving the identification of problems related to planning and the development of feasible corrective actions.

Changes Observed

Key informants shared anecdotal evidence of improvements in individual and institutional planning, management, organization, and monitoring, with one key informant mentioning that capacity building involves many intangible factors. Because of the gap in the conduct of PICAL exercises, informants were unable to provide substantive evidence regarding changes in domains measured through the PICAL tool.

Key informants reported wide variation in the capacity to plan, execute, and manage activities across provinces, which they attributed to a range of factors, starting with the experience and training of health personnel. Key informants noted a great distinction between old and newly established provinces, explaining that old provinces such as Sud Kivu have experienced and competent health personnel and well-developed systems and frameworks in place, such as the *Encradreur Provincial Polyvalent* (EPP) teams responsible for supervision and monitoring. New provinces such as Tanganyika have fewer skilled and permanent personnel, forcing them to be more reliant on technical assistance from Kinshasa, which takes far more time to plan and execute. One key informant added that not all DPS have adequate numbers of trained staff to meet government requirements to function, noting that in remote provinces such as Sankuru, Tanganyika, and Haut Lomami recruitment is difficult, capacity is poor, and completion rates of activities are low. In addition, one informant reported that provinces that received assistance from the predecessor project, such as Haut Katanga and Lualaba, show higher performance in terms of leadership and management. Another factor that affects variation relates to the fact that provinces are targeted at different times and the intensity of assistance varies across provinces and health zones. Some technical assistance is offered progressively using a small dose/high frequency approach and thus takes time to implement.

Key informants cited differences in the vision, behaviors, and leadership skills of individuals as another reason for variation. One key informant mentioned that an external evaluation showed that Haut Lomami, an isolated province with limited resources, had the best results regarding leadership and management, which he attributed to the DPS director who he described as open to learn, engaged, and dynamic.

Challenges

Key informants consistently reported health worker attrition—which they attributed to poor monetary compensation and working conditions—as a principal challenge. Key informants mentioned that implementing partners (IPs) frequently recruit health personnel who have received USAID IHP-supported training; this disrupts capacity building efforts and affects institutional memory. Politicians regularly reassign health staff, as mentioned by this key informant:

> *"There is a lot of instability in the provinces. After we have a big training, the politicians often change the health personnel teams; sometimes we must start from zero with a new team."*

Key informants reported inadequate human and monetary resources as an ongoing problem. They stressed the need to increase the numbers of health providers recognized and paid as public workers to improve motivation and commitment to strengthening health systems. Key informants asserted that poor working environments also influence performance, stating that health workers often work in dilapidated buildings with inadequate space and lack essential equipment such as computers. When talking about Tanganyika, where only five percent of the health workforce receives a government salary, one informant said:

> *"The problem relates to the environment in which people work, which despite training and tools they receive, does not allow them to give the best of themselves; the whole environment, and in the environment, there are a lot of factors. For example, you go to a DPS like Tanganyika where only five percent of the staff receive salary, you can already see a problem. It demotivates people, which means that they are discouraged and will not give the best of themselves due to the chronically poor work conditions. This leads to bad behaviors."*

Another key informant mentioned that most donors are unwilling to invest in capacity strengthening, infrastructure development, and the establishment of mechanisms and support tools which will allow personnel to perform at a higher level and are critical to the long-term sustainability of health systems, noting that USAID is an exception. He said:

> *"Today, when donors give money, they want it to go into the community and to be used for treatment. They do not look at the foundation of the health systems. Donors no longer want to invest in these aspects. Rather, they want the money to go to the beneficiaries; that is, to the patients who are being treated. They're more or less forgetting about the system-strengthening aspects of health care, and I find that a little dangerous."*

Informants reported that newer provinces, such as Sankuru and Tanganyika, which are more often understaffed and have greater capacity building needs, are hard to reach and therefore more difficult to provide technical assistance. Similarly, health zones in remote areas lack adequate human resources and program support. One key informant mentioned that many provinces have interim DPS and BCZS heads who lack the authority to make decisions. Another challenge relates to the divide between the DPS and specialized national programs, which have parallel planning, execution, supervision, and monitoring systems, making coordination of activities difficult. Key informants also reported lack of willingness of local government officials to engage, mobilize resources, and take ownership of health systems as another major constraint.

Suggested Improvements

One key informant pointed out that variations in health indicators across provinces can be attributed to a variety of factors; he called for case studies focused on specific indicators comparing provinces where masses of health personnel are well trained to provinces where fewer health personnel are trained to understand reasons for differences in health worker attrition and execution of health activities and quality of care.

Key informants recommended that USAID IHP share results with stakeholders working on capacity building, including government officials in other sectors, so that they can understand the accomplishments and celebrate achievements. They also recommended increased participation of provincial government and local officials in the development of health action plans and monetary support of the healthcare system. An example of a local government contributing to the development of health systems came from Fungurume health zone in Lualaba province, where the municipality provided financial support to operational planning and specific health activities executed in the health zone.

Improved Transparency and Oversight on Funding and Administration of Health Services at Provincial, Health Zone, Institutional, and Community Levels

Strategies USAID IHP Aims to Use

The program aims to use a mix of complementary strategies implemented at health facility and community levels to improve transparency and oversight in health service financing and administration. Key informants stated that providing support to the IPS offices, which works to decrease corruption and abuse by health facility personnel, is central to the approach. Specifically, IPS teams are responsible for visiting health zones and structures on a quarterly basis to assess whether health plans are being executed, finances and medications are managed appropriately, and the medications that are available in facilities meet government standards. Inspectors generate reports based on their visits which are shared with DPS personnel; when rules are violated, IPS imposes sanctions which, when severe, can involve the firing or imprisonment of health personnel. USAID IHP workplans include annual funding to allow IPS teams to carry out routine missions to health zones but did not originally include technical support.

Another key strategy involves the introduction of hotlines or free phone lines designed to increase accountability of health workers. Hotlines are to be used by community members to submit complaints related to inappropriate health provider behaviors and abuse or theft in health facilities; when a complaint it made, the information is transmitted to IPS teams who can subsequently target the health zone where suspicious practices have been reported. In conjunction with Viamo, USAID IHP also plans to assist Inspection de la Santé offices at the central level to set up a system to manage phone calls made through the hotline.

In alignment with the national approach to revive community participation in healthcare services, USAID IHP aims to support community score cards, which are a community-based strategy to increase transparency of health facility activities through community monitoring and involvement. In support of the MOH strategy, USAID IHP also plans to encourage flat-rate pricing (a pricing structure that charges a single fixed fee for a service, regardless of usage), the display of consultation fees in facilities, and publication of treatment fees through social networks. USAID IHP also promotes posting of suggestion boxes as a mechanism to allow community members to voice complaints and improve accountability of health workers.

Key informants underlined the importance of the single contract approach. One informant mentioned that the single contract, which health stakeholders are required to evaluate and sign on a quarterly basis, serves as a mechanism to ensure that DPS offices adhere to the mandate to supervise health zone activities, adding that the single contract allows IPs to understand which activities are being supported by contributing organizations and the overall status of operational action plans. Participation in the contract places pressure on partners to meet their commitments and generally increases open dialogue and transparency among contributing members.

Finally, USAID IHP supports efforts to revive *Comité de Développement Sanitaire* (health development committee), or CODESA, committees tasked to provide oversight to health center management, including use of finances and medications, and to convey the interests and concerns of community members regarding health facility operation and care.

Activities Implemented to Date

USAID IHP systematically provides annual financial support for the development of the IPS action plan in each of the nine provinces to allow inspector teams to carry out regular audit and control visits in health zones. After the program began, USAID IHP recognized that general inspection representatives at the central level (Inspection de la Santé) lacked training and needed technical support. In response, USAID IHP has offered training on leadership and management. In addition, USAID IHP is funding and participating in semiannual meetings with IPS staff in all nine provinces. While provision of equipment was not included in the original workplan, after the start of program activities USAID IHP recognized that IPS offices lacked essential equipment. USAID IHP has procured equipment such as laptops and ordered one motorcycle for each IPS office, although problems with procurement caused delays in distribution of motorcycles, which one informant reported were expected to be delivered at the end of program year three.

Viamo, a member of the IHP consortium, provided assistance setting up the hotline system at the central level and managing the approach in the field. Viamo has provided technical assistance to the Inspection de la Santé for the development and validation of a script to be used by hotline operators. As part of a pilot approach, hotlines have been introduced in the provinces of Lomami and Kasai Central; provincial governors participated in the official launch of the hotlines, drawing attention to the strategy. USAID IHP has procured computers and other equipment to support the operating systems in Kinshasa where calls are received. At the time of the midline, mechanisms to manage, monitor, and handle complaints were being revised and recording tools improved; once preparations are complete, additional training of central level inspection personnel will be conducted. In program year four, hotlines are scheduled to be scaled up to the other seven provinces.

Since program year two, IHP has provided financial support to the MOH for the development of the community score card approach and tools. During year three, the MOH validated tools and training of relais communautaire (RECOs) on the community score card approach was initiated. One informant reported that training of community members and execution of the strategy was scheduled for program year four in all nine provinces.

In support of the MOH strategy, which encourages health facilities to display tariff fees and post suggestion boxes, IHP is requesting collaborating organizations and committees at the field level to ensure that fee schedules and suggestion boxes are posted. The revival of CODESA committees, which involves electing and training new committee members, has been executed across the nine provinces. IHP has worked to ensure that the single contract process is set up in all nine provinces.

Key informants reported that training on financing and administration has not been conducted; this appears to be related to the fact that standard operating procedures for funding and administration are not in place. In that regard, USAID IHP recently funded a study that found each donor has different procedures regarding oversight of health administration and finances; the study concluded that use of money by DPS offices varies according to the systems and procedures used by individual donors and disrupts the overall functioning of the health system. Based on the study findings, USAID IHP recommended that the MOH, along with the ministries of budget and finance, work together to develop standard operating procedures and tools for the DPS to follow regarding management and use of financial resources. Standard operating procedures will also allow IPS staff to better assess whether financial and administrative practices are being followed during audit missions.

Changes Observed

Informants claimed that with increased IPS mission visits health personnel are becoming more accountable regarding use of medications and finances. One key informant mentioned that IPS audits involve discussions with ECZS and health facility personnel, which helps to enhance understanding of government rules and standards and transparency. Key informants mentioned that Inspection de la Santé staff who participated in

leadership and management training reported improved knowledge and practices related to management. Key informants also claimed that hotlines are being widely used by community members in pilot areas; they suggested that the presence of hotlines is placing pressure on health workers to avoid inappropriate behavior and corrupt practices in the two pilot provinces, although no concrete evidence was available.

Informants noted that community strategies are still at the inception stages but are expected to see substantive results in program year four, when activities designed to increase transparency and community participation and oversight are fully implemented in all nine provinces. Key informants stated that the single contract process reduces duplication of efforts, encourages collaborating partners to adhere to commitments on a timely basis, ensures assistance so that DPS offices can carry out regular supervision of health zones, and generally increases oversight and transparency.

Challenges

Informants reported the lack of standard operating procedures for financial and administration systems as a major obstacle to improving transparency and oversight. While the MOH has developed a primary healthcare management module that includes guidelines regarding financial and resource management, key informants reported that the recommended procedures are inadequate.

One key informant asserted that flat-rate pricing, which is included in the MOH strategy, requires several prerequisites not met in the DRC context, including routine payment of health workers, ongoing availability of medications, and health worker adherence to standardized treatment practices. Key informants reported that many structures do not follow flat-rate pricing, instead charging fees for each service provided. COVID-19 travel restrictions have prevented technical experts from assessing whether flat-rate pricing is being implemented as planned. One key informant said:

> *"There is a big difference regarding what they say they charge and what they are actually doing regarding flat-rate pricing. I must see what is really happening on the ground, that's what was planned."*

Generally, travel restrictions have reduced field visits and limited possibilities to assess these approaches in the field.

Strengthened Capacity of Community Service Organizations and Community Structures to Provide Health System Oversight

Strategies USAID IHP Aims to Use

Key informants asserted that community participation is paramount to the functioning of health systems, with one informant adding that good community participation goes hand-in-hand with increased utilization of health services. Another key informant mentioned that the long-term goal is to strengthen community involvement so that, gradually, local governments and communities develop the interest and capacity to take charge of local health systems, stating:

> *"When you take the solution to the community, it is difficult to make change, but if you change the paradigm a bit by going to the community and saying you are the main actors, you have your problems, try to see how you can find solutions to your problems using local means. These are approaches that hold up because when you empower people to face challenges, they themselves will even look for small solutions and gradually take ownership of things."*

USAID IHP's community approach is designed to strengthen the government community health strategy which centers around the establishment of *Cellules d'Animation Communautaire* (CACs), tasked with planning and implementing multisectoral activities and a network of active RECO providing both preventive and treatment services in HA villages. Community-based preventive work is focused on awareness raising and behavioral change activities—community health workers offer health services through integrated community case management (iCCM) sites and distribute family planning methods.

Key informants emphasized that to successfully provide oversight of facility services, both CAC members and RECOs must be elected and well trained and represent the desires and needs of community members. Interestingly, there was little mention of CODESA members, whose role is to provide a link between health facilities and CACs and community members and oversee management of health center activities. USAID IHP also aims to work with village and religious leaders, local community structures, and community-service organizations (CSOs) to increase awareness of health issues and community involvement and oversight of health services. Key informants mentioned that approaches are similar across the nine provinces.

As mentioned, USAID IHP will support implementation of the community scorecard approach in all nine provinces. Informants maintained that community scorecards will increase community oversight in health systems management and allow community members to have a stronger voice related to health care. In general, IHP staff maintained that the approach would allow community members to better understand their healthcare rights and the obligations of health providers to the community and facilitate increased community involvement in the provision of health services so they coincide with local needs.

Activities Implemented to Date

USAID IHP has worked to support the revival and training of CAC members on the functioning of CACs and their roles. The program has also supported elections and training of RECOs on a variety of community health activities designed to strengthen the functioning of health systems and community-based activities. Since the start of the program, IHP has supported the revival of CODESA committees; this has involved the election of new members, training on their responsibilities, and payment for ongoing CODESA committee meetings. Village and religious leaders have been included in certain trainings, such as training related to COVID-19. Key informants stated that the participation of leaders increases the attention of community members and the importance of messages conveyed. Further, participation gives leaders special recognition and elevates their status in communities. The combination of these approaches is designed to ensure greater dialogue between community members and health providers and community participation in healthcare planning, implementation, and monitoring.

The program has worked with CSOs including church groups, local associations, and NGOs, mostly on awareness-raising activities related to health themes such as COVID-19 and family planning. One informant provided examples of ways that CSOs have collaborated on curative care; in one instance USAID IHP partnered with a local NGO to provide treatment for certain types of TB patients. To improve health facility accountability, IHP has encouraged local committees and CSOs to pressure health facilities to post consultation fees and suggestion boxes. At the time of our interviews, community scorecards had been validated and initial training was underway.

Formal evaluations to assess changes in community participation and oversight have not been conducted. USAID IHP is monitoring community interventions associated with the VIVA campaign, including activities led by community health agents. However, formal monitoring of other community activities is limited. Discussions are underway with the government to initiate a Système National D'information Sanitaire (SNIS) for community-based activities.

Changes Observed

Informants noted that community approaches are designed to work synergistically and have only recently been implemented or are still being rolled out. One key informant reported that monitoring data suggest increased community awareness and participation in health zones where VIVA activities are executed.

Challenges

Key informants reported that the biggest challenge relates to the size of the program and the effort needed to implement these approaches in all USAID IHP health zones. One informant said:

> *"The biggest challenge is the size of the program, even though in the health zones where we are working, we are starting in five, six, seven, eight health areas, we do not cover the entire health zone, as it is huge. The project covers nine provinces, and when we talk about health areas, it is every area in that province. It's so big and hard to cover it all. For me, that's the biggest challenge, the coverage."*

Improved Effectiveness of Stakeholder Coordination at the Provincial and Health Zone Levels

USAID IHP supports a range of meetings held at the DPS offices designed to facilitate effective coordination of interventions and to avoid duplication of efforts; these include health sector steering committee meetings, review meetings, and data monitoring and validation meetings. Key informants confirmed that using the DPS as a central meeting venue ensures that health stakeholders are aware of which organizations are responsible for certain activities and where activities are being implemented, and it generally enhances coordination of interventions. Key informants underlined the importance of the single contract approach, stating that it constitutes an effective mechanism to coordinate provincial level interventions and monitor whether stakeholders meet commitments in a timely fashion. The process places a certain level of responsibility on stakeholders to respect commitments; informants noted that stakeholders who fail to meet commitments affect activities led by other partners involved in the agreement.

At the time of our interviews, seven of the nine provinces had committed to the single contract approach, although only five provinces had gone through official signing ceremonies involving provincial governor offices and all contributing parties. In seven provinces, the single contract had started according to the IHP workplan and was being used as a mechanism to bring stakeholders together and coordinate IP funding and activities. The two provinces that had not embarked on the single contract were Sankuru, which had experienced a turbulent period when two people simultaneously claimed to be heading the DPS, and Kasai Central. Our informants confirmed that all provinces are scheduled to commit to the single contract by the end of program year three. Informants mentioned that the MOH appreciates the work that USAID IHP has done to improve coordination of interventions.

Informants claimed that USAID IHP has respected financial commitments spelled out in the single contracts in a timely manner. One informant mentioned that many other stakeholders fail to meet commitments, which has negative ramifications on USAID IHP's workplans and overall DPS mandates. USAID IHP is reviewing ways to ensure that stakeholders meet commitments; one option considered was to consult with members of Groupe Inter Bailleurs Secteur Santé (GIBS).

Improved Disease Surveillance and Strategic Information Gathering and Use: Routine Monitoring

Strategies that USAID IHP Aims to Use

USAID IHP aims to support activities to improve the functioning of the national health information system at the central, provincial, and zonal levels. This involves ensuring that data tools are available, and data is transferred to health zones on a timely basis. The USAID IHP mandate involves capacity building of health personnel involved in data collection, entry, analysis, validation, and utilization of routine and disease surveillance data; the approach entails ongoing coaching and training to ensure that health workers understand their roles, can adhere to SNIS standards, and have the capabilities to analyze data.

Activities Implemented to Date

USAID IHP has worked to ensure that all health zones and DPS have internet access and the capabilities to access the DHIS2 system. Starting in program year two, USAID IHP supported the installment and activation of very small aperture terminal (V-SAT) satellite systems in all health zones. Since the start of the program, IHP has supported training to DPS and health zones in the nine target provinces on the national health information systems and use of the DHIS2, with a focus on data analysis and monitoring and identification of problems related to data quality. USAID IHP has also provided training on use of findings to inform health strategies and policy and data dissemination.

The program recognizes that many data quality problems originate at the health facility level during compilation and transfer of data to forms, underlining the need for training of facility-based workers. Key informants reported that these workers had previously received limited training on data management. One key informant said:

> *"Those at the forefront of data collection are not well trained; most of the data errors or problems come when data is counted and entered from registries to data forms. Facility workers require capacity building to improve data quality. It is at this level where we want to act."*

In this regard, USAID IHP has started to train HA facility workers in Haut Katanga and Sankuru, two provinces with ongoing problems with data quality. In the year 4 workplan, IHP plans to expand training of facility level workers to other provinces. At the central level, BlueSquare has assisted the MOH on data analysis and dissemination and use of findings to inform health strategies and policy.

The program supports supervisory visits involving assessment of data quality and has trained DPS and zonal level workers to provide coaching to HA workers on data collection and compilation during supervisory visits. USAID IHP also supports routine data monitoring meetings at the HA, zonal, DPS, and central levels which are held on a monthly, quarterly, and annual basis depending on the level. One informant mentioned that these meetings present opportunities to reorient or train health providers and share new information regarding data management and quality.

Key informants reported that DPS and zonal health staff were treating quarterly validation meetings at the DPS level as a compulsory meeting rather than an opportunity to identify and rectify problems related to data quality, with one informant noting that data inconsistencies and outliers were routinely identified after data was entered in the DHIS2 system. To provide oversight so that issues related to data quality are addressed in a timely fashion, USAID IHP provincial staff started participating in these meetings. Another strategy that USAID IHP instituted is to provide targeted technical assistance to health zones with more extreme problems with data quality. Specifically, when data quality problems are identified at the central level or during validation meetings, the problems are documented and communicated with the health zone. If atypical or biased data continue to be reported, members of the DPS team are requested to visit the health zone to identify the HAs contributing to the problems, train the zonal team on how to coach the HA staff, and make a plan to rectify the problems.

With support from BlueSquare, USAID IHP is working with DPS on the introduction of computer software that will facilitate data analysis and improve capacity to identify critical data findings and make evidence-based decisions. Also, in conjunction with BlueSquare, a health map is being developed which will provide information on health services provided in each health facility situated in the nine provinces.

Changes Observed

Key informants reported general improvements in data management and quality, confirmed by fewer data inconsistencies, violated rules, and atypical data, which they attributed to the participation of USAID IHP

staff in validation meetings, ongoing training, and improved and regular coaching. In addition, IHP quarterly reports show changes in data promptitude and completeness in the DHIS2. One informant mentioned that at the start of the program data completion rates were below 70 percent, which has since increased to 93 percent, while promptitude was between 86 to 90 percent. However, key informants noted ongoing challenges with data quality, particularly in remote provinces and health zones where supervision and coaching are sporadic. Key informants stated that the provinces of Sankuru, Haut Lomami, and Tanganyika, which all have health zones with limited accessibility, have more problems with data quality; the province of Sankuru is considered at the lowest end regarding data quality. One informant reported inconsistencies with specific indicators and what is occurring on the ground; for example, the province of Sankuru, where measles outbreaks are frequent, reports 85-105 percent vaccine coverage.[2] Whereas provinces with more accessible health zones, such as Kasai Oriental, where more than half of the health zones are in urban areas, have established mechanisms to receive feedback and rectify problems with data quality quickly.

Challenges

Replenishing data collection forms on a timely basis continues to present challenges, often forcing health workers to invent ways to produce forms. Particularly in remote areas, the internet speeds can be very slow, affecting completeness of data entry and delaying data transmission to the DHIS2 systems. Moreover, health personnel often lack capacity to adequately use computers and the DHIS2 systems, and some ECZS lack computers.

Another challenge relates to health worker attrition, with one USAID IHP informant noting that after USAID IHP invests in capacity building health workers become more attractive to other implementing partners looking to recruit qualified workers. Another mentioned challenge relates to lack of human resources among the provincial capacity-building and support teams to carry out supervision related to data quality control and coaching, as well as follow-up visits to determine whether data-related problems have been adequately addressed. However, one informant noted that the revised strategy to target health zones and health areas with data problems has lessened the workload. While the government mandates that supervision of HCs occur every quarter, limited available DPS and health zone staff makes this unachievable. As a result, informative supervision and coaching is not being carried out as needed.

When asked for the reason behind problems with data quality at the HA level, informants once again highlighted that the HA health workers often lack capacity on data management, adding that they may also be overwhelmed by the general workload, but with coaching and training USAID IHP sees improvements in data quality.

Improved Disease Surveillance and Strategic Information Gathering and Use: Disease Surveillance

Strategies that USAID IHP Aims to Use

USAID IHP aims to ensure availability of data collection tools such as forms and registers; training on data collection, entry, and analysis; transmission of data to the DHIS2 system; and monitoring of data quality.

Activities Implemented to Date

Health zones continue to employ a passive disease surveillance system; health centers are supposed to transmit weekly reports to the zonal offices, which one informant admitted most health area nurses are unable to do. More active reporting is done for certain illnesses, such as cholera. USAID IHP has introduced reforms regarding disease surveillance, such as establishing groups charged with weekly tracking of disease patterns

[2] We recognize that this could be due to other factors, such as inaccurate estimates of the number of eligible children or use of vaccines that are expired or out of temperature range.

and supporting regular data monitoring and analysis meetings (MAPEPI meetings) of surveillance data at the DPS level. The program provides funding so DPS disease surveillance teams can make regular supervisory visits to monitor data quality. USAID IHP is also making efforts to ensure that disease data is delivered from the HC to the health zone on a weekly basis. Specifically, an application is being developed which will allow health workers to enter and transmit surveillance data using an Android phone; the goal is to have the application widely available in program year four. In the meantime, one informant mentioned that health workers are encouraged to report disease surveillance data by phone. The informant expressed concerns about this approach, stating:

> *"It's a change, but it's not a reassuring change. For me, it would have been interesting if the health center transferred the data directly into a system, but here it is someone who calls and during the call, he can make mistakes. It is true that by calling the information is quickly transferred, but now it is a question of data reliability."*

One key informant mentioned that USAID IHP gives feedback to provinces that fail to report on disease surveillance, an IHP indicator. Installation of V-SAT satellite systems in all health zones facilitates rapid transmission of surveillance data from zonal to provincial and central levels.

With COVID-19, IHP became positioned to direct coordination of surveillance data at the provincial level and ensure that COVID-19 case data be integrated in the general surveillance system. As part of the work related to COVID-19, IHP trained health workers at the community, zonal, and DPS levels on identification of COVID-19 signs and symptoms and introduced COVID-19 disease surveillance systems. USAID IHP carried out infection prevention and control (IPC) training and distributed protective gear including masks and handwashing materials to healthcare structures across the nine provinces, notwithstanding COVID-19 caseloads. Key informants reported that USAID IHP viewed these efforts as an opportunity to improve surveillance of all diseases that can potentially cause epidemics, which one informant noted were not well monitored in the past.

Changes Observed

Key informants claimed that rates of reporting and the quality of disease surveillance data have improved, mentioning improvements in data completeness, timeliness, and inconsistency. One informant believed that routine surveillance meetings at the DPS level, which often involve the DPS director, have impacted the level of seriousness related to data quality.

Challenges

Key informants reported ongoing challenges related to the collection of disease surveillance data and data quality. First, procuring and distributing disease surveillance forms on a timely basis continues to be an extremely time-consuming process, with one informant mentioning that it can take eight to nine months to receive forms after orders are made. USAID IHP has a new procurement team tasked with ensuring ongoing availability of tools in target provinces. Although all health zones have access to internet systems, the internet speed is often slow, affecting completeness of data entry and preventing timely data transmission to the DHIS2 systems, particularly in remote health zones. Another challenge relates to computer proficiency and general understanding of the DHIS2 system. After reactivating the V-SAT systems, IHP discovered that some health zones lack computers; USAID IHP had planned on providing computers to DPS during fiscal year four but not to zonal staff. Another challenge involves data monitoring at the HA level to assess whether what is included in HC registers coincides with data entered on forms and, when this is not the case, orienting health workers. One informant suggested that monitoring should at least be done in more accessible HAs. Transfer of cash for monitoring is an added challenge.

One informant mentioned great variations in data quality across provinces, which he attributed to capacity of health personnel, noting that some provinces such as Sud Kivu have better qualified personnel with extensive training. He also mentioned that more remote provinces such as Tanganyika and Sankuru have more frequent stockouts of tools and less stable internet connections.

Key informants mentioned that government collaborators had high expectations regarding USAID IHP's involvement in COVID-19 control and mitigation efforts and that it was impossible to respond to all the needs. USAID provided directives regarding the types of COVID-19-related assistance that could be provided.

Improved Management and Motivation of Human Resources for Health

Strategies that USAID IHP Aims to Use

The program aims to work with provincial offices on human resource development plans. As part of these efforts, a pact has been made with each DPS office to implement human resource management systems using the IRIS software (software intended specifically for human resource management). Key informants indicated that PICAL assessments illuminated that DPS offices are unable to track active health worker personnel, as well as the need to rework health worker job descriptions. USAID IHP also plans to institute non-monetary approaches designed to make people feel valued and to motivate and retain health workers.

Activities Implemented to Date

USAID IHP piloted human resource development activities in Kasai Oriental which involved the elaboration of a human resource development plan and the establishment of a human resource database. Using lessons learned from the pilot activities, USAID IHP worked with the MOH director of human resources to define a human resource development approach, which is being introduced in the other eight target provinces. In each province, the work involves training of health personnel, development of a human resource plan, establishment of a reliable human resource database, and installation of and training on the IRIS software. Efforts are also being made to revise health provider job descriptions, with the goal to clearly differentiate responsibilities of health worker positions. At the time of the interviews, key informants indicated that DPS are at different phases in the implementation of human resource activities.

Regarding health worker motivation, informants mentioned that trainings offered by USAID IHP serve as a motivation both in terms of capacity building and money received through per diem. USAID IHP also provides a per diem for participation in travel missions, supervisory visits, and meetings. When describing motivation, one informant stated:

> *"I have to say that for the DPS, the motivation is the existence of projects. When there is a project somewhere, people hang onto it, that's what gives them a little bit of resources. Like when you have supervision fees, per diem, and all the rest, that's actually what motivates them to be there. When there are activities that pay and give a little money, you feel that all the motivation is there…so, I would say that the most important resource for them is the partners who are there, who are paying for the activities."*

USAID IHP has held discussions with health personnel in each province to identify contextually appropriate non-monetary approaches to incentivize health workers. One approach identified is to hold annual recognition ceremonies honoring exceptional workers in health facilities. The idea is that honored workers would serve as role models and push other workers to strive to receive similar recognition.

One informant mentioned that the Lualaba provincial government provided premiums to physicians and HC workers in the province; this served as a unique example of a local government mobilizing funds to support health workers. USAID IHP is developing strategies to encourage government and local officials in provinces to provide funding and other support for health systems.

Changes

Informants did not report substantive changes, stating that the work designed to improve human resource management and development is still in early stages.

Challenges

Key informants were unable to respond to questions related to recruitment of local hires (A3 health workers); a practice that the qualitative research team observed during baseline data collection. These workers, who receive informal training by health facility staff and are not qualified to provide treatment, are more common in remote rural areas. However, key informants reported a variety of human resource management challenges. First, because the government has forbidden the official recruitment of new health workers, there are many gaps in the health workforce. At the same time, politicians use their influence to remove and appoint replacement health workers who key informants mentioned often lack adequate qualifications. One key informant said:

> *"There are a lot of gaps in terms of health workers, because the central level has instructed not to recruit new workers. But what is happening today is a bit of a mess because politicians get involved, particularly at the BCZS level. There is political influence everywhere. It's the politicians who recommend people, who force out chief medical doctors in charge of health zones. For example, in Sankuru, the governor just appointed eleven new health zone chief doctors who just finished their studies and lack experience, this is all due to political influence. It is really a big mess. We notice the same thing at the DPS and central levels. A lot of young people are there who have not followed the normal career path starting at the health zone level and working up the ranks; these people have no experience. This is a real problem and political influences are too much. While officially recruitment is not permitted, they continue to recommend that some people be transferred, and others be recruited."*

Key informants confirmed that lack of monetary payment for health workers, including salary or bonus payments, persists as an ongoing problem, which forces workers in health centers to rely on facility revenue—referred to as *prime locale*—as their sole monetary compensation. One informant reported slight improvements over the past decade, noting that a small percentage of workers in each province receive either salary or bonus payments; the same informant mentioned that salary payments are insufficient to meet basic needs and that the amount of money given through government bonuses is decreasing. Complaints about lack of monetary support reached a climax in the summer of 2021, when both physicians and health center nurses went on strike.

USAID IHP's approach to limit incentive payments to government collaborators and require justification with supporting documents of incurred expenses may serve as a motivation for health officials to focus on projects that follow more lenient rules regarding incentive payments.

Increased Availability of Essential Commodities at Provincial, Health Zone, Facility, and Community Levels

Strategies That USAID IHP Aims to Use

USAID IHP relies on a variety of essential commodities to meet its objectives. USAID IHP aims to ensure routine availability of essential medications and supplies in health facilities, as well as procurement of equipment required for specific interventions such as the renovation of health facilities and WASH activities. During year three, USAID IHP aimed to renovate 360 health centers, introduce improved sanitation systems including latrines and incinerators in select health centers, and initiate *village assaini* (certified hygienic villages) WASH activities in targeted villages; these interventions are intended to be concentrated in USAID economic corridors in and around more highly frequented health facilities. USAID IHP also plans to evaluate the supply chain.

Activities Implemented to Date

A system involving three partners at different layers of the supply chain has been set up; this includes Global Supply Chain, which is responsible for drug purchasing and guiding drug shipments through customs and to *centres de distribution régionaux* (CDRs), Global Supply Chain technical assistance involved in transport of drugs from CDRs to health zones, and USAID IHP which oversees transport of drugs from health zones to structures. A variety of approaches have been established to improve ongoing availability of medications. At the national level, representatives from the three key partners involved in the supply chain, along with USAID, meet every two weeks to assess updated information on drug procurement, transport, distribution, and availability in health zones, and to identify existing and potential upcoming problems related to drug shortages, excess, and expiration of specific products and how they can be addressed. The team works with DPS drug committees to identify timely solutions to current problems.

A major change in the monitoring of the supply chain system involves the introduction of INFOMED, a computer software designed to track the consumption, availability, and expiration status of medications and to forecast needs at all levels of the health system. DPS and zonal teams have been trained on use of INFOMED and the software is operational in all USAID IHP health zones, although one key informant noted that utilization varies greatly according to internet access. The software allows provincial divisions and health zones to have a good understanding of existing drug stocks and to plan drug distribution based on current availability and needs.

With assistance from i+Solutions, USAID IHP supported trainings in all health zones designed to improve drug distribution, utilization of tools to assess drug needs and procurement, and overall drug management and logistics. In addition, USAID IHP has supported efforts to improve national drug management systems. Specifically, USAID IHP hired a consultant to work with the *Programme National d'Approvisionnement en Medicaments* (PNAM) on revisions of drug management tools. At the time of our interviews, the consultant, along with a team of trainers, was launching a training on drug management, which started in Haut Katanga, and would be offered in all target provinces.

At the zonal level, USAID IHP has recently developed a new system to improve the delivery of medications from health zones to centers with limited access. ITs in charge of these health centers have been requested to identify residents with motorcycles or vehicles to transport medications and bulky supplies such as bed nets to the health area; USAID IHP pays for the transport costs through mobile money. Health centers with medium or easy access to the health zone offices continue to retrieve medications upon delivery to health zones or during monitoring meetings scheduled between the 5th and 10th of each month. One key informant mentioned that program vehicles are occasionally used to transport medications from the health zone warehouse to health facilities or CODESA, and that other community members sometimes assist with drug transport. USAID IHP is considering further adapting the approach so that difficult to reach health facilities are provided larger drug quantities on a quarterly or semester basis.

IHP purchased seven million USD of equipment which was scheduled to arrive in the DRC at the end of program year three. Following USAID guidelines, the program identified local enterprises to lead work on the renovation of health centers and installment of village WASH activities. Additional details regarding the equipment acquired is provided later in the report when presenting information related to Objective 2, under the section entitled "improved basic facility infrastructure and equipment to ensure quality services."

Changes Observed

The introduction of bimonthly meetings has allowed supply chain technical partners to understand current drug supply challenges. The INFOMED software has improved mapping of medication consumption and forecasting of needs based on real-time calculations at the zonal level. These innovations have facilitated the

timely identification of problems related to drug shortages and expiration and galvanized efforts to identify feasible actions and solutions to address concrete problems. An example provided by one key informant involved a health zone that had a medication in their warehouse that would expire in three to four months, causing a stockout of that medication; the national level team discovered that a neighboring health zone had an abundance of the same drug and found a way to transport the medication to the bordering health zone. In addition, key support structures such as financial systems and technical teams are in place and funds are available to ensure smooth operation of the supply system.

Key informants reported that trainings have improved the ability of health facility workers to use drug management forms, manage medications, calculate and forecast needs, and strengthen logistics related to maintaining ongoing supplies. One key informant reported signs that health workers, who are equipped with computer software and other tools to study the data and make evidence-based decisions, are changing their habits by proactively trying to avoid drug shortages. Informants reported a general decrease in stockouts of essential medications and supplies available through national programs, such as family planning, TB, HIV, and malaria. However, at the time of our interviews, informants forecasted stockouts of malaria drugs and medications for treatment of conditions affecting women and children in the coming months.

Changes in the transport of supplies and medications from health zones to centers have lessened the burden on ITs working in remote health centers to obtain essential commodities.

Key informants reported that no evaluations strictly focused on the supply chain had been conducted.

Challenges

All key informants reported that medication shortages persist. One key informant mentioned that the work headed by Global Supply Chain, which involves procurement, getting medications and supplies through the DRC customs, and transport of supplies to the CDRs, presents a major bottleneck. Factors associated with the COVID-19 pandemic also contributed to delays in drug distribution; for instance, most medications used in the health sector are produced in India, where drug manufacturing and transport were seriously disrupted during the pandemic. Discrepancies in drug requests and what is actually delivered to health zones and facilities continues to be a major problem.

A major constraint beyond the scope of USAID IHP and its partners involves a dramatic decrease in the number of drugs (from 117 to 13) USAID purchases for its programs in the DRC. Most of the changes reflect efforts by USAID to standardize the list of medications allocated for treatment of women and children so that they coincide with approaches in other countries. Not only was the number of medications decreased, but the quantity of the remaining 13 medications that USAID is willing to purchase has been reduced, while the number of USAID-supported health zones has increased. In addition, most of the remaining 13 medications are non-generic; key informants reported that with these changes, health facilities must spend more money when purchasing drugs and face greater challenges in raising the revenue needed for employee prime payments, medication purchases, and health facility improvements. Further, the cost of non-generic drugs is taken into account when billing for treatment, thus increasing patient fees. Our informants also mentioned that health facilities are not receiving enough drugs to treat all the illnesses and conditions patients seeking health care experience. Changes in the allocation of generic drugs to health centers impacts health workers' willingness to distribute medications to iCCMs where treatment is free. One key informant stated that medications for diarrhea, acute respiratory infection (ARI), and malaria—the three illnesses which RECOs are mandated to treat—are no longer available in community care centers.

Key informants reported that USAID IHP has changed their director of operations three times, which has caused serious delays in the procurement of equipment needed for the renovation of health facilities and WASH activities scheduled in program year three.

Contextual factors, which differ in each province, present other challenges to the distribution of supplies and equipment. Informants mentioned seasonal weather changes, particularly at the height of the rainy season, causing flooding and making rural roads impassable. The program and its partners have tried to send larger drug quantities to provinces most affected by inclement weather in advance of seasonal flooding. Insecurity poses problems in conflict-ridden areas, such as parts of Tanganyika and Sud Kivu. Certain provinces, such as Tanganyika, have areas that are only accessible by plane or boat, increasing transport obstacles. Constraints related to internet access limit the ability of provinces with less access to capitalize on the INFOMED software as envisioned. Travel restrictions associated with COVID-19 delayed activities such as training designed to improve the supply chain. Coordination of drug distribution involving national programs is complex, often slowing the supply chain system.

Increased Collaboration between the Central and Decentralized Levels through the Sharing of Best Practices and Contributions to the Political Dialogue

USAID IHP is committed to setting up mechanisms to ensure information sharing related to program activities and lessons learned within USAID IHP and with health officials, collaborating partners, and other implementing partners. The only regular activity key informants mentioned involved an annual meeting where program assistance provided to each of the targeted provinces is presented. During the meeting held in program year three, DPS heads presented findings from program year two to the General Secretary and other MOH officials. Meeting participants included the USAID IHP technical team, USAID IHP provincial directors, the USAID team that oversees USAID IHP activities, and other key organizations that support the MOH such as WHO and UNICEF. DPS heads were encouraged to openly express their opinions and perceptions of USAID IHP-funded efforts. After the presentations, questions were fielded and an open discussion about USAID IHP interventions was held. Key informants emphasized that feedback was positive, and the work USAID IHP supported was highly appreciated.

After the meeting held at the central level, a similar exercise was conducted at the provincial level. Meeting participants included provincial authorities, DPS staff, USAID IHP representatives, and collaborating stakeholders. Following the same format, DPS heads gave presentations describing USAID IHP-funded interventions and results of these activities during program year three to provincial authorities. After the presentations, participants were encouraged to share their views on USAID IHP-funded interventions in the provinces.

Crosscutting Interventions

USAID IHP has supported a variety of approaches designed to improve participation of women in health-related activities. First, USAID IHP has a gender specialist at headquarters, as well as a staff member in charge of gender in each of the provincial offices. With USAID IHP financial and technical support, a gender unit has been established under the direction of the MOH general secretary at the central level. USAID IHP has led gender training across all nine provinces; the program has actively encouraged all DPS offices to promote female workers and to focus on gender issues that affect access to and utilization of health services. To give issues relating to gender more attention and to create a forum to promote participation of women in health activities, gender units have been set up in DPS offices in the nine provinces. In Sankuru province, where the first gender unit was established, plans have been made to establish a gender unit at the territorial level.

Revived CACs report that 30 percent of their trained members are women and 30 percent of CAC activities are headed by women. Key informants mentioned that women have been nominated to important roles, noting that some CACs have elected female presidents. Informants described ongoing efforts to give women more responsibilities in locations where CACs have been reestablished. One informant suggested that the movement to increase female agency has positively impacted utilization of health services and female participation in community health-related activities.

Efforts to increase youth participation are occurring through community activities promoted through Objective 3 and are discussed later in this report.

Objective 2: Increase Access to Quality, Integrated Health Services in Target Health Zones

USAID IHP aims to support strategies designed to improve facility-based health services related to malaria, maternal and child health, family planning, nutrition, and TB. The program planned to target 100 health zones by the end of year three. Approaches vary according to the technical program.

The following sections describe USAID IHP achievements by technical program.

Malaria

The program provides technical, logistical, and financial assistance to increase malaria interventions at the DPS, BZS, and community levels related to diagnosis, treatment, and prevention across all nine provinces. USAID IHP developed annual targets for capacity building of health workers; the goal is to train all health workers in the nine provinces on malaria diagnosis and treatment. At the time of the midline, 70 percent of health workers had been trained; the program prioritized initial training in HZs with higher malaria morbidity and mortality rates or in HZs that had not received malaria training since the national malaria treatment regimen had been revised. USAID IHP routinely supports distribution of malaria medication and diagnostic materials across all provinces.

The program is piloting an intensive monitoring system in Kasai Oriental which examines monthly malaria cases and compares caseloads from the same time the previous year. When cases increase, community-based prevention activities involving RECO and CODESA members are mobilized. Based on data shared during monthly monitoring sessions, another approach referred to as "morbidity reduction" has been introduced in health zones. CAC committees and RECOs in villages with higher caseloads are requested to trigger a series of prevention efforts involving sensitizing community members about the importance of using bed nets and improved sanitation around households and ensuring that pregnant women receive sulfadoxine-pyrimethamine (IPTp-SP).

Routine prevention efforts target pregnant women and children under five years of age and include provision of insecticide-treated bed nets which are supposed to be distributed when pregnant women initiate consultation prénatale (CPN) and children attending consultation préscolaire (CPS) receive the measles vaccine, preventive treatment for pregnant women (IPTp), and awareness raising carried out by RECOs related to the importance of using bed nets and improved sanitation practices. Since March 2021, the program is more formally involving church authorities in community sensitization about malaria. RECOs based in iCCMs set up in USAID IHP provinces are tasked with identifying and treating malaria cases at the household level.

Challenges cited include shortages of ACT, especially for pregnant women. When stockouts of ACT occur, nurses are forced to purchase inferior, substandard malaria medications in pharmacies. The key informant also reported general misuse of malaria drugs, which he stated are commonly used by health workers to provide treatment to family members and friends, thus depleting medications for others. The informant anticipated a major stockout of malaria medications in the months following the midline evaluation.

Another reported challenge related to the *Projet de Développement de Système de la Santé* (PDSS), the World Bank performance-based financing project. Our informant mentioned that health workers in provinces receiving support from PDSS tend to inflate malaria cases, stating:

> *"We have some challenges in provinces funded by the World Bank, including Haut Katanga, Lualaba, and Haut Lomami. The World Bank provides incentives to meet indicators related to treatment coverage. So, to reach 40 or 60 percent some health centers increase the numbers of cases; sometimes these are not real cases, they create cases to reach the number the*

World Bank stipulates to receive payment. We are now talking with a colleague from the World Bank to review this indicator because it seems to motivate health workers to artificially increase the number of cases that receive treatment."

Maternal and Child Health

USAID IHP has progressively offered training, provided materials and equipment, and supported coaching on key interventions related to maternal and neonatal care, with the aim to target 100 HZs located in the economic corridor by the end of fiscal year three. *Soins obstétrico-néonatal d'urgence de base* (SONU B) is a strategy USAID IHP has implemented; the approach entails training on basic emergency obstetric and newborn care (BEmONC) and distribution of support materials so that all health providers working in facilities in the 100 HZs can assist safe deliveries and manage basic complications linked to childbirth affecting women and neonates. Another strategy, *soins obstétrico-néonatal d'urgence* (SONU C), primarily involves emergency and obstretric newborn care (EmONC) training on life saving practices offered in hospitals such as blood transfusions and improved surgical techniques for better maternal and neonatal outcomes following c-sections; our informant noted that c-sections have become the third leading cause of maternal death in the DRC. The training, which lasts three weeks, has been offered in Panzi Hospital in Bukavu, where the Nobel laureate Dr. Mukwege oversees the work, and in Lualaba where experts from Kinshasa lead the training. At the time of the midline, clinicians from 15 hospitals had received SONU C training. Our informant stated that referrals of women experiencing obstetric complications from HAs to reference hospitals continues to be a major challenge. The program has ordered materials to support childbirth and neonatal care for 116 hospitals and 480 health centers; these materials and supplies are scheduled to be distributed at the start of program year four. Another strategy involves improved nutrition during pregnancy, which entails counseling during CPN.

The program is providing training on Integrated Management of Newborn and Childhood Illness (IMNCI) so that health workers can adhere to standardized procedures following flowcharts and care sheets when treating childhood illnesses. USAID IHP aims to complete IMNCI trainings in 100 HZs by the end of program year three. In Sud Kivu, USAID IHP collaborated with pediatricians to strengthen the capacity of doctors and nurses working in rural hospitals to treat severe conditions that commonly affect children.

The program is implementing improved CPS approaches that integrate other services targeting children and family members such as family planning counselling, nutrition monitoring using weight charts and counselling, early detection of malnutrition, and malaria prevention. In target health zones, the program has introduced vitamin A supplementation and deworming medicines as part of routine CPS activities. Our informant reported that USAID IHP ordered mannequins for 60 health zones (180 HCs and 60 reference hospitals) to use during breastfeeding counselling provided during CPS sessions. USAID IHP aimed to introduce renewed CPS activities in 100 HZs by the end of program year three.

The USAID decision to reduce the number of medications from 117 to 13 has had dramatic effects on the maternal and child health technical program, which our informant reported lacks sufficient medication to treat many conditions affecting women and children. Our informant indicated that these changes have tremendous ramifications on curative care for women and children.

Family Planning

Complementary services are offered at the facility and community levels in 100 target HZs across the nine provinces. USAID IHP trained facility-based providers on application of modern methods and family planning counselling, including postpartum counselling during CPS sessions. USAID IHP is financing a committee comprised of technical experts from different sectors to work on the integration of family planning into interventions not related to health. Committee members meet monthly to assess family planning activities, indicators, and coordination of interventions across sectors.

Tuberculosis

USAID IHP has a mandate to focus on susceptible TB, including multidrug-resistant, pediatric, and HIV conversion TB. At the time of the midline, the program supported around 750 testing and treatment centers on training, screening and identification of cases, provision of laboratory equipment and drugs, and monitoring and evaluation of TB data, and provided food aid to patients with multidrug-resistant TB. The program supports strategies to increase the detection of TB, including multidrug-resistant TB, by collecting and transporting sputum specimens from suspected cases to health center treatment centers and GeneXpert test sites in the nine provinces. USAID IHP has procured GeneXpert machines to detect multidrug-resistant TB; the aim is to purchase 20 additional machines in program year four. USAID IHP reports a 10 percent increase in the detection rate of TB in target health zones.

Vaccinations

USAID IHP supports implementation of the Mashako plan; an emergency plan to strengthen routine vaccination. Since 2020, key strategies included in the Mashako plan have been executed in collaboration with other partners working on immunization in all provinces except for Lualaba, where a needs assessment had been conducted and training was underway at the time of the midline. USAID IHP supports targeted approaches to meet the special needs of health zones located in hard-to-reach areas, such as transport of vaccines by plane. The program assists activities designed to maintain the cold chain so that vaccines are regularly available in health centers located in 100 target health zones; this involves procurement of materials and equipment such as solar run refrigerators (60), batteries, solar panels and antennas for solar-run refrigerators, and petrol for petrol-run refrigerators or fuel for generators. Community efforts involve household visits by RECO to identify children who are not fully vaccinated, organization of vaccine sessions for people living in remote areas, and *stratégies avancées* (advanced strategies) when dips in vaccine coverage galvanize teams of health workers to travel to distant areas to identify unvaccinated children and vaccinate them. Our informant reported a 6.8 percent increase (198,360 children) in the number of unvaccinated children identified by RECO and subsequently vaccinated in program year two.

Quality Assurance

The program has established evaluation and quality improvement teams in the 100 selected health zones. Teams have been trained on the Integrated Quality Improvement Approach which is being used to monitor DHIS2 data from about 100 target health facilities and evaluate changes in data quality. Our key informant reported gradual improvements in data completeness and consistency in target facilities. Formative supervision is another key strategy; each health zone has a coach based in the DPS offices tasked with visiting the health zone for 10 days on a quarterly basis to assess problems associated with service delivery and data quality and to provide counselling, or, if required, training, to resolve detected issues. Coaches are *Encadreur Provincial Polyvalent* (EPP), former médecin chef de zone (MCZ) who work with the ECDPS.

Increased Availability of Quality, Integrated Community-Based Health Services

USAID IHP supports approximately 1,600 iCCM sites currently functioning in the nine provinces. Support entails training and retraining of RECOs and delivery of tools, small equipment, and medications essential for treatment of malaria, ARI, and diarrhea. USAID IHP supported the development of a digital tool for the assessment and management of drug stocks in iCCM sites. IT's, who are tasked with supervising iCCM sites monthly, upload recording forms documenting the availability of drugs and supplies in iCCM sites in the computerized system.

Our informant reported a chronic shortage of medications, especially for diarrhea and ARI. He stated that drug shortages in iCCMs have escalated since the USAID IHP decision to decrease the list of drugs available for maternal and child health.

Nutrition

USAID IHP has supported the establishment of infant and young child feeding (IYCF) support groups through the training of RECOs and community members participating in 200 groups in 20 health zones, with priority given to Food for Peace (FFP) supported health zones in Kasai Oriental (3), Sud Kivu (5), and Tanganyika (2). USAID IHP also works with Mother Leader groups working on improved mother and child nutrition in FFP-funded health zones. The decision to close the FFP-assisted project in Sud Kivu (three HZs) and Tanganyika (two HZs) at the end of program year three will impact these efforts.

Family Planning

The program supports close to 1,700 community workers distributing family planning commodities including injectables. In program year four, injectables will be made available to women for self -administration.

Tuberculosis

The program supports training and screening efforts carried out by RECOs and CODESA members. Engaged community agents identify and refer suspected TB cases to treatment centers and monitor compliance of drug treatment. *Organizations assises communautaire* (OAC), which are committees comprised of community members who have recovered from TB, have been set up in remote areas to identify and refer suspected patients to treatment centers and to encourage sick patients to adhere to TB treatment regimens. Other efforts include mini campaigns designed to raise community awareness among highly vulnerable populations during door-to-door visits in health zones with low rates of TB detection, especially in Sankuru, Haut Lomami, Lualaba, Sud Kivu, and Haut Katanga provinces.

Improved Referral System from Community Level to Health Centers and Referral Hospitals

A referral system—called M-referral—has been developed for use by RECOs stationed in community care sites and is being tested in two health zones in the provinces of Haut Katanga, Kasai Central, and Tanganyika. Using a phone, the RECOs send a signal to the IT who then calls the RECO and obtains information regarding the referred patient. Once the patient arrives in the health center, the IT uses the same system to inform the RECO that the patient has arrived in the health center.

Community agents trained to identify signs and symptoms of common illnesses continue to refer sick patients identified during routine household visits to health facilities. During years two and three of the program, RECOs received training on the identification and referrals of suspected COVID-19 patients. Mini campaigns are periodically held to inform communities about danger signs of diseases that pose a threat.

Our informant reported several challenges related to referral systems, including lack of transport, insecurity, and long distances to reference hospitals, as well as funding limitations associated with the USAID contract with USAID IHP. He also mentioned lack of clear directives and supporting instruments as key obstacles to referral systems, stating that referral systems pose a major gap in the DRC health system:

> *"What we first planned was to make the community take charge of referrals, which so far has not worked. I think there is a significant gap related to referrals, which impacts activities that we are mandated to carry out. Referrals are not an element that works well, we have many problems. Referral manuals and tools do not exist, and we do not have clear directives. We proposed to develop a document that describes how referrals should be done. It's a very important gap, but we must work, and especially with the ministry, to meet the challenge."*

Our informant suggested initiating efforts to improve referral systems in provinces with the highest maternal and child mortality rates, such as Tanganyika where infrastructures are underdeveloped, distances are vast, and health personnel are less qualified. He also recommended consulting experts and carrying out studies to understand the best referral strategies for the Congolese context.

Improved Health Provider Attitudes and Interpersonal Communication Skills at Facility and Community Levels

USAID IHP is collaborating with Matchboxology to train health personnel and provide tools to health workers in all nine provinces on improved communication skills and behaviors when interacting with patients (see description of Matchboxology activities under Objective 3). USAID IHP has developed a gender strategy which includes gender audits at the provincial level to inform DPS and health zones on the specific needs of men, women, girls, and boys, as well as vulnerable groups. USAID IHP encourages collaboration between the MOH and Ministry of Gender to develop a training curriculum informed by the gender audits and designed to sensitize health providers about gender-sensitive approaches when providing care. Activities for youth include the adaptation of routine services (such as sexual health services) to meet the needs of youth and the establishment of youth-friendly service delivery spaces in health facilities. Using tools such as posters, flipcharts, and brochures, USAID IHP offers counselling on reproductive health services to youth in all nine provinces.

Increased Availability of Innovative Financing Approaches

Minimal work has focused on innovative financing approaches. USAID IHP supports the MOH flat-rate financing strategy in specific provinces such as Sud Kivu. Flat-rate financing has confronted constraints due to chronic drug shortages, which forces health providers to purchase drugs or to give patients drug prescriptions. Another approach that USAID IHP is supporting involves advocacy to encourage governments at the national and provincial levels to finance interventions. Our informant provided several examples of increased government involvement in healthcare strengthening; for instance, under the leadership of the President of the DRC, the central government mobilized funds for vaccinations. This initiative subsequently galvanized contributions by governors and local leadership in certain provinces such as Lualaba, Lomami, and Haut Lomami. In the future, USAID IHP aims to convene all provincial governors and to propose concrete ways they can contribute to health initiatives.

Improved Basic Facility Infrastructure and Equipment to Ensure Quality Services

USAID IHP plans to renovate over 300 health facilities located in the 60 health zones prioritized during year three, with the aim to renovate at least five health facilities in each of the 60 health zones. Renovations will include building training rooms in select health centers so that trainings can be carried out in health facilities rather than in the BCZS offices. The program has ordered training materials for 200 health facilities.

USAID IHP will equip approximately 600 health facilities with basic supplies identified as missing or in need of replacement during health zone assessments, PICAL analyses, and the USAID baseline assessment. USAID IHP ordered materials and supplies included in consultation kits such as stethoscopes, blood pressure monitors, and diagnostic materials. Other ordered materials mentioned by our informant included sterilization kits, laboratory equipment, delivery kits, and small surgery kits, as well as c-section and surgery kits for hospitals. Program-specific equipment has also been ordered, including 60 refrigerators for vaccines and materials to expand detection of TB cases and treatment such as 20 GeneXpert machines, audiometers to monitor TB cases taking drugs, and EKG to assess the impact of TB medications on the liver and kidney. In addition, USAID IHP has ordered equipment to support improvements in water supply and sanitation in facilities and for the installment of village WASH activities. Informants reported that equipment will arrive at the end of program year three and be distributed shortly thereafter.

It was reported that restrictions associated with COVID-19 have slowed procurement of equipment, supplies, and medications.

Increased Collaboration

USAID IHP provides technical and financial support for routine meetings and program reviews with collaborating partners in the areas of TB, family planning, IMNCI, malaria, and reproductive, maternal, newborn, and child health. These meetings are designed to share technical expertise and field experiences, and to ensure coordination of field activities and approaches. USAID IHP worked to establish a task force to monitor maternal deaths and document causes of death. In Tanganyika, where maternal mortality is highest in the country, USAID IHP has worked with the provincial government to establish coordinated approaches to reduce maternal deaths, involving increased availably of family planning methods and the establishment of a maternal mortality surveillance system in all health zones. The program is collaborating with obstetrician gynecologists and pediatricians on interventions related to maternal and child health and is involved in a WhatsApp group for gynecologists to share scientific information and experiences. In addition, USAID IHP contributed to scientific day meetings organized by programs or departments to disseminate results of research carried out in their fields of interest.

Objective 3: Increase the Adoption of Healthy Behaviors, Including the Use of Health Services in Target Health Zones

Interventions aim to increase adoption of healthy behaviors and utilization of health services in the nine target provinces. To achieve this objective, community interventions have been developed by a consortium of USAID IHP partners led by Matchboxology and Breakthrough Action to raise awareness about services offered in government health facilities, reduce barriers to care seeking in formal facilities, improve health provider attitudes and behaviors, and motivate application of key health-related behaviors at the community and household levels. The USAID IHP social behavioral change (SBC) team works with DPS personnel in the communication sector and the Animateur Communautaire *(*AC) tasked with supervising community activities at the zonal level.

Improved Health-Related Attitudes and Behaviors at the Individual, Family, and Community Levels

Strategies That USAID IHP Aims to Use

At the core of community interventions is a healthy family campaign referred to as VIVA. Developed by USAID's Breakthrough Action and implemented by Johns Hopkins Center for Communications Programs, VIVA uses a human-centered design to promote the adoption of healthy behaviors primarily related to reproductive health and maternal and child health. The strategy relies on the involvement of community health agents, including RECOs and CODESA members, and community-based groups, to mobilize events and generate community participation, guide activities, and disseminate messages. Messages are also transmitted through community radio and text messaging.

In support of the national community health strategy to improve health perceptions and behaviors of community members, USAID IHP plans to train RECOs on communication techniques, healthy practices for disease prevention, illness danger signs, and referrals to facilities. Another approach involves champion communities; communities are encouraged to identify an activity that can contribute to community development and design an intervention, mobilize resources, and execute intervention activities. Intervention cycles last six months and champion communities are intended to be evaluated by external groups such as NGOs or government workers. Other strategies USAID IHP aims to support include international days, training of RECOs on WASH activities, and introduction of the Wanji game—a question-and-answer game installed on mobile phones to inform community members about healthy behaviors.

Activities Implemented to Date

Informed by formative research and an iterative process of application and refinement, VIVA has developed a package of innovative approaches comprised of social events, competitions, savings schemes, and community

engagement to address a set of multifaceted barriers identified as critical to the uptake of healthy behaviors. Breakthrough Action has piloted VIVA activities in nine health zones located across three provinces, including Sud Kivu, Kasai Oriental, and Haut Katanga. Using the tools and approaches developed by Breakthrough Action, and the lessons learned from the pilot activities, USAID IHP is supporting the introduction and implementation of VIVA in 41 health zones across the nine target provinces, with a focus on health zones located in the USAID economic corridor. USAID IHP has introduced the VIVA approach in all nine provinces; eight of the nine provinces started field activities at the beginning of 2021, while Haut Lomami was still in the planning phases at the time of our interview. Activities involve awareness raising related to a variety of health themes, including malaria, family planning, maternal and child health, exclusive breastfeeding, TB, and WASH; packages of activities can be tailored to the specific health needs and context of health zones. VIVA interventions are complemented by radio messages transmitted on community radio. In this regard, IHP has helped to develop service agreements with community radio stations. These agreements delineate the messages to be conveyed and the frequency by which they are broadcast. Breakthrough Action and USAID IHP have worked together on a VIVA evaluation tool, which at the time of the midline evaluation was being reviewed by USAID. The USAID IHP monitoring and evaluation team is leading monitoring of VIVA in all provinces; this includes activities led by active community agents.

USAID IHP supported government-led international days intended to raise awareness and mobilize communities around specific themes such as malaria, handwashing, pneumonia, women, breastfeeding, and clean water. Our informant indicated that the COVID-19 pandemic has limited the scope of these activities, which mainly involve political statements and press releases.

USAID IHP worked with the Programme National de Communication pour la Promotion de la Santé (PNCPS) to develop a module to guide RECOs promoting key family practices. At the DPS level, USAID IHP has assisted the health information offices and supervision teams to plan and execute training in all nine provinces; five to seven health zones are initially targeted in each province. In support of efforts to improve the communication skills, knowledge base, and general creditability of RECOs located across all health zones in the provinces, USAID IHP will continue supporting RECO training in program year four.

USAID IHP renewed efforts to work with formally established champion communities by assisting with the revitalization of workplans, establishment of participating members, and strengthening of field activities. USAID IHP has also provided assistance to health zones with no previous experience setting up champion communities. At the time of our interviews, our informant reported that champion communities existed in all nine provinces, with an average of three communities per province. Examples of activities included promotion of CPN and family planning in Kasai Oriental.

USAID IHP supported training of RECOs on WASH activities in the provinces of Kasai Central and Lomami, although water supply activities have not yet gotten underway. Our informant reported that the Wanji game, which is supported by Viamo, has been introduced in some health zones, but he was unaware of the target provinces or progress thus far.

Changes Observed

Our informant reported that the provinces of Tanganyika and Sankuru had made better progress regarding the implementation of VIVA awareness-raising activities. No formal evaluations of VIVA have been conducted thus far and we have not had an opportunity to review monitoring results of VIVA activities. Our informant suggested that there has been increased use of family planning, CPN, and bed nets in Kasai Oriental and Kasai Central based on champion community activities.

Challenges

Travel and other restrictions associated with the COVID-19 pandemic have presented challenges to the implementation and monitoring of community activities, preventing technical experts from visiting field activities, providing firsthand technical guidance, and interacting with field actors particularly in rural settings. Our informant reported that restrictions have affected the VIVA timeline and may also influence the quality of activities.

In terms of champion communities, our respondent reported that members frequently become demotivated and have unrealistic expectations regarding the technical assistance and monetary support communities can receive. USAID IHP is examining how to make champion communities more self-reliant and sustainable. At the same time, USAID IHP recognizes that new communities require more technical support; the program is assessing how to improve assistance.

Increased Use of Facility- and Community-Based Health Services

Strategies That USAID IHP Aims to Use

USAID IHP plans to support mini campaigns as a key strategy to increase use of facility and community-based services. Mini campaigns involve identifying a health problem with health zone staff, dialoging with community members to develop feasible action plans and recommendations to address the health problem, and implementing community mobilization and sensitization. A human-centered design is used to ensure local contextual factors are considered when designing mini campaigns. Campaigns typically involve community agents such as RECOs and CODESA members, as well as influential leaders and community organizations, to sensitize the population on key practices and promote utilization of health services. Action plans are intended to spell out the timeline and actors' roles, and generally offer small incentives for those involved.

IHP plans to work with Matchboxology, a South African organization, on efforts to improve health provider attitudes and behaviors and to develop communication strategies. In collaboration with Viamo, text messaging about health themes is another approach USAID IHP supports. Other strategies include Hotline 42502, a national hotline supported by Vodacom providing health-related information, and open house events when community members are invited to health facilities to learn about the services offered.

Activities Implemented to Date

Mini campaigns have been executed across the nine provinces to address current health problems identified during monthly zonal monitoring meetings. Campaigns employ door-to-door visits by community health agents to sensitize community members about the identified health problem and orient them to facilities. Focal themes reflect IHP health priorities and correspond with key services offered in the health facilities; themes mentioned by our key informant included malaria prevention and treatment, family planning utilization, vaccination coverage, the importance of CPN, and early detection and treatment of TB. USAID IHP has assisted with the development of a technical brief on mini campaigns, which at the time of our interview was under review by the MOH.

In efforts to improve the attitudes and behaviors of health personnel, Matchboxology developed training materials and worked with the DPS in each of the nine provinces to introduce training on interpersonal communication of health professionals. Training at the DPS level was completed in Haut Lomami, the final province to receive the training, in July 2021. DPS personnel in the communication sector lead the training in health zones; at the time of our interview, training was already underway in health zones in three to four provinces. Matchboxology has also introduced approaches involving games to convey messages encouraging families to use facility-based healthcare services and developed scripts for radio messaging.

Starting in program year two, USAID IHP supported text messaging on specific health themes including malaria, breastfeeding, and handwashing. Message recipients are provided a phone number which they can call up to 10 times for free to obtain additional information on the health theme. The first step involved accessing a registry of phone numbers and potential participants. Our informant was not aware of the extent to which this approach has been implemented.

According to our informant, Hotline 42502 had not yet been implemented. Open houses will start in year four of the program after renovation of health facilities.

Changes Observed

Communities participating in mini campaigns are encouraged to lead evaluations to assess whether objectives were met, identify strengths and weaknesses, and delineate needs for improvements. Our informant stated that results show that the mini campaign approach encourages community members to take ownership of their own health problems. While he reported that mini campaigns have increased use of health services, no empirical data were available. In the future, the IHP M&E team will systematically conduct formal evaluations of mini campaigns implemented where VIVA activities are executed.

Our informant praised the innovative work of Matchboxology staff, as well as their understanding of contextual realities; he reported that the health worker training approach has been well received by DPS staff.

Challenges

Our informant reported some overlap in the proposed strategies of Matchboxology and Breakthrough Action, causing delays in the work Matchboxology aims to lead on the development of tools designed to support the VIVA campaign. Strategies involving phone messaging are limited to people with phones and locations where phones can be regularly charged and there is a network.

Reduced Sociocultural Barriers to the Use of Healthcare Services and Behavior Change

Strategies that USAID IHP Aims to Use

In support of the national community health strategy, USAID IHP plans to provide assistance in reestablishing CODESA and CAC committees. CODESA committees are responsible for supporting the development of health centers, providing community oversight of health center services and use of materials and medications, and creating a bridge between the population and health workers. CODESA members are supposed to work with CACs, community structures intended to organize and provide oversight to community activities, and to create communication between the CAC members and facility-based health workers regarding health problems and community health needs.

Another proposed strategy is to support the development of community forums to enhance dialogue related to health issues between men, women, boys, and girls. In addition, USAID IHP aims to assist with the implementation of a telephone survey to identify sociocultural barriers to health service access and utilization.

Activities Implemented to Date

Using tools, training materials, and curricula included in the national health plan, IHP has provided assistance to the establishment of CODESA committees and CAC structures in the nine provinces. Initial work focused on five health zones in each province. Our informant indicated that a first step is to determine whether revival activities involving elections and training of elected members on their responsibilities are needed or if existing CODESA committees require only refresher training and encouragement. Over time, IHP plans to progressively support the establishment of functioning CODESA committees and CACs in all health zones.

IHP has initiated work with the National Reproductive Health Program on the organization of activities aimed to increase communication on health issues between youth and adults. Our informant reported that USAID IHP aims to increase engagement of the National Adolescent Health Program before activities get underway. The establishment of community level forums designed to facilitate dialogue between adults and youth is scheduled to start in program year four.

Changes Observed

No formal evaluations of sociocultural barriers to healthcare utilization have been conducted. However, USAID IHP supports local assessments led by community leaders and ITs. Guided by questionnaires developed by the USAID IHP SBC and M&E teams, these assessments are carried out sporadically when CAC and health facilities fail to meet workplan objectives. Assessments are intended to gather information from community members regarding the reasons for low utilization of specific health services and ways to overcome identified barriers.

Increased Collaboration on Social and Behavioral Change Activities

Strategies that USAID IHP Aims to Use

IHP will continue supporting the VIVA campaign developed by Breakthrough Action. This includes strategies to improve the involvement of women and youth critical to long-term behavioral change. Proposed approaches include working with local organizations to increase female representation in meetings and development activities and addressing factors that reduce access to and utilization of health services by women and adolescent girls. Listening clubs, which involve convoking groups to listen to radio messages about health themes, are activities designed to galvanize social and behavioral change that USAID IHP aims to collaborate on with FFP and VIVA. USIAD IHP plans to continue collaboration with Viamo on telephone messaging.

Activities Implemented to Date

As previously indicated, USAID IHP collaborates with Breakthrough Action and Matchboxology on activities developed to improve health worker behavior and communication. USAID IHP has encouraged the establishment of gender networks in health zones to liaison with local organizations, committees, and communities in the promotion of female participation in health activities and improvement of female utilization of health services. When establishing CAC committees, USAID IHP has requested that 30 percent of their trained members are women and 30 percent of activities under the CACs are headed by females. Female representation on CODESA committees, including in leadership positions, is also encouraged by USAID IHP. USAID IHP promotes that the majority of RECOs who are charged with awareness raising, often related to maternal and child health, are held by women. USAID IHP and its FFP collaborators have encouraged CAC committees to elect youth representatives and involve youth in CAC activities, often involving water and sanitation and road rehabilitation. In health zones where FFP-funded activities are underway, the father model is employed; this approach involves the training of fathers who exhibit exemplary behaviors to exchange information on sociocultural factors affecting the health of youth, especially young males. USAID IHP also encourages existing youth groups associated with churches or NGOs to participate in awareness raising around health issues affecting young people. Men participating in champion communities are encouraged to assess the needs of all family members, including women and youth, and consider their requirements when determining the focus of initiatives.

Listening clubs are underway in select provinces, particularly those implementing FFP and VIVA activities. Meetings are held weekly when group participants listen to radio messages about different health themes. After the radio transmission, members hold discussions about the health topic, related health services, utilization of those services, and barriers to access the services. CODESA members participate in listening club meetings and convey key discussion points and lessons learned to CAC committee members and health workers.

Summary and Implications

This report presents results from the analysis of the D4I midline survey data, collected in 2019 and 2021, and the qualitative data analysis. Table 4.1, which categorizes the leadership and governance indicators according to their performance, shows the direction of change between 2019 and 2021 (if data are available from both timepoints) and indicates whether the change was significant. Table 4.2 shows the same information for service quality indicators.

In general, performance on the indicators of leadership and governance was stronger than the indicators of service quality; however, some quality indicators underwent significant gains between baseline and midline. Continued focus on service quality is warranted and, in fact, the improvements observed in leadership and governance may lead to improvements in quality as the program progresses.

Leadership and Governance

- Communications infrastructure within the health zone offices improved, particularly internet access, although internet speeds were often reported to be slow, particularly in remote areas. Relatedly, health zone offices exhibited strong and significantly improving rates of communication with other health zone offices and CODESAs. Health zone offices have also shown strong and improving performance in relaying MAPEPI case reports within 24 hours. Emphasis should be placed on improving rates of timely MAPEPI reporting in provincial health offices, where rates are mid-poor and have not changed, and on developing alternate reporting mechanisms for times when the internet is unreliable. Key informants reported ongoing challenges related to the collection and transmission of disease surveillance data from health structures to zonal offices.
- Both the provincial health offices and health zone offices had high levels of participation in management and technical meetings. Participation in such meetings increased or remained constant between 2019 and 2021. Key informants indicated that USAID IHP supported a wide range of management and technical meetings at all levels of the health system.
- Rates of regular supervision increased at all levels of the health system: provincial offices, health zone offices (significantly), hospitals, and health centers. Within the cascade of supervision, hospitals were the least likely to be regularly supervised, and so increased focus on that level of supervision may be warranted. As hospitals and health zone offices are often located in close proximity, it may be useful to better understand the reasons for the relatively low frequency of supervision of hospitals. Key informants underlined the importance of the single contract approach, which serves as a mechanism to ensure assistance so that DPS offices adhere to mandates to supervise health zone activities.
- At midline, USAID IHP had begun revitalizing CODESAs and CACs in all nine provinces, with the goal of establishing a CODESA and have functioning CACs in every supported health zone. Health facility communication with CODESAs appeared to be strong. CODESAs also had relatively good access to patient feedback. As only midline data are available for those indicators, we cannot assess trajectory. However, given that CODESAs across the country have historically struggled to perform their roles, the relatively high performance at midline is encouraging. Key informants mentioned an increase in female CODESA members and reported that women constitute 30 percent of trained members and heads of CAC activities.
- Changes have not yet been observed in several key indicators due to the timing of the activity implementation. Community scorecards are projected to roll out at the community level in Fiscal Year 4, and so the survey data did not reflect improvements in that indicator between 2019 and 2021. Health zone participation in the PICAL assessment, another intervention introduced by the program, appeared

low, but has increased significantly over time as USAID IHP is implemented. During Fiscal Years 2 and 3, travel restrictions associated with COVID-19 impeded execution of PICAL evaluations.

- Key informants reported that support provided to IPS offices has increased audit and control visits to health zones and facilities and improved health personnel accountability regarding use of medications and finances. IPS audits involve discussions with health personnel which help to enhance understanding of government rules and transparency. Lack of standard operating procedures for financial and administrative systems was mentioned as a major obstacle to improving transparency and oversight.
- Lastly, survey results showed health workers' overall satisfaction was relatively low in 2021. This was corroborated by the qualitative data, which indicated that most health workers continue to rely primarily on facility revenue and that those workers officially recognized by the government are receiving salary payments insufficient to meet their basic needs. Health provider working conditions are difficult and often lack adequate space and essential equipment. However, the 2021 survey data showed that health worker satisfaction improved significantly from 2019. Key informants stated that participating in USAID IHP's trainings was motivating to health workers, and that the program had planned other non-monetary interventions to improve satisfaction.

Service Quality

- The percentage of health facilities with an adequate number of midwives was one of two indicators that showed a statistically significant decrease. No health center surveyed had adequate numbers and mix of staff according to government guidelines, and the percentages of health centers with adequate numbers of staff within individual cadres were also persistently low. Continued focus on staffing levels is needed, particularly considering the nurses' strike of 2021, which may lead to further attrition of health workers. Key informants emphasized that attrition continues to be a major problem. They mentioned that IPs frequently recruit health personnel who have received USAID IHP supported training and politicians regularly use their influence to remove and appoint replacement health workers, disrupting IHP activities. USAID IHP's efforts to improve health worker satisfaction may be helpful in retaining staff but filling open positions should also be a priority.
- The second indicator that exhibited a statistically significant decrease overall was the presence of a private delivery room; this decrease occurred in both health centers and hospitals. Decreases were unequal across provinces. It is plausible that private delivery room space has been reassigned in response to other services increasing between 2019 and 2021; however, this is beyond the scope of the conclusions that can be drawn from the performance evaluation.
- While stockouts in tracer drugs may have been partially attributable to the COVID-19 pandemic, drug supply warrants close attention and monitoring. Further, although health centers continue to struggle with offering the minimum packages of preventive and curative services, there were increases in both indicators; in the case of preventive services, this increase was statistically significant. Within the minimum package, the two that were present at the lowest rates were mebendazole and zinc, which likely reflects the weaknesses in the medicine supply chain. A major constraint involves the dramatic decrease in the number of drugs USAID makes available for the program, which is particularly affecting maternal and child health program activities. Key informants reported that reductions in the supply of medications have negatively affected availability of medications in integrated community case management sites.
- Adequate levels of equipment, both basic and infection control-related, merit further attention, particularly in health centers. D4I is conducting a separate study of the medical equipment information system which will identify weaknesses in the system that may contribute to low levels of equipped facilities.

- Hospitals and health centers performed well in terms of having and displaying standard fee schedules, and qualitative data indicated that the program had encouraged this. However, key informants mentioned that flat-rate pricing requires several prerequisites not met in the DRC context and it is unclear whether health workers are adhering to posted fees. Furthermore, changes in the availability of medications are forcing health facilities to spend more money purchasing drugs and thus undermining the viability of standard fee schedules. Efforts should be made to promote the use of indigent fee schedules in both types of facilities, as approximately half of facilities did not have them. Long-acting contraception and SGBV services were offered in the majority of health centers and hospitals, and there were modest improvements in the availability of the contraceptive tracer drug (Depo-Provera) and the percentage of facilities offering youth-friendly family planning services. USAID IHP trained facility-based providers on application of modern methods and family planning counselling, including postpartum counselling during CPS sessions. The program supports close to 1,700 community workers distributing family planning commodities, including injectables. In Fiscal Year 4, injectables will be made available to women for self-administration.

In this evaluation, the midline survey was conducted only 18 months after the baseline survey, yet positive trends, some of which are statistically significant, were observed. While this component of the evaluation cannot determine whether USAID IHP *caused* any of the changes, in general the trends appear positive, particularly for leadership and governance indicators. Further, the COVID-19 pandemic disrupted the functioning of the health system overall, and USAID IHP's activities specifically. Key informants cited communication interruptions, particularly with the MOH, and the inability to conduct in-person monitoring, training, and technical assistance as major disruptors during the pandemic. This led to limiting or postponement of activities and had budgetary implications. Again, the fact that trends appear positive despite these challenges is encouraging.

Table 4.1. Summary of leadership and governance indicators

Indicator	Performance (2021)	Direction
Capacity to plan, implement, and monitor services		
Health zone offices with a source of electricity	Mid-Strong	↑
Health zone offices with cellular telephone availability	Mid-Poor	↑*
Health zone offices with internet connectivity	Strong	↑*
Health zone offices' PICAL participation and score		
Health zone offices' participation in PICAL assessments	Poor	↑*
Supervision		
Health zone offices in communication with CODESAs at least monthly	Strong	↑*
Provincial health offices receiving higher-level supervision visits	Mid-Strong	↑
Health zone offices receiving higher-level supervision visits	Strong	↑*
Hospitals receiving higher-level supervision visits within the last completed calendar month	Mid-Poor	↑
Health centers receiving higher-level supervision visits within the last completed calendar month	Mid-Strong	↑
Health zone offices' communication with CODESAs		
Health facilities that participate in orientation of CODESA members	Strong	N/A
Health facilities' report of CODESA involvement in operations/management decisions	Mid-Strong	N/A
Provincial health office attendance at technical meetings and communications frequency with other health offices		
Provincial health offices' attendance at technical meetings	Strong	→
Health zone offices' communication with other health zone offices	Strong	↑*
Health zone offices' participation in Comités de Gestion (COGE) provincial meetings	Strong	↑
Health zone management of mutuelles		
Health zone offices tracking of mutuelles	Mid-Poor	↓*
Timing of health office reporting their most recent MAPEPI case		
Provincial health office reporting of MAPEPI cases within 24 hours	Mid-Poor	→
Health zone offices' report of most recent MAPEPI case within 24 hours	Strong	↑
Strengthened capacity of CSOs and community structures to provide health system oversight		
CODESA implementation of community scorecard activities	Mid-Poor	N/A
CODESA access to patient feedback and/or information about facility malfeasance	Mid-Strong	N/A
Health worker satisfaction		
Health workers who report being generally satisfied with their job	Mid-Poor	↑*

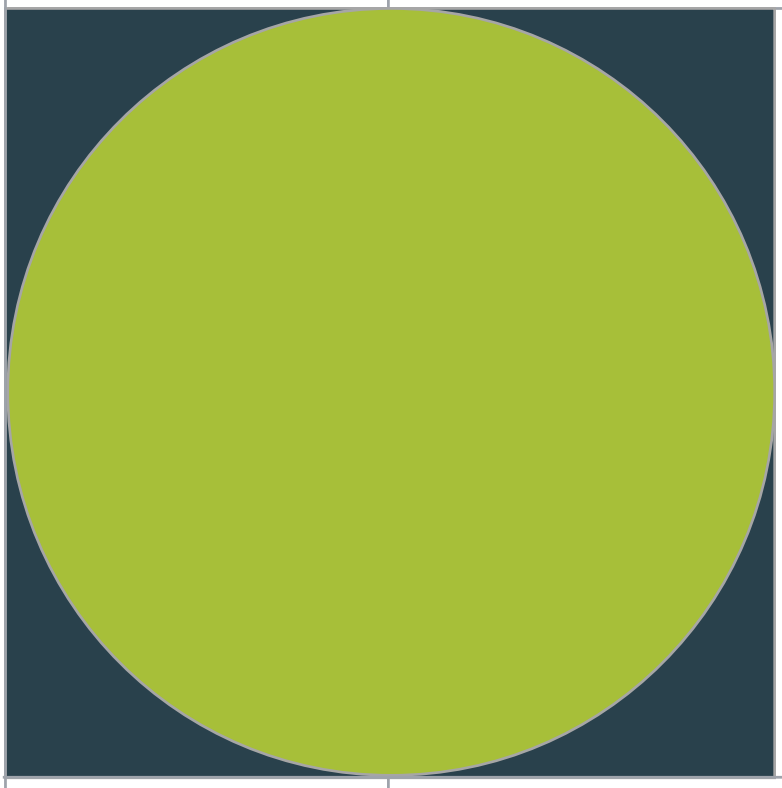
Notes: Strong = 75-100% of respondents; Mid-Strong = 50-74% of respondents; Mid-Poor = 25-49% of respondents; Poor = 0-24% of respondents overall in 2021. Arrows indicate the direction of change between 2019 and 2021 in the matched panel. * Indicates that the change was statistically significant at $p<0.1$.

Table 4.2. Summary of service quality indicators

Indicator	Performance (2021)	Direction
Service readiness		
Health centers offering the Ministry of Health's minimum package of preventive services	Mid-Poor	↑*
Health centers offering the Ministry of Health's minimum package of curative services	Poor	↑
Hospitals capable of malaria microscopy	Strong	↑
Hospitals capable of stool direct microscopic exam	Strong	↓
Hospitals capable of hemoglobin testing	Strong	→
Hospitals capable of white blood cell count	Strong	↑
Hospitals capable of leukocyte formula	Strong	↑*
Hospitals capable of sedimentation rate	Strong	↑
Hospitals capable of blood type crossmatch	Strong	→
Hospitals capable of Ziehl stain	Strong	→
Hospitals capable of gram stain	Mid-Strong	↓
Hospitals capable of urine analysis	Strong	→
Hospitals capable of blood glucose	Strong	↑
Hospitals capable of HIV testing	Strong	→
Hospitals capable of syphilis testing	Strong	↑*
Hospitals capable of pregnancy testing	Strong	→
Hospitals capable of hepatitis testing	Strong	↑*
Hospitals with x-ray machines	Strong	↑
Hospitals with ultrasound machines	Strong	↑
Hospitals with autoclave equipment	Strong	↑
Health centers with a source of electricity	Poor	↑
Hospitals with a source of electricity	Mid-Strong	↑
Health centers with improved sanitation	Strong	↑
Hospitals with improved sanitation	Strong	→
Health centers with a private delivery room	Mid-Poor	↓*
Hospitals with a private delivery room	Mid-Poor	↓*
Health centers with all six tracer drugs in stock on the day of the survey	Poor	↓
Hospitals with all six tracer drugs in stock on the day of the survey	Mid-Poor	↑*
Health centers with all basic equipment on the day of the survey	Mid-Poor	↑*
Hospitals with all basic equipment on the day of the survey	Strong	↓
Health centers with all 11 pieces of infection control equipment	Poor	→
Hospitals with all 11 pieces of infection control equipment	Poor	↑*
Health centers with comprehensive SGBV services	Mid-Poor	↑
Hospitals with comprehensive SGBV services	Strong	↑
Health centers offering long-acting contraceptive method(s)	Strong	↑
Hospitals offering long-acting contraceptive method(s)	Strong	↓

Indicator	Performance (2021)	Direction
Health centers with a health worker trained in youth-friendly family planning services	Mid-Poor	↑*
Hospitals with a health worker trained in youth-friendly family planning services	Mid-Poor	↓
Health centers with family planning information and resources specific to youth	Mid-Poor	↑*
Hospitals with family planning information and resources specific to youth	Mid-Poor	↓
Health centers capable of performing male sterilization	Poor	→
Health centers capable of performing female sterilization	Poor	→
Health centers capable of administering intra-uterine devices	Poor	→
Health centers capable of inserting and removing implants (Norplant, Jadelle, Sino-Implant II)	Poor	→
Health centers capable of inserting and removing implants (Implanon)	Poor	↑
Hospitals capable of performing male sterilization	Poor	→
Hospitals capable of performing female sterilization	Poor	↓
Hospitals capable of administering intra-uterine devices	Poor	↑
Hospitals capable of inserting and removing implants (Norplant, Jadelle, Sino-Implant II)	Poor	↓
Hospitals capable of inserting and removing implants (Implanon)	Poor	↑
Service delivery		
Health centers with adequate number of nurses	Mid-Poor	↑
Health centers with adequate numbers of midwives	Poor	↓*
Health centers with adequate numbers of laboratory technicians	Poor	↑
Health centers with adequate numbers of maintenance technicians	Poor	↑*
Health workers follow national guidelines in prescribing contraception in clinical vignette	Mid-Poor	↑
Health centers with a standard fee schedule	Strong	↑
Health centers with an indigent fee schedule	Mid-Strong	↑
Hospitals with a standard fee schedule	Strong	↑
Hospitals with an indigent fee schedule	Mid-Strong	→

Notes: Strong = 75-100% of respondents; Mid-Strong = 50-74% of respondents; Mid-Poor = 25-49% of respondents; Poor = 0-24% of respondents overall in 2021. Arrows indicate the direction of change between 2019 and 2021 in the matched panel. * Indicates that the change was statistically significant at p<0.1. Indicators related to health worker attitudes (Tables 3.22 and 3.23) are omitted as they are contextual and cannot be categorized as "strong versus poor performance." Vignettes on child health and antenatal care are not directly comparable across survey rounds and so are omitted from this table.



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