

USAID Integrated Health Program Midline Evaluation

Results from the 2019 and 2021 health facility surveys

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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. 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. A full evaluation report that includes results from qualitative analyses is forthcoming.

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Abbreviations

ANC	antenatal care
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
CSO	community service organization
D4I	Data for Impact
DHIS2	District Health Information Software, version 2
DRC	Democratic Republic of the Congo
FP	family planning
HA	health area
HC	health center
HCD	human-centered design
ICCM	integrated community case management
IHP	Integrated Health Program
IPT	intermittent preventive treatment
MAPEPI	maladies à potentiel épidémique [diseases with epidemic potential]
MOH	Ministry of Health
NGO	nongovernmental organization
PICAL	Participatory Institutional Capacity Assessment and Learning Index
PP	percentage point
SBC	social and behavior change
SGBV	sexual and gender-based violence
TB	tuberculosis
USAID	United States Agency for International Development
WASH	water, sanitation, and hygiene

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 over the study period, particularly internet access. 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.
- 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.
- 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.
- Health facility communication with CODESAs appeared to be strong. CODESAs also had relatively good access to patient feedback.

- CODESAs appeared not to have widely implemented the community scorecard; however, as the scorecard is a new intervention this is to be expected. Similarly, health zone participation in the PICAL assessment, another intervention that has been introduced by the program, appeared low, but has increased significantly over time as USAID IHP is implemented.
- Lastly, although health workers' overall satisfaction was relatively low in 2021, it improved significantly since 2019.

Service quality

- 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.
- 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.
- While stock-outs in tracer drugs may have been partially attributable to the COVID-19 pandemic, stock-outs warrant 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.
- Adequate levels of equipment, both basic and infection control-related, merits further attention, particularly in health centers.
- Hospitals and health centers performed well in terms of having and displaying standard fee schedules. Efforts could 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.
- In the family planning vignette, less than 40 percent of health workers said that they would prescribe contraception to the hypothetical patient, citing the facts that she had no children, was married, and that her husband was not present as reasons. There were no significant differences between male and female health workers in their likelihood to prescribe, nor were there differences by year. A very small percentage asked the patient about her relationship with her husband or experience with SGBV.

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.

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	↓
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."

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 Policy¹, 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. Findings from the qualitative data and the analysis of DHIS2 data will be presented in the forthcoming midline report.² Ethical approval for

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

² The impact evaluation aspect of the study addresses Research Question 2, which investigates the extent to which changes in healthy behaviors are attributable to USAID IHP. The impact of USAID IHP will be based on a difference-in-differences with propensity score matching model, a nonexperimental design, using data from the DHIS2. Findings from the impact evaluation will be presented in a separate report.

this work was given by the Institutional Review Boards of Tulane University and the Kinshasa School of Public Health.

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.

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.

Limitations

The analyses presented in this report have several limitations. Although the closed panel design 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 will be included in the full midline report.

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

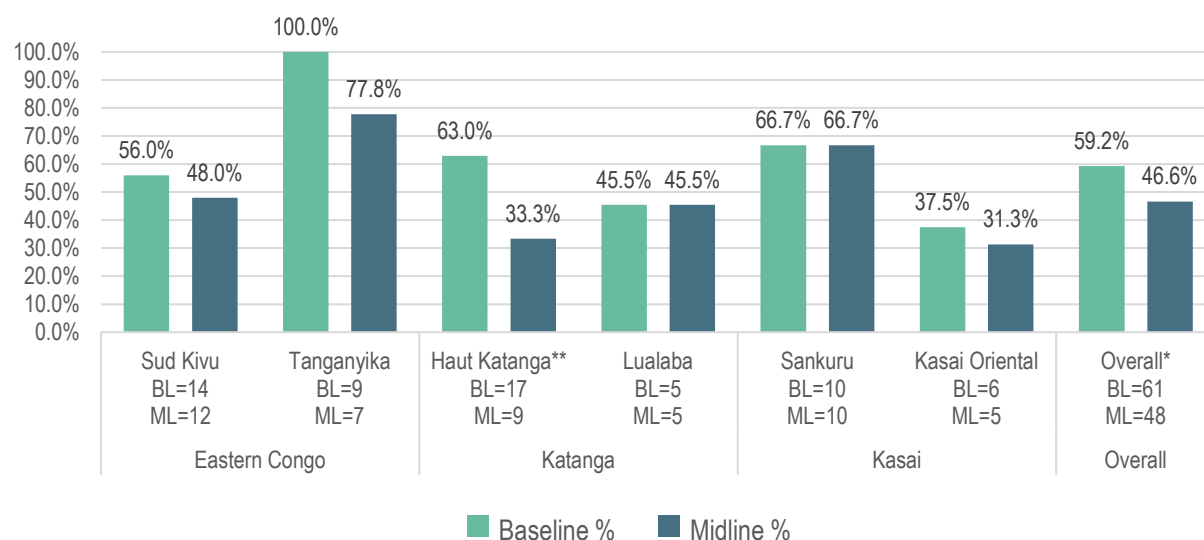
For the health zone offices, data collectors were instructed to administer the survey to the highest-ranking official present. At baseline, nearly 60 percent of respondents self-reported as the head of the health zone office, whereas only 46.6 percent of respondents reported this at the time of the midline 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†				PP difference		Cross-section	
		2019		2021				2021	
		(N = 103)		(N = 103)				(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†



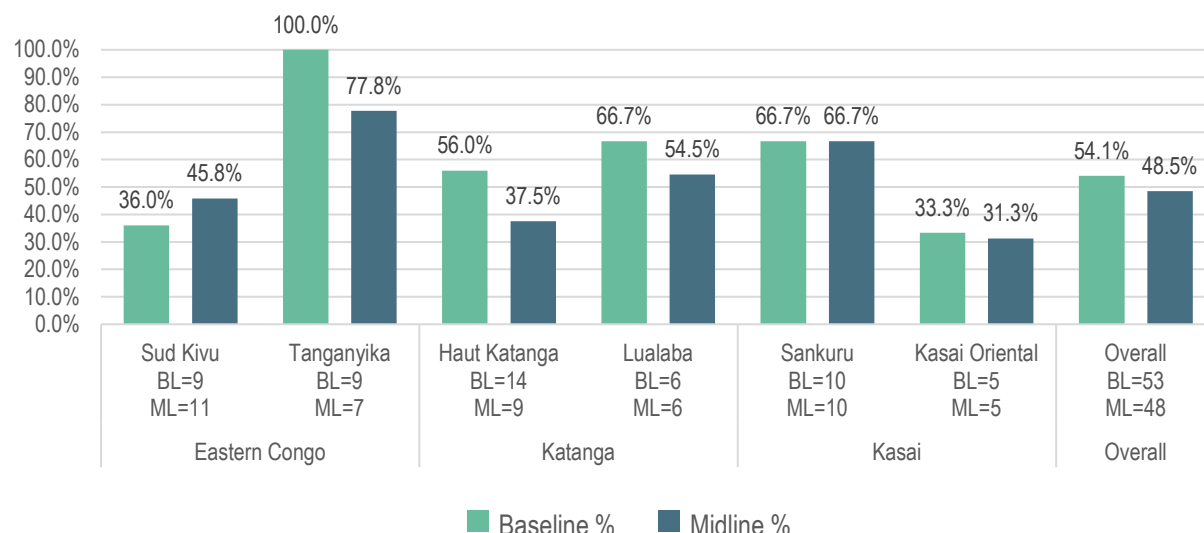
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$

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

		Matched panel†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 98)		(N = 99)						(N = 167)	
		n	Percent	n	Percent					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).

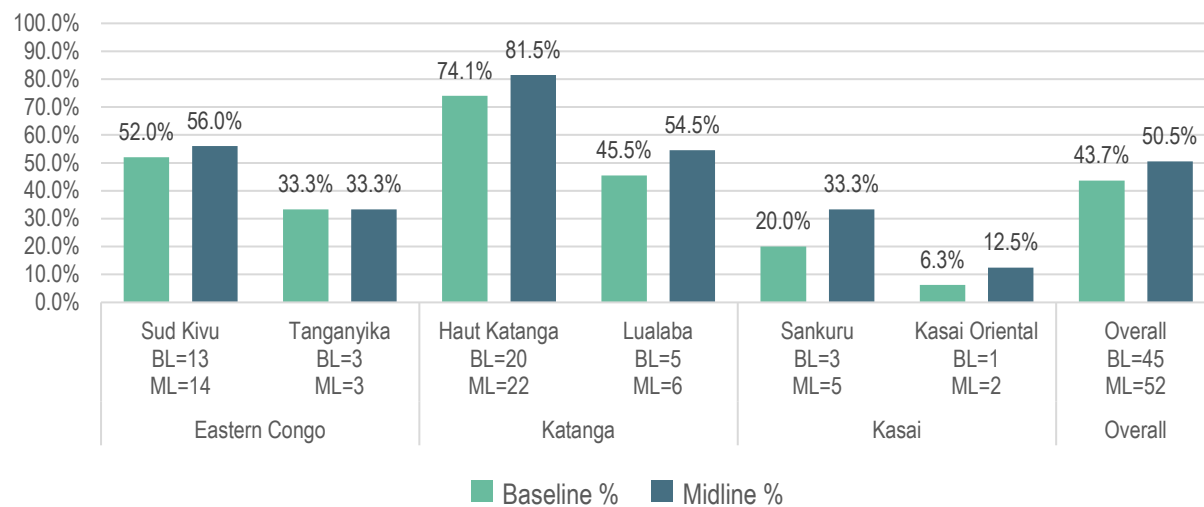
Table 2.3. Health zone offices with any source of electricity, by province and survey round

		Matched panel†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 103)		(N = 103)						(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

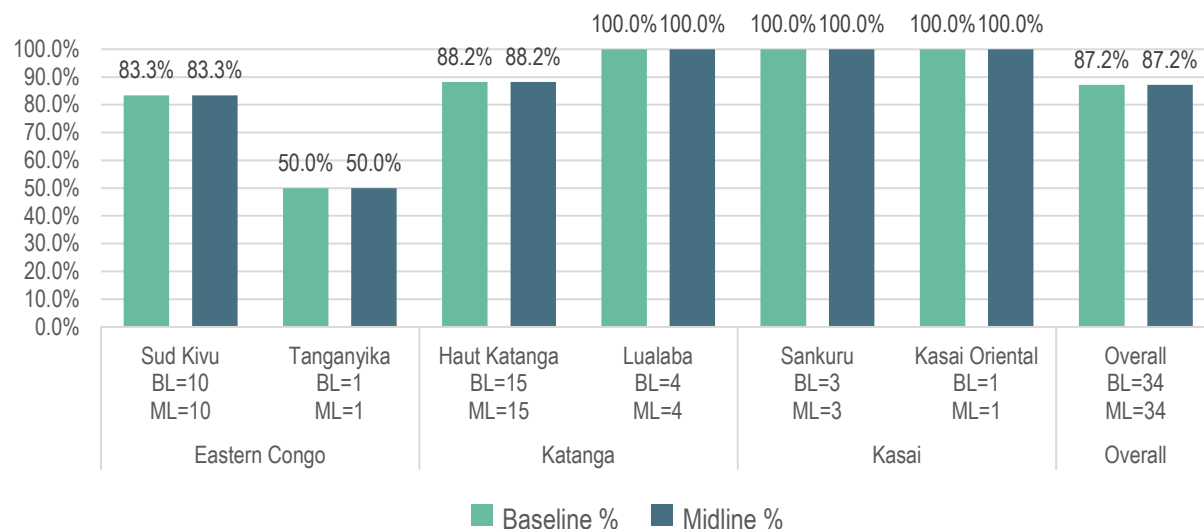
Table 2.4. Health zone offices with functioning electricity on the day of the survey, by province and survey round

		Matched panel†						Cross-section	
		2019		2021				2021	
		(N = 39)		(N = 39)				(N = 95)	
		n	Percent	n	Percent			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

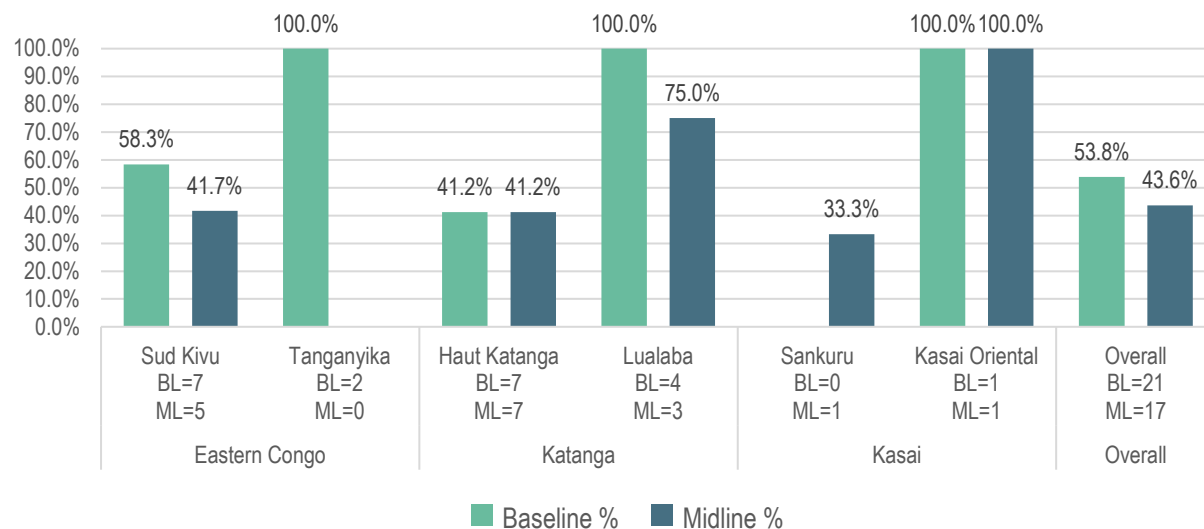
Table 2.5. Health zone offices with eight hours of electricity among those offices with functional electricity, by province and survey round

		Matched panel†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 39)		(N = 39)						(N = 95)	
		n	Percent	n	Percent					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

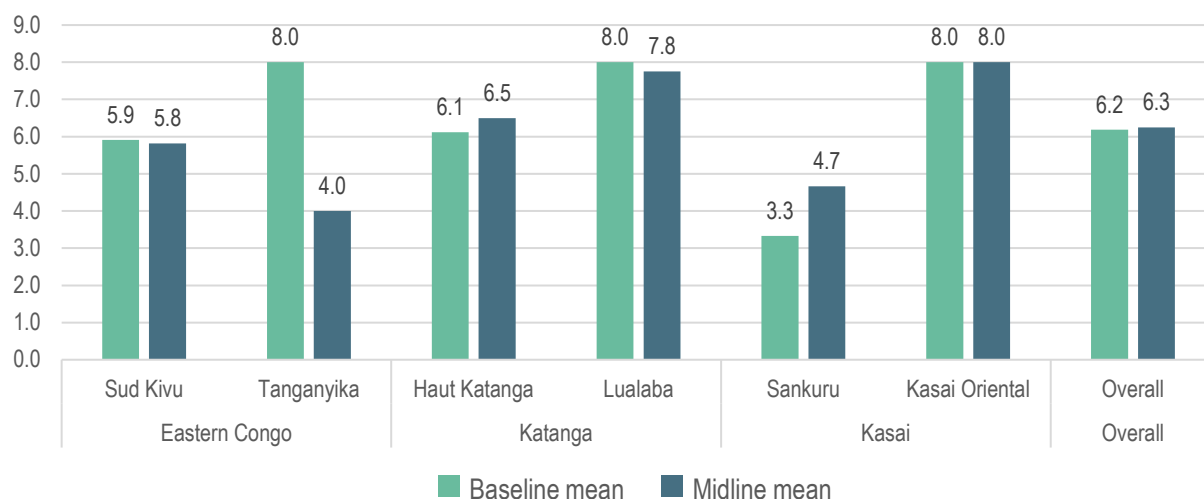
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

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

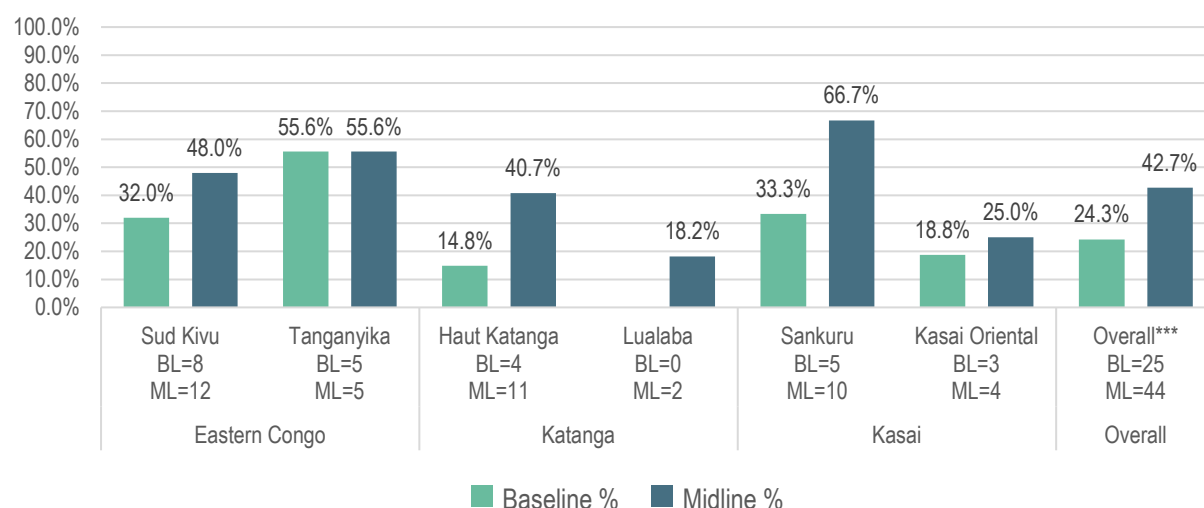
A reliable means of communication is critical for health zone offices to carry out their oversight and reporting functions. Table 2.6 and Figure 2.7 display the percentage of health zone offices by province that had a cellular telephone or an Internet connection (either provided by the office or employees' 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†				PP difference		Cross-section	
		2019		2021				2021	
		(N = 103)		(N = 103)				(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).

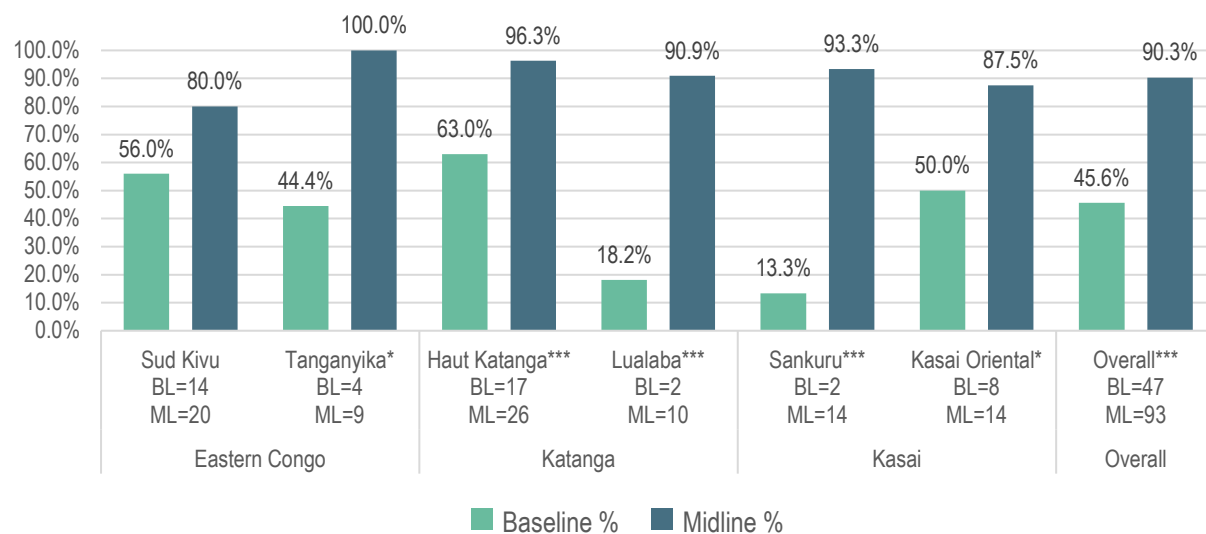
Table 2.7. Internet connectivity at health zone offices, by province and survey round

		Matched panel [†]						Cross-section	
		2019		2021				2021	
		(N = 103)		(N = 103)				(N = 175)	
		n	Percent	n	Percent			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

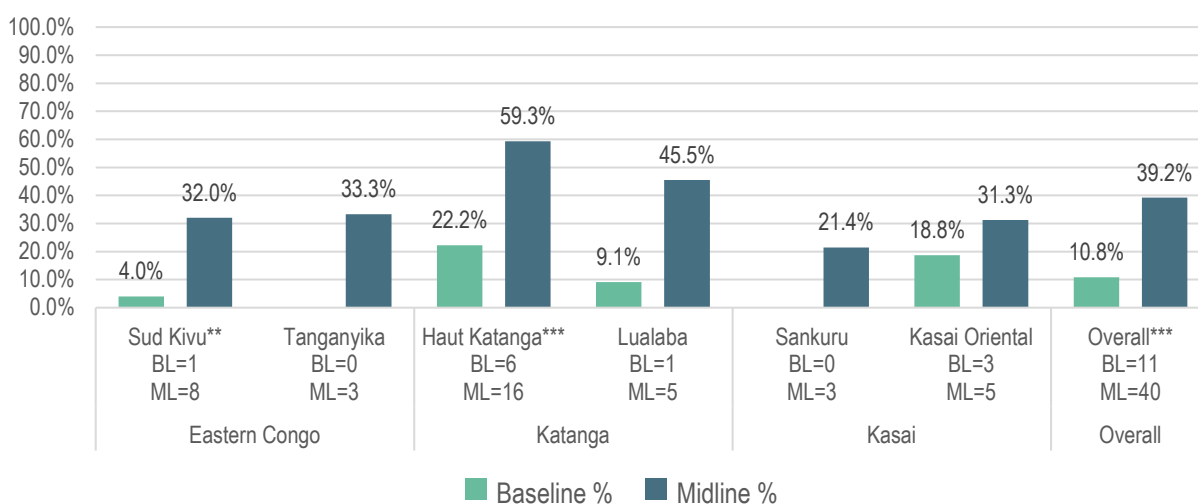
Table 2.8. Internet connectivity for at least eight hours per day at health zone offices, by province and survey round

		Matched panel†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 102)		(N = 102)						(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

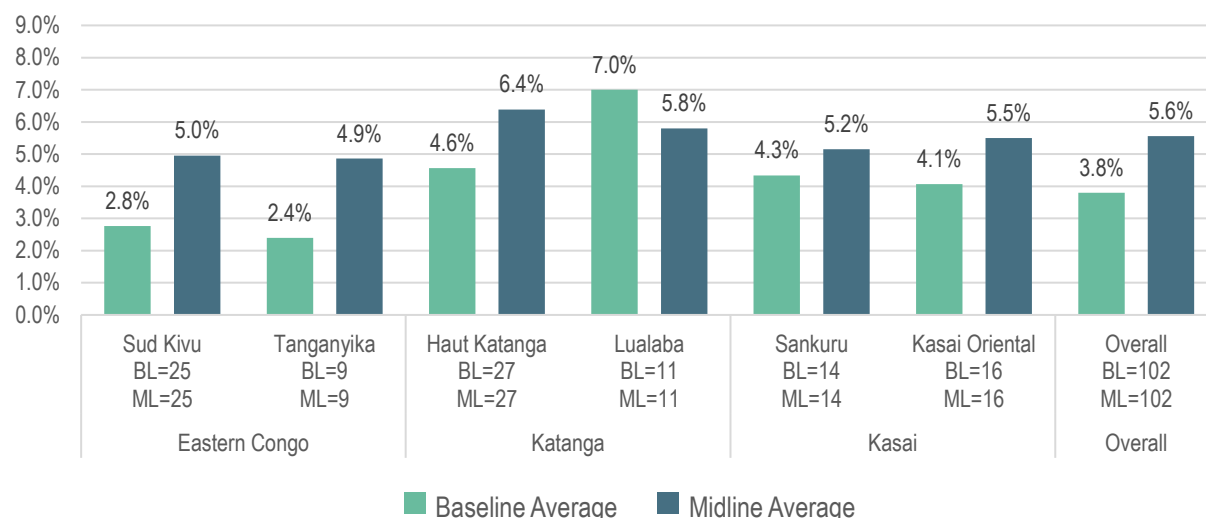
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

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†



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."

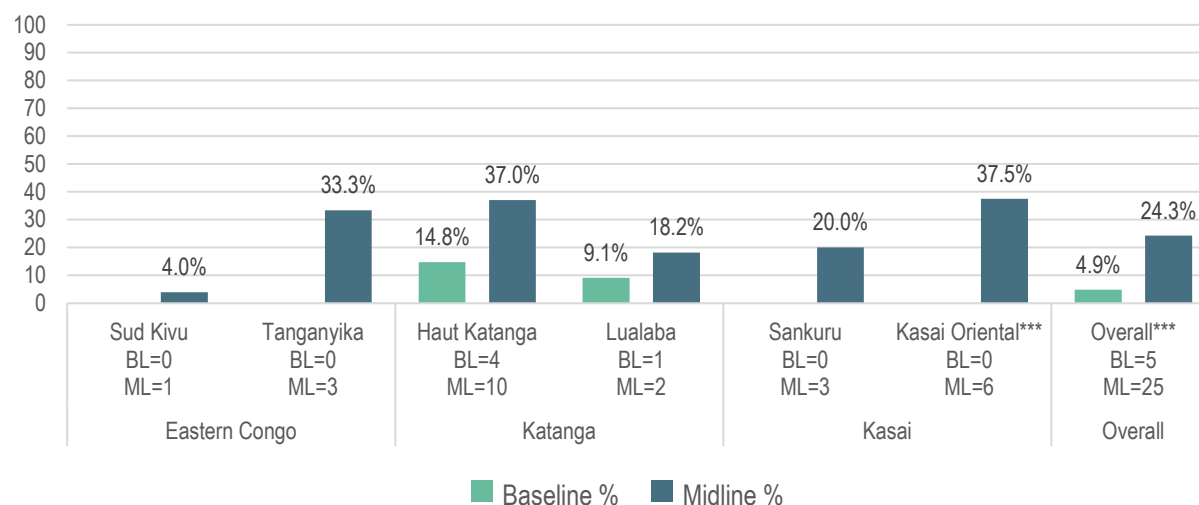
The survey question did not detail how to report the PICAL score, so it is not clear whether scores reported were the facilities' composite score for all four dimensions of capacity that were assessed, or for a sub-set of dimensions. The maximum possible score for the full set of dimensions is 170.

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

		Matched panel†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 103)		(N = 103)						(N = 175)	
		n	Percent	n	Percent					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†



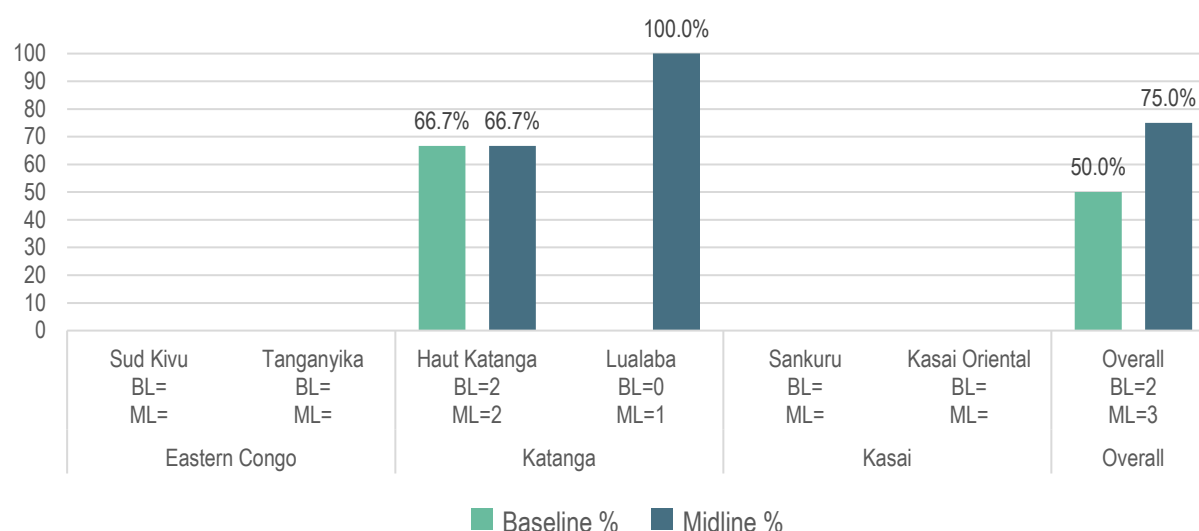
†Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

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†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 4)		(N = 4)						(N = 42)	
		n	Percent	n	Percent					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

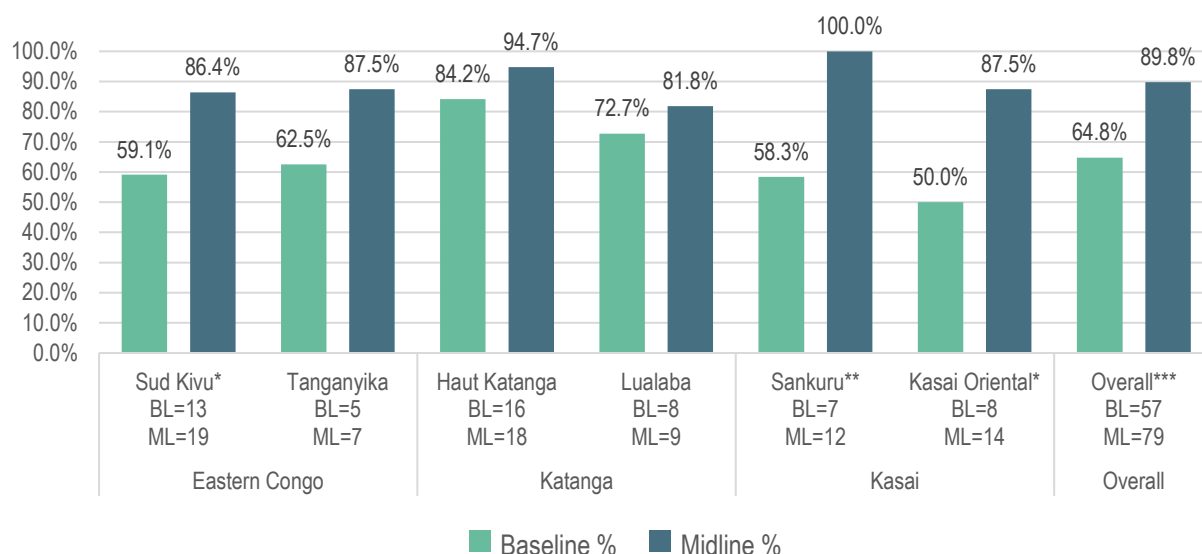
†Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental.

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

		Matched panel†				PP difference		Cross-section	
		2019		2021				2021	
		(N = 88)		(N = 88)				(N = 167)	
		n	Percent	n	Percent			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†				PP differencep-value		Cross-section	
		2019		2021				2021	
		(N = 110)		(N = 110)				(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†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 323)		(N = 323)						(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.

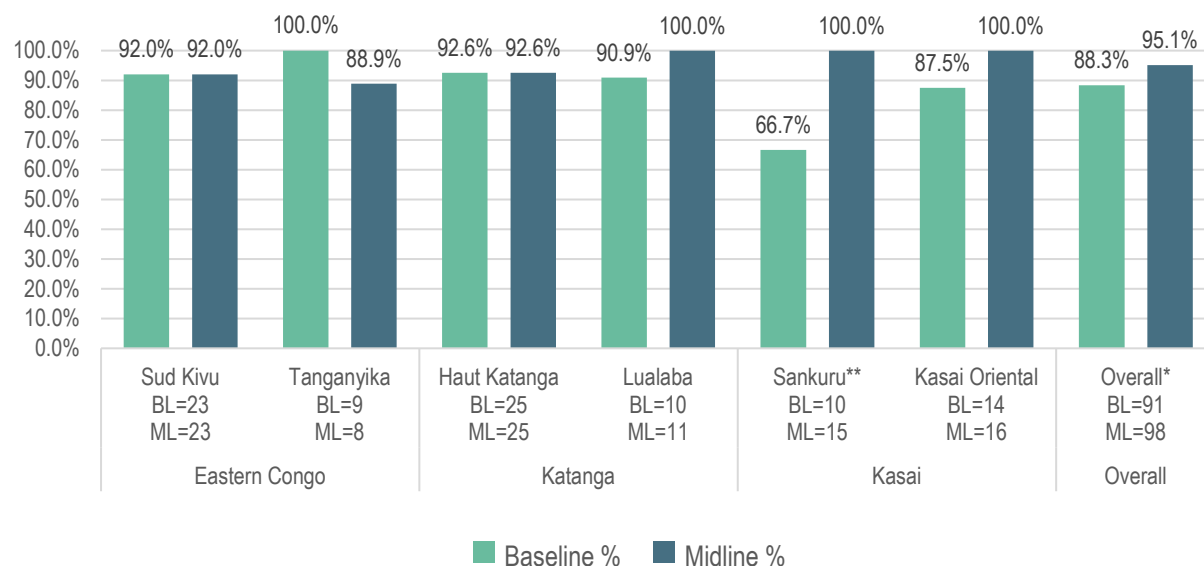
Table 2.15. Health zone office communication with CODESAs: at least monthly frequency, by province and survey round

		Matched panel†						Cross-section	
		2019		2021				2021	
		(N = 103)		(N = 103)				(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

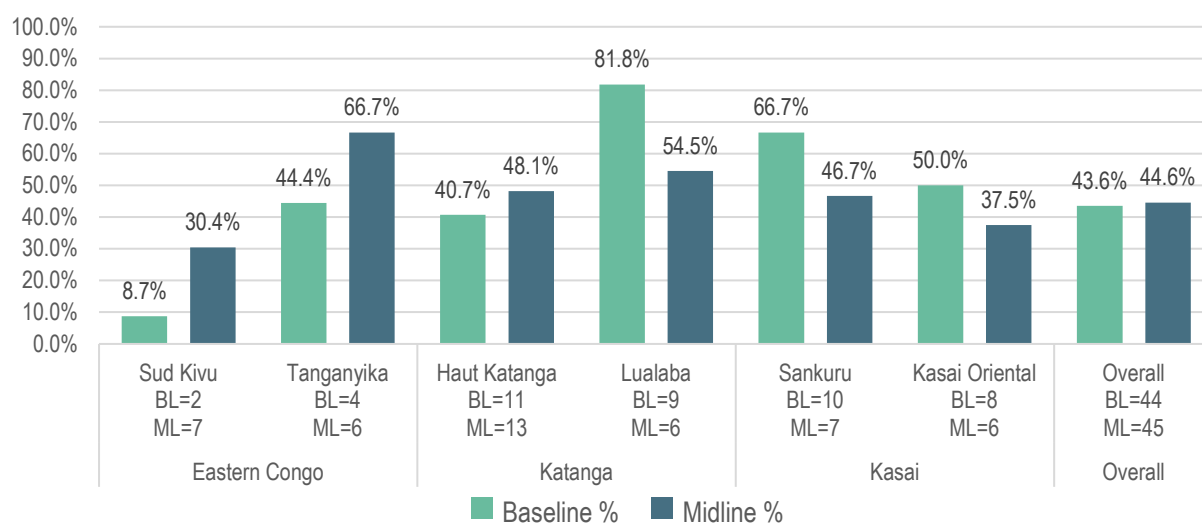
A binary classification was established for the frequency of communication between health zone offices and other health zone offices: at least monthly versus greater than monthly. Among the 101 matched health zone office pairs that were surveyed at both baseline and midline, only a one percentage point 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†				PP difference		p-value		Cross-section	
		2019		2021						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

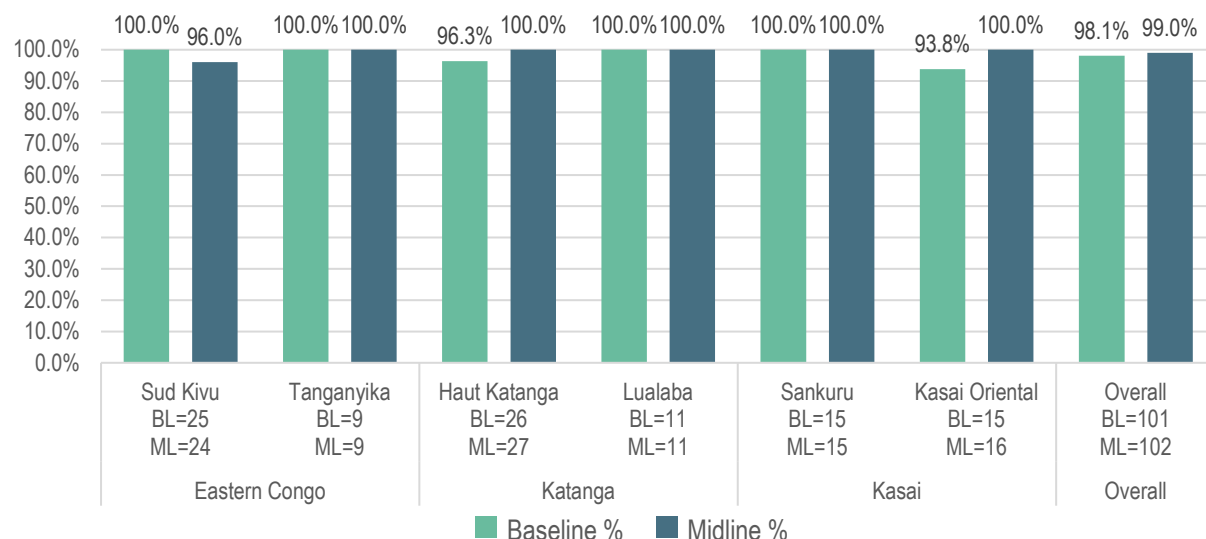
Virtually all health zone offices participated in COGE meetings at both survey time points (Table 2.22 and Figure 2.16) and, as such, no significant differences were noted between the surveys. At the time of the midline survey, seven of nine provinces reported 100 percent health zone office representation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

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

		Matched panel†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 103)		(N = 103)						(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).

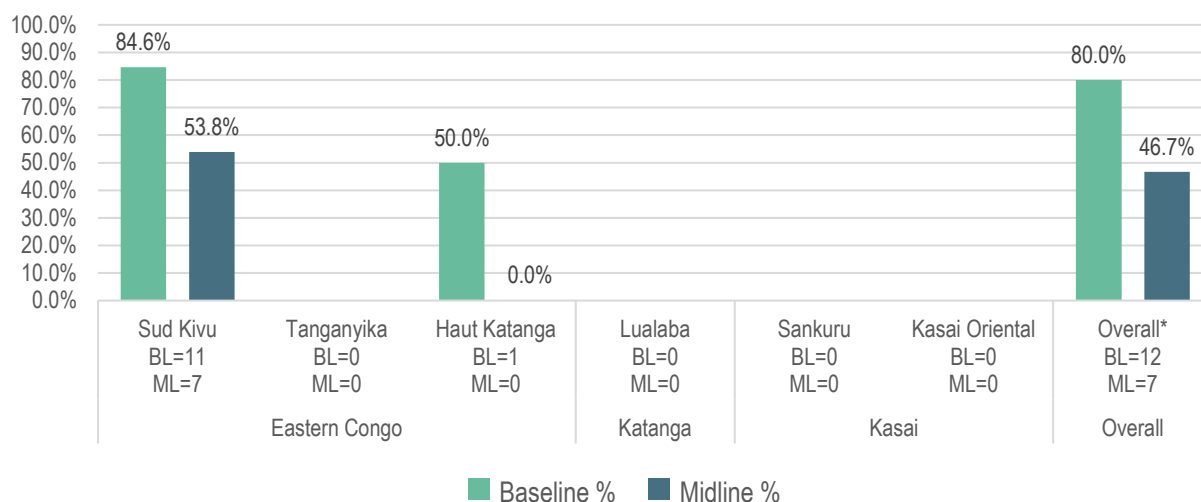
Table 2.23. Health zone office tracking of *mutuelles*, by province and survey round

		Matched panel†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 15)		(N = 15)						(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

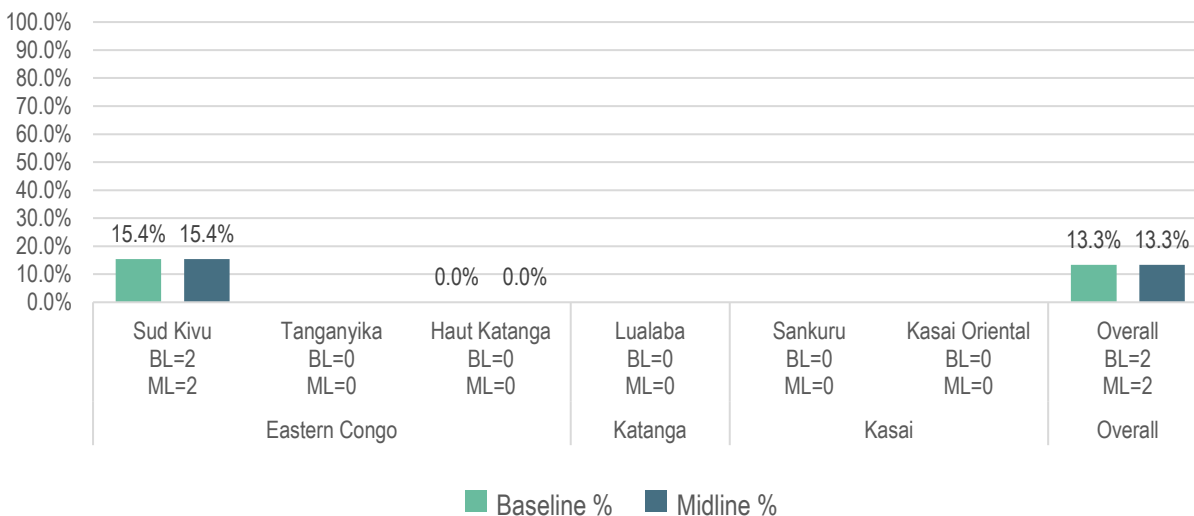
Table 2.24. Health zone office tracking of *mutuelle* members, by province and survey round

		Matched panel†						Cross-section	
		2019		2021		PP difference	p-value	2021	
		(N = 15)		(N = 15)				(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

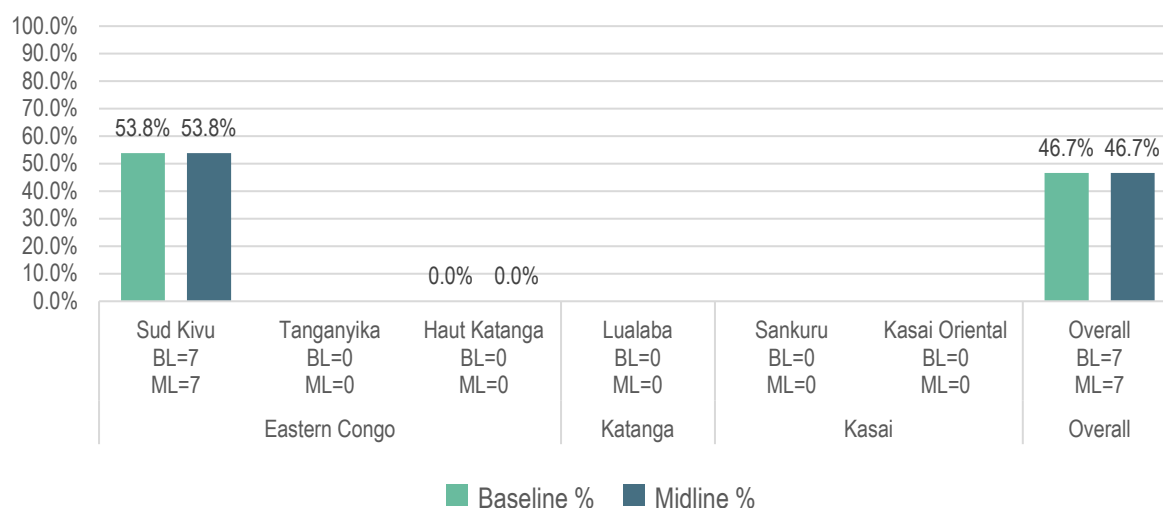
Table 2.25. Health facilities seeking permission from health zone offices for service fee reductions, by province and survey round

		Matched panel†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 15)		(N = 15)						(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

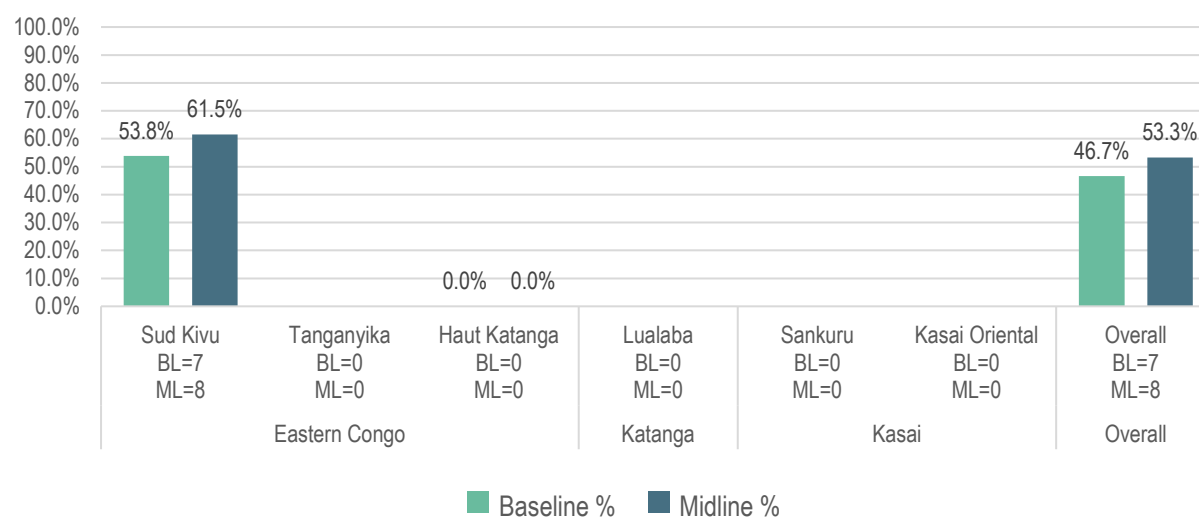
Table 2.26. Health zone office supervision of *mutuelles*, by province and survey round

		Matched panel†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 15)		(N = 15)						(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).

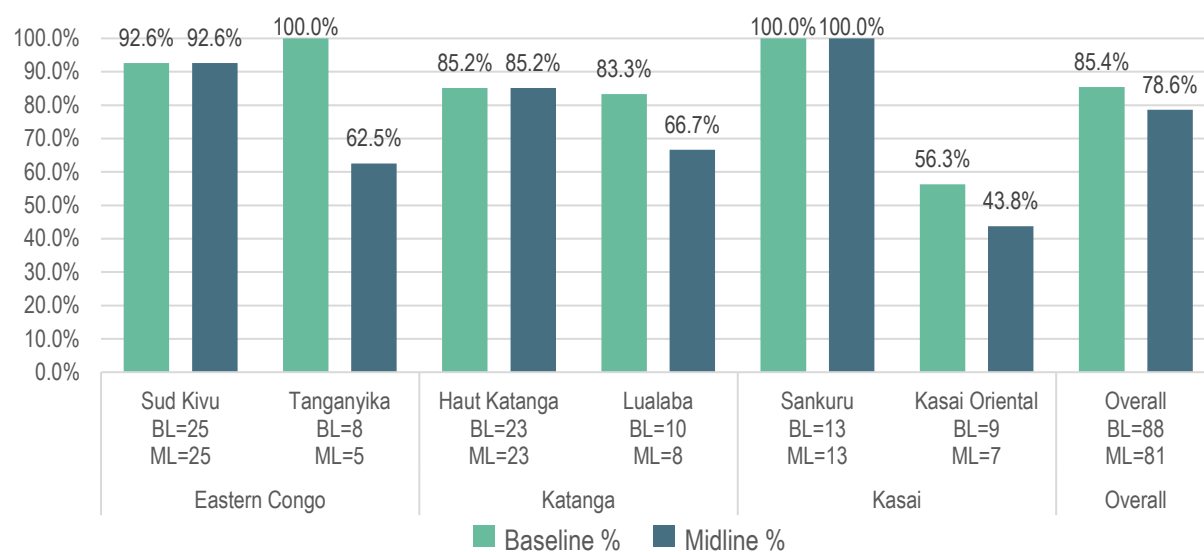
When asked about common reasons why MAPEPI reports may not be submitted on time, most health zone offices cited the lack of communication means (no cell or Internet) or lack of transportation. Overall, 53.4 percent of health zone offices cited the lack of communication at baseline, which dropped to 46.6 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

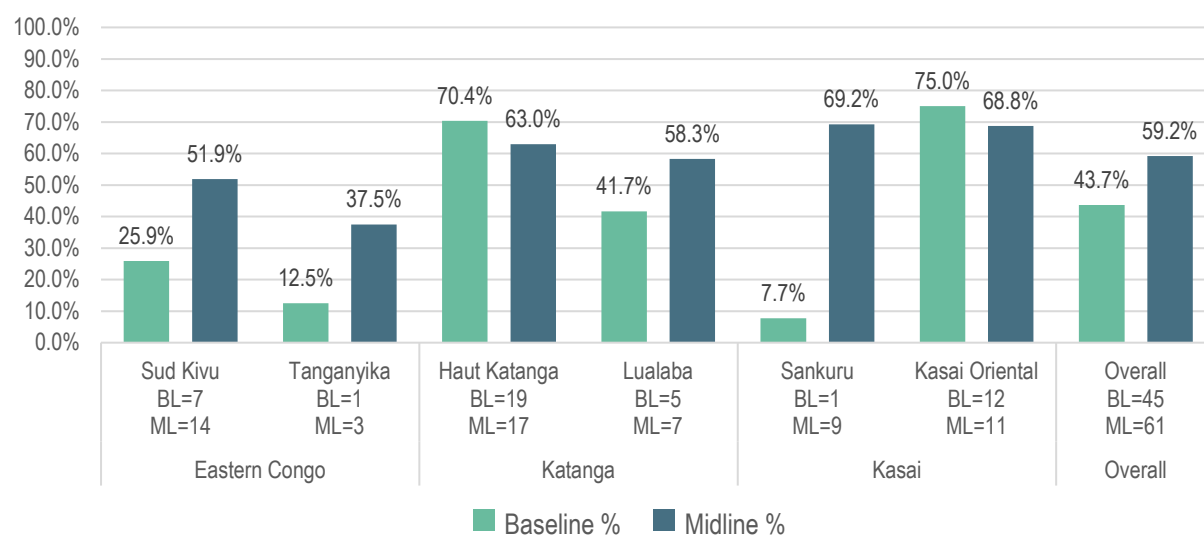
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental.

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



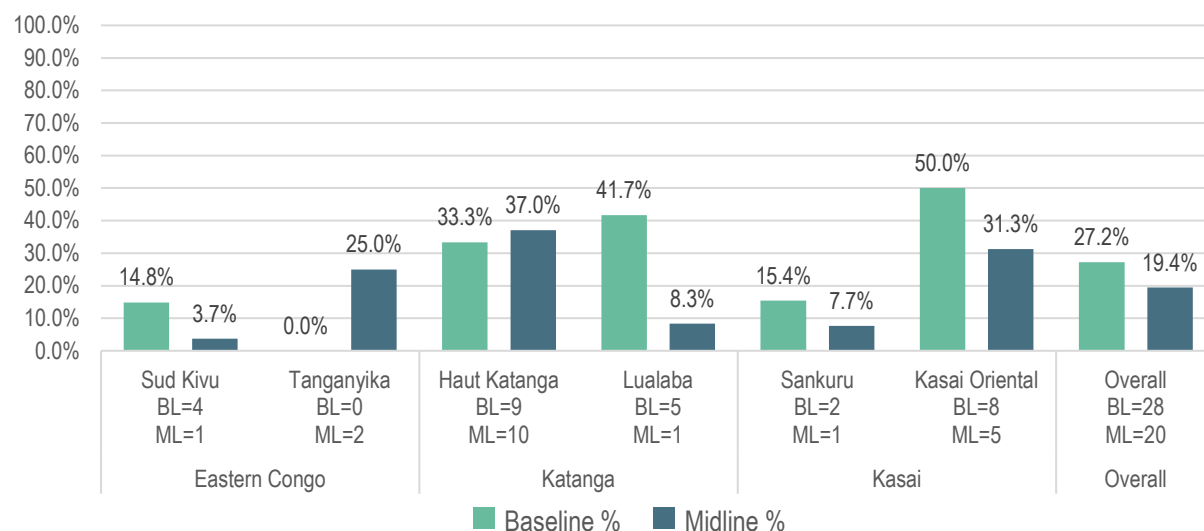
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental.

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†



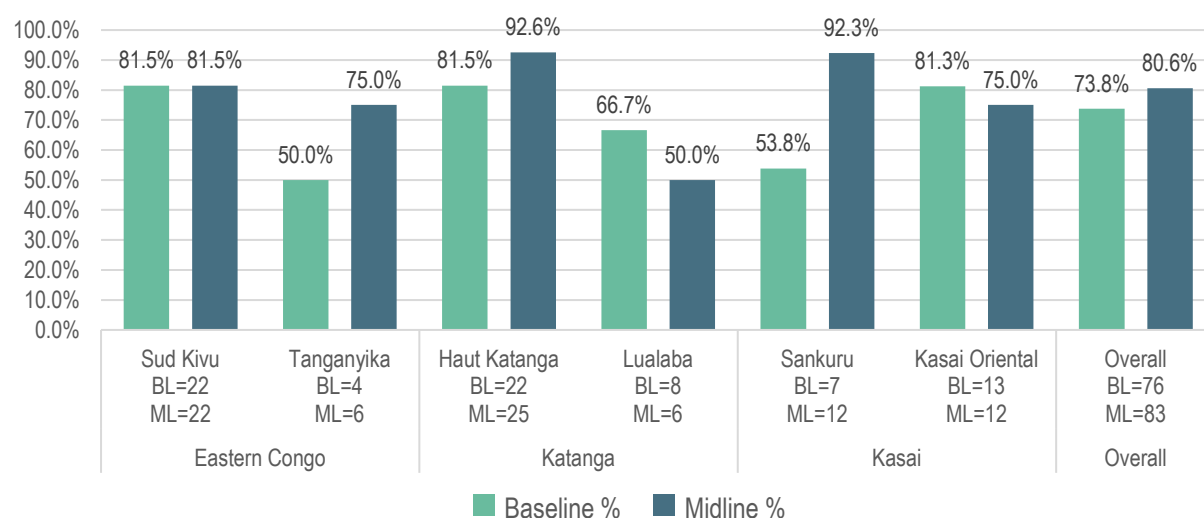
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental.

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

		Matched panel†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(N = 103)		(N = 103)						(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†



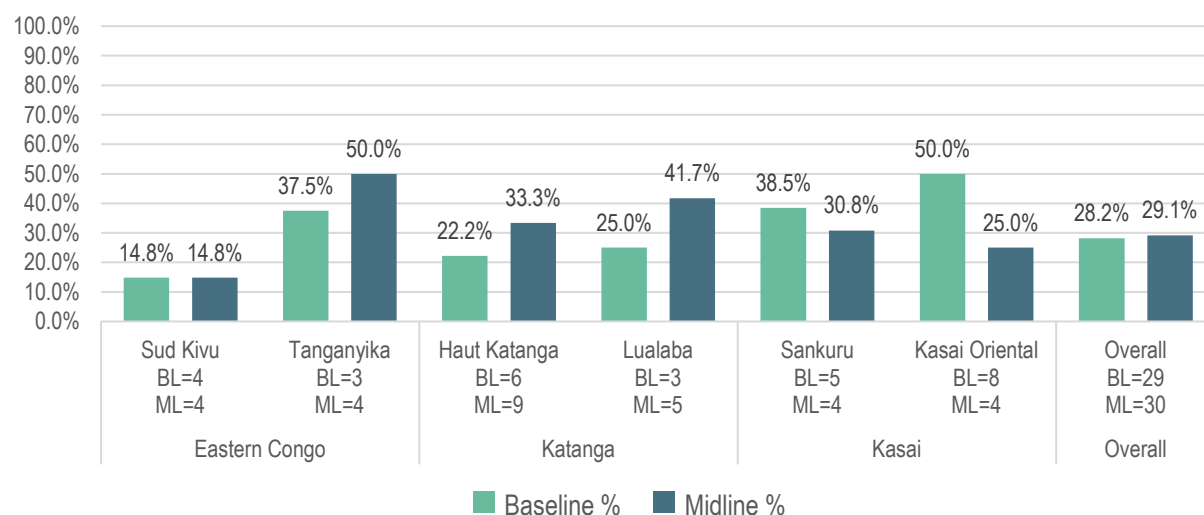
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

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

		Matched panel†				PP difference		Cross-section	
		2019		2021				2021	
		(N = 103)		(N = 103)				(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†



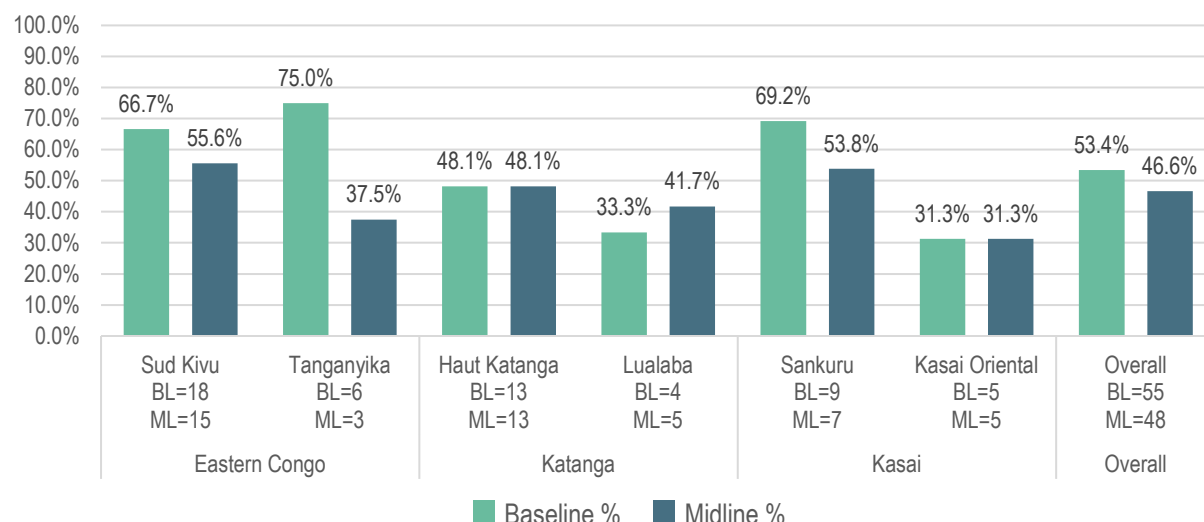
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01

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

		Matched panel†				PP difference p-value		Cross-section	
		2019		2021				2021	
		(N = 103)		(N = 103)				(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 [†]				PP difference		Cross-section	
		2019		2021				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		2021			
	(n=311)		(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 [†]				PP difference		Cross-section	
	2019		2021				2021	
	(n=311)		(n=311)				(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		2021			
	(n=236)		(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		2021		PP difference	p-value	2021	
	(n=236)		(n=236)				(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		2021		PP difference	p-value
	(n=102)		(n=102)			
	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*

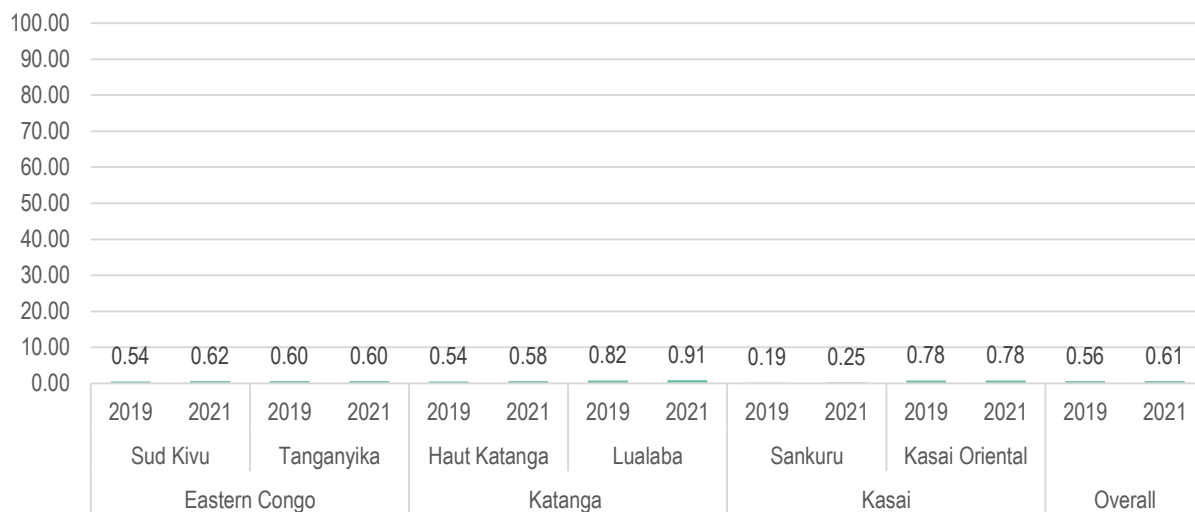
† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at *p<0.1, **p<0.05, and ***p<0.01.

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.

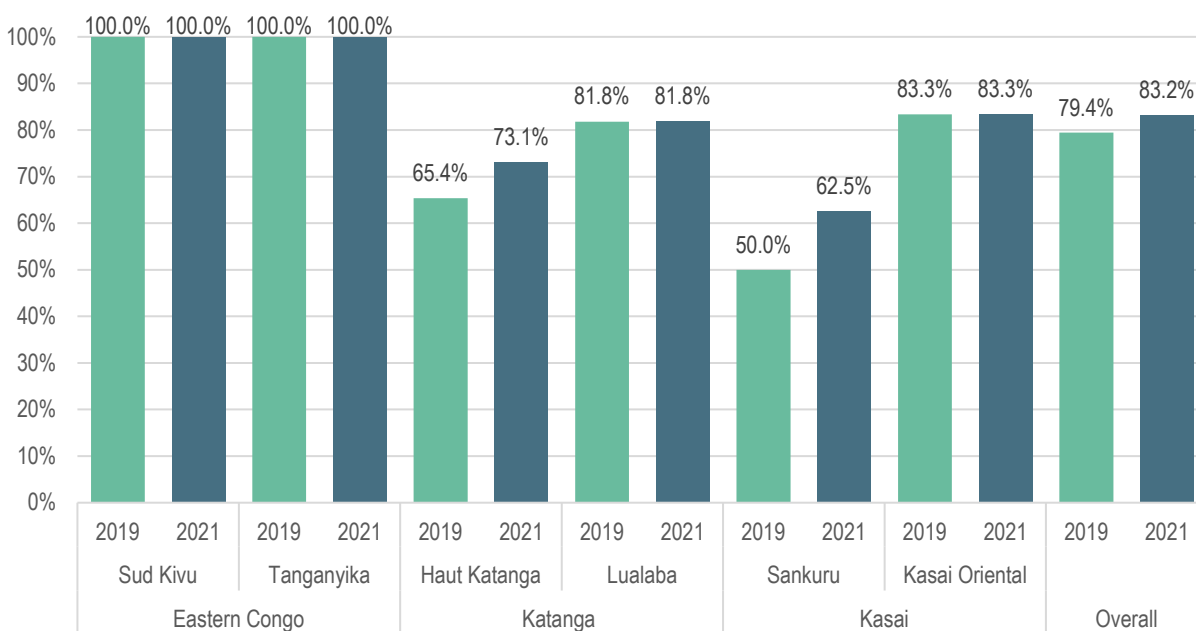
Figure 3.1. Hospitals with X-ray machines (MOH minimum package of complementary services), by province and survey round†



† 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.

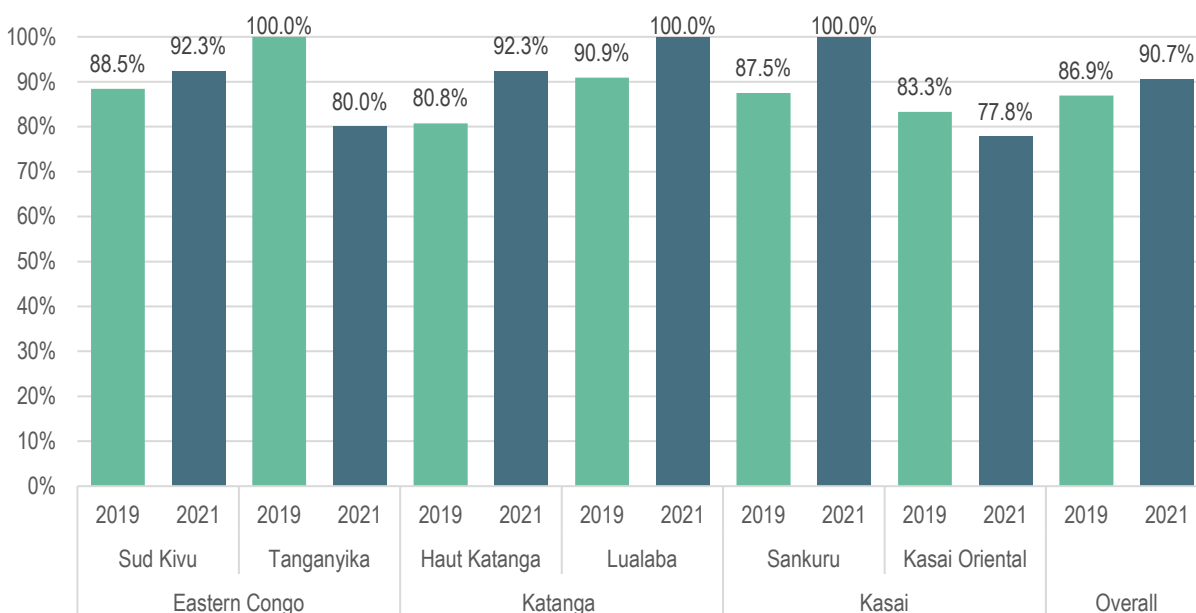


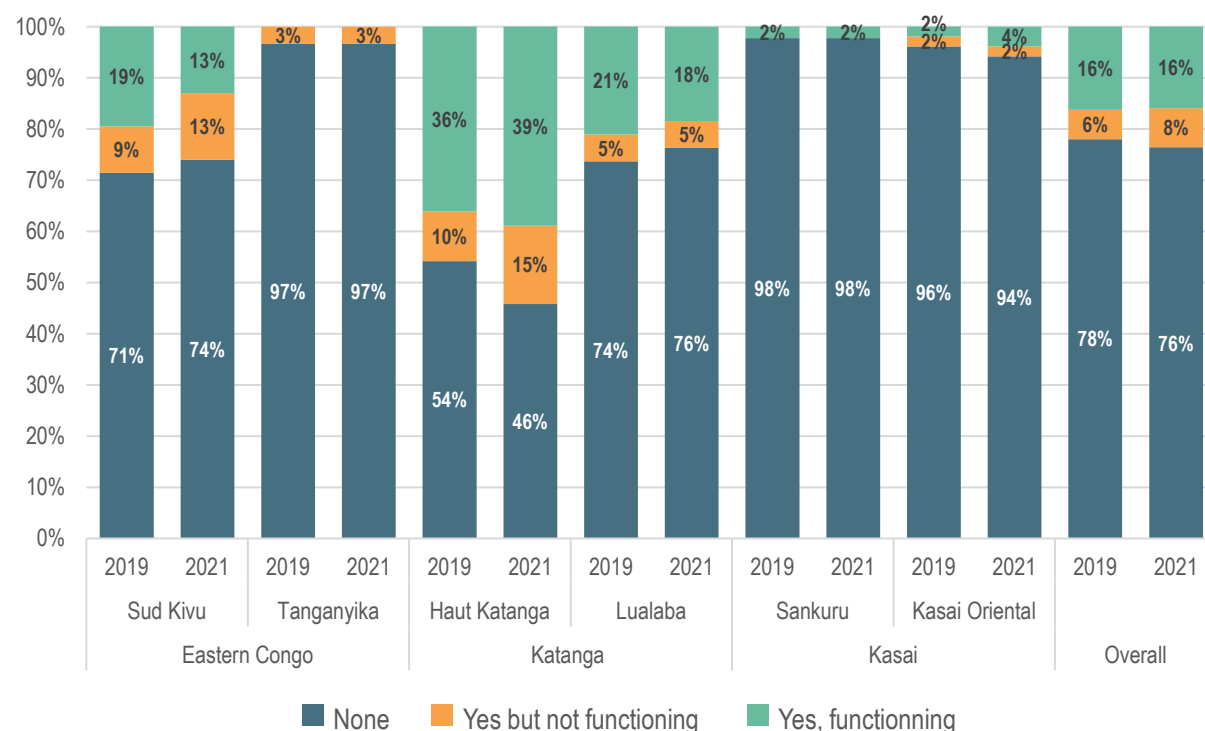
Figure 3.3. Hospitals with autoclave equipment (MOH minimum package of complementary services), by province and survey round

*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.

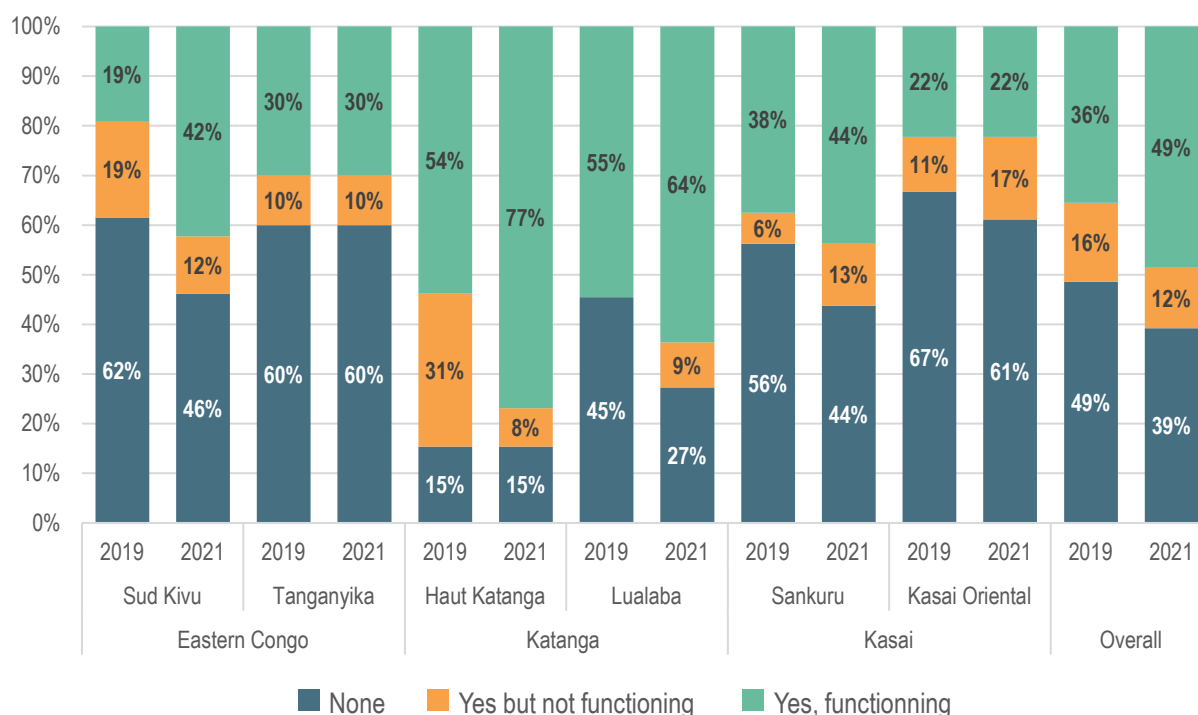
Figure 3.4. Health centers with electricity, by province and survey round†



† 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†

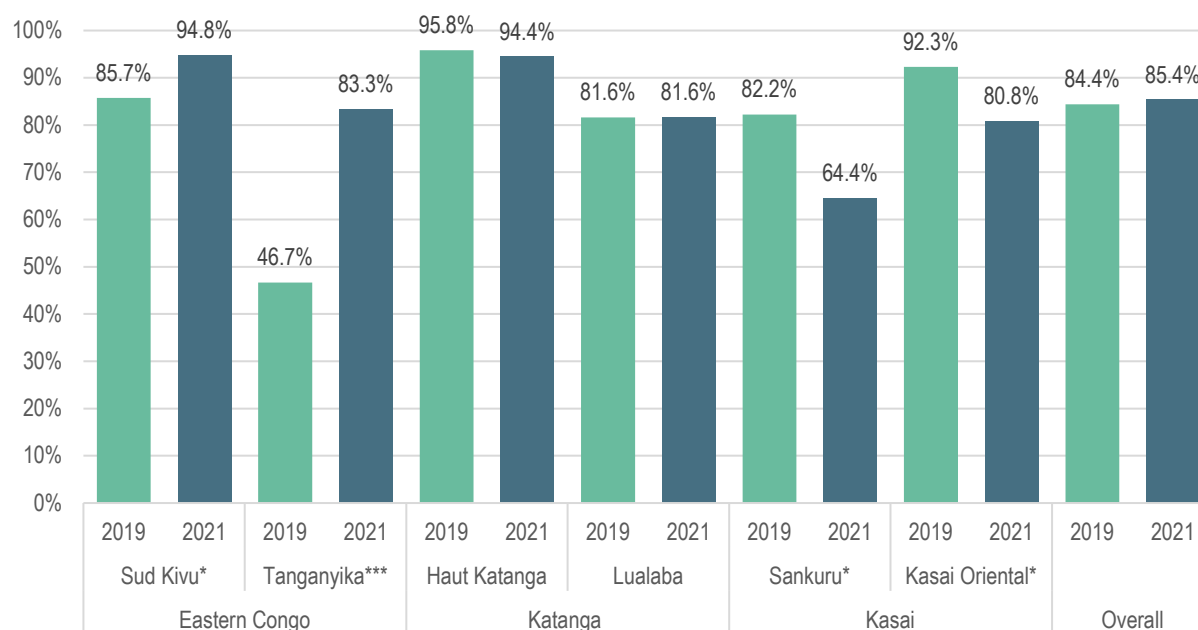


† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

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.

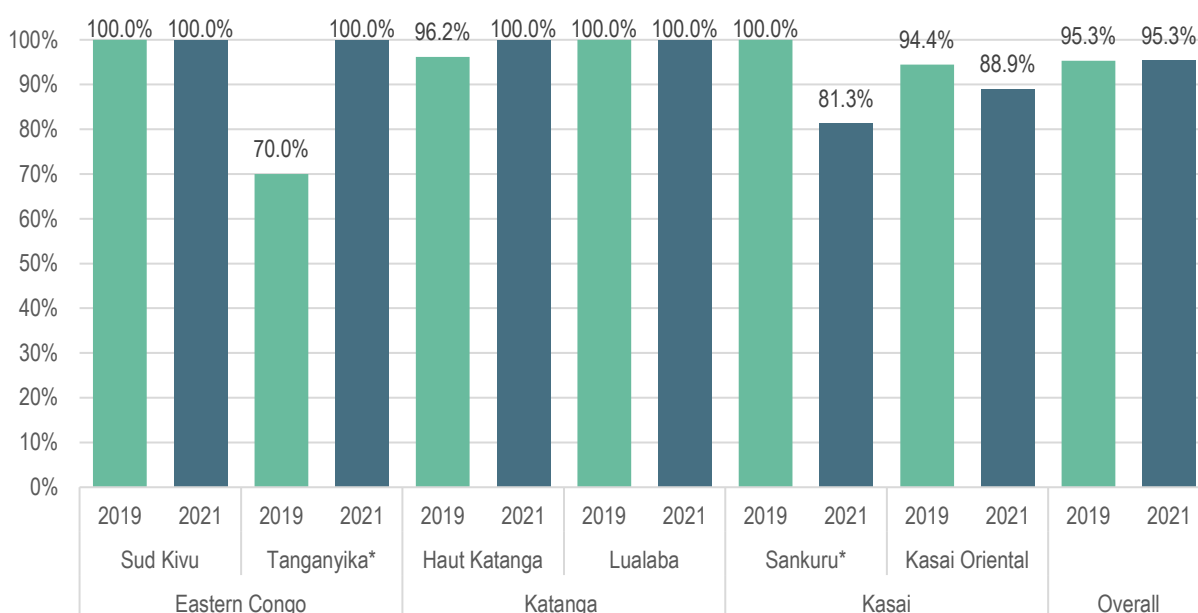
Figure 3.6. Health centers with improved sanitation, by province and survey round†



† 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†

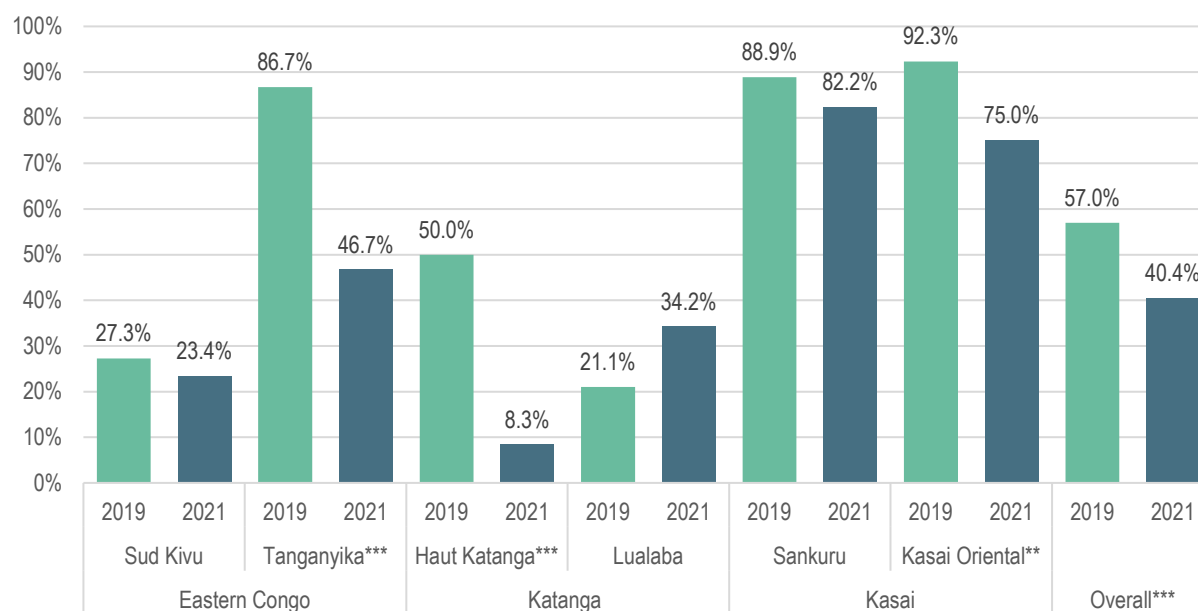


† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

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.

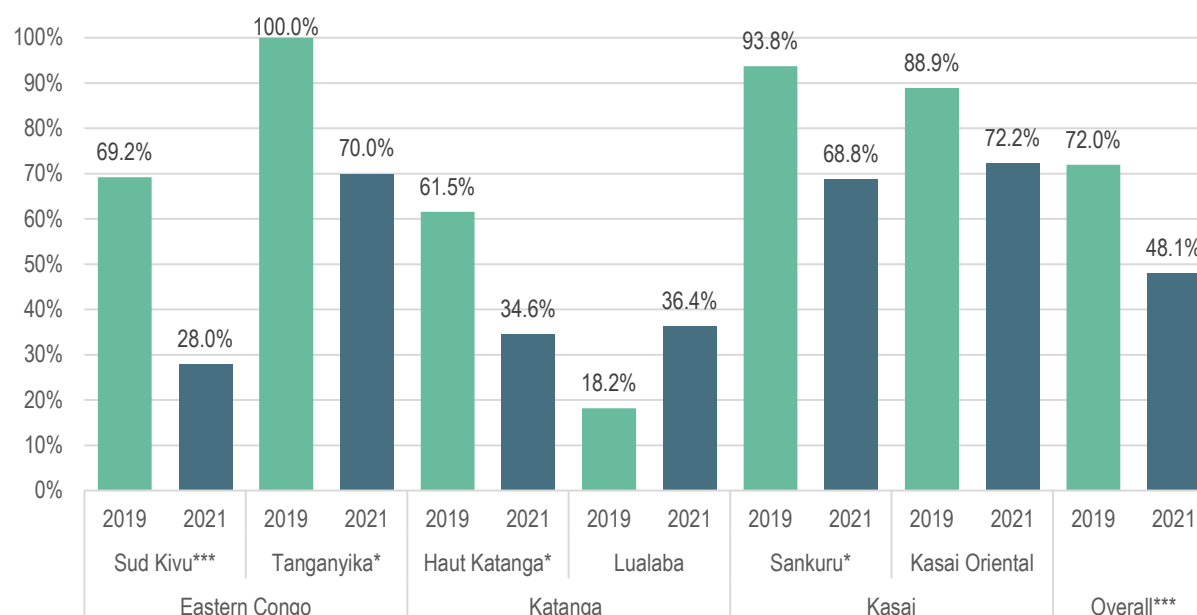
Figure 3.8. Health centers with a private delivery room, by province and survey round†



† 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		2021		PP difference	p-value
	(n=313)		(n=313)			
	n	Percent	n	Percent		
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		2021		PP difference	p-value	2021	
	(n=313)		(n=313)				(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		2021		PP difference	p-value
	(n=106)		(n=106)			
	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		2021		PP difference	p-value	2021	
	(n=106)		(n=106)				(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		2021		PP difference	p-value
	(n=281)		(n=281)			
	n	Per-cent	n	Per-cent		
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		2021		PP difference	p-value	2021	
	(n=281)		(n=281)				(n=553)	
	n	Percent	n	Percent			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.

The 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†				PP difference p-value	
	2019		2021			
	(n=101)		(n=101)			
	n	Percent	n	Percent		
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		2021		PP difference	p-value	2021	
	(n=101)		(n=101)				(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		2021		PP difference	p-value	2021	
	(n=308)		(n=308)				(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†

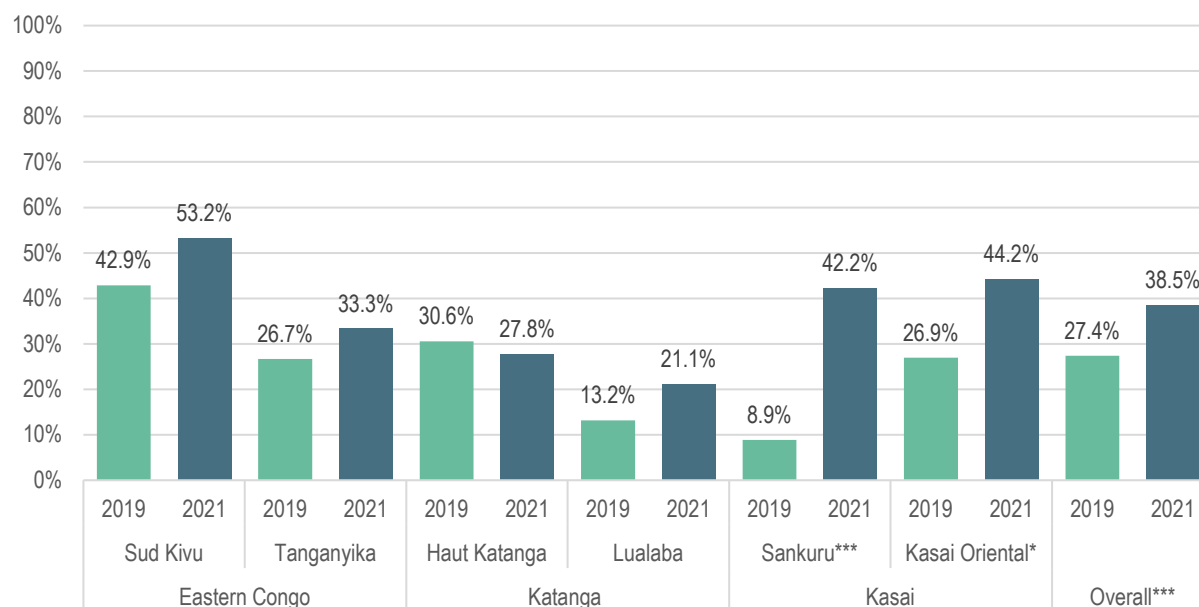
	Matched panel						Cross-section	
	2019		2021		PP difference	p-value	2021	
	(n=107)		(n=107)				(n=148)	
	n	Percent	n	Percent			n	Percent
Overall	1	0.9	12	11.2	10.3	<0.01***	14	9.5
Eastern Congo								
Sud Kivu	1	3.8	8	30.8	26.9	0.01**	9	27.3
Tanganyika	0	0.0	0	0.0	0.0	N/A	0	0.0
Katanga								
Haut 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.

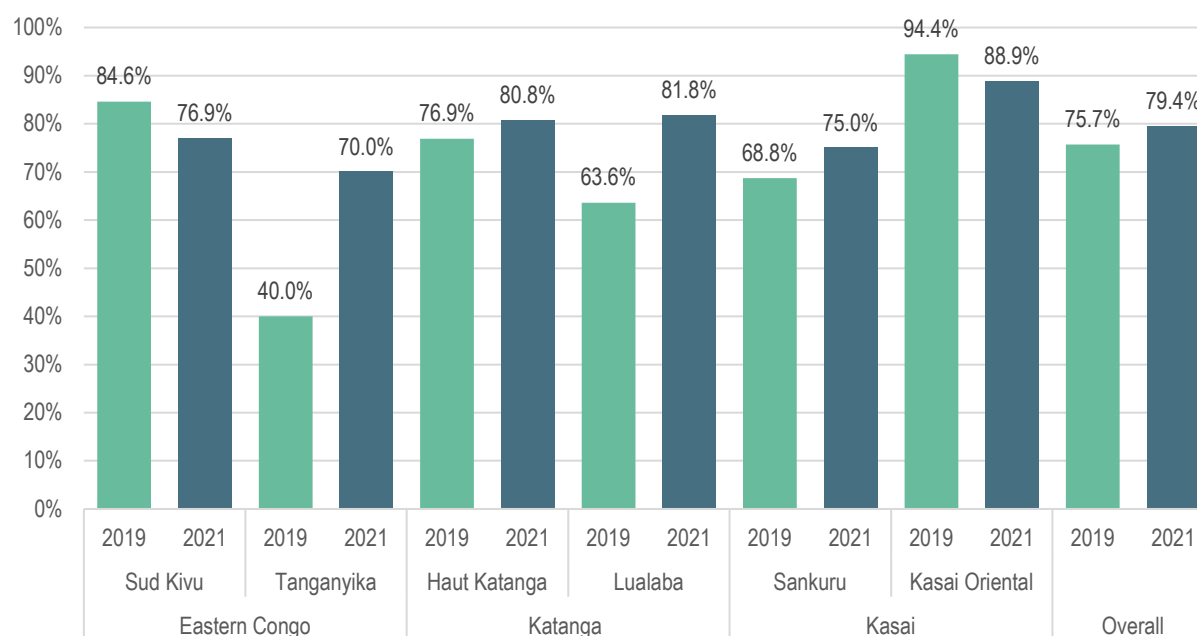
Figure 3.10. Health centers offering a package of comprehensive SGBV services, by province and survey round†



† 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†

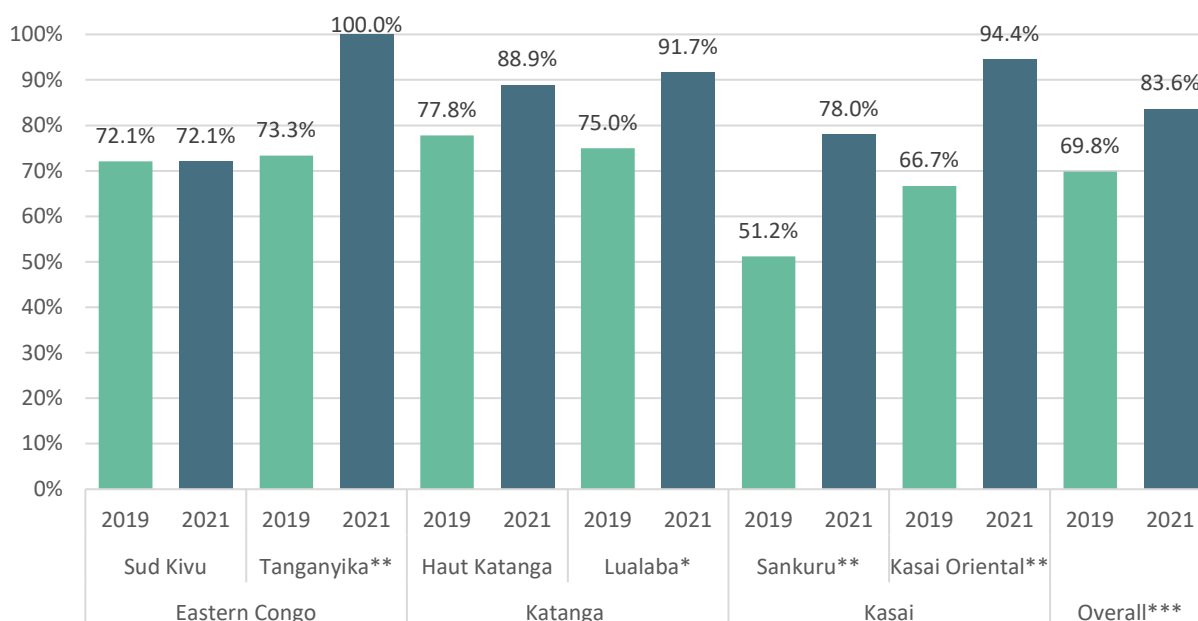


† Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

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.

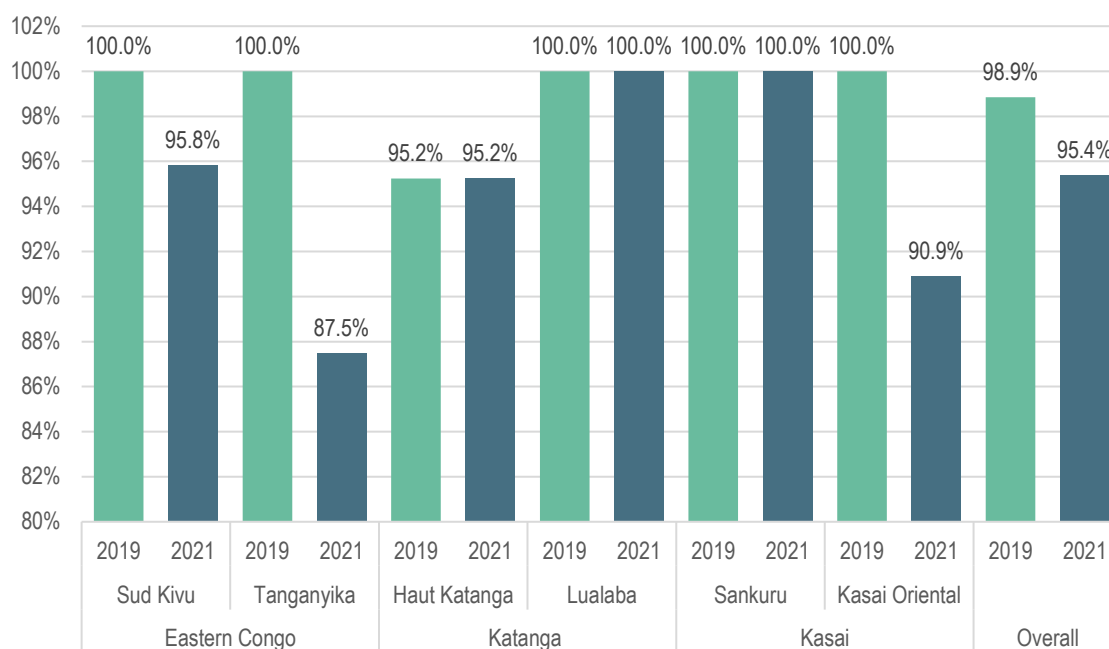
Figure 3.12. Health centers offering a long-acting or permanent method of FP, by province and survey round†



† 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†

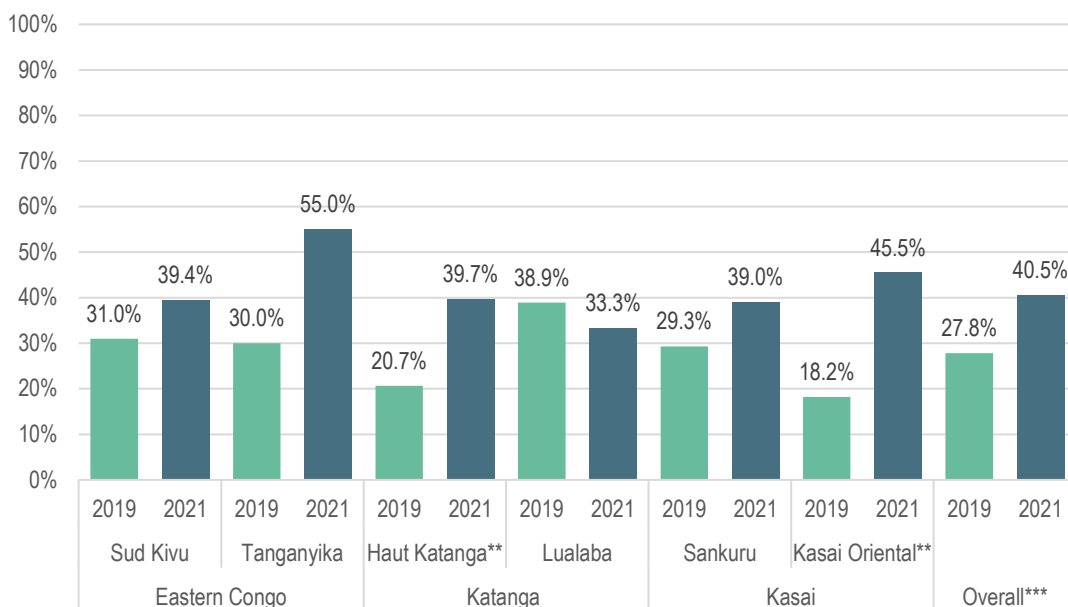


†Limited to the six provinces surveyed at baseline: Sud Kivu, Tanganyika, Haut Katanga, Lualaba, Sankuru, and Kasai Oriental. Statistical significance is considered at * $p < 0.1$, ** $p < 0.05$, and *** $p < 0.01$.

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.

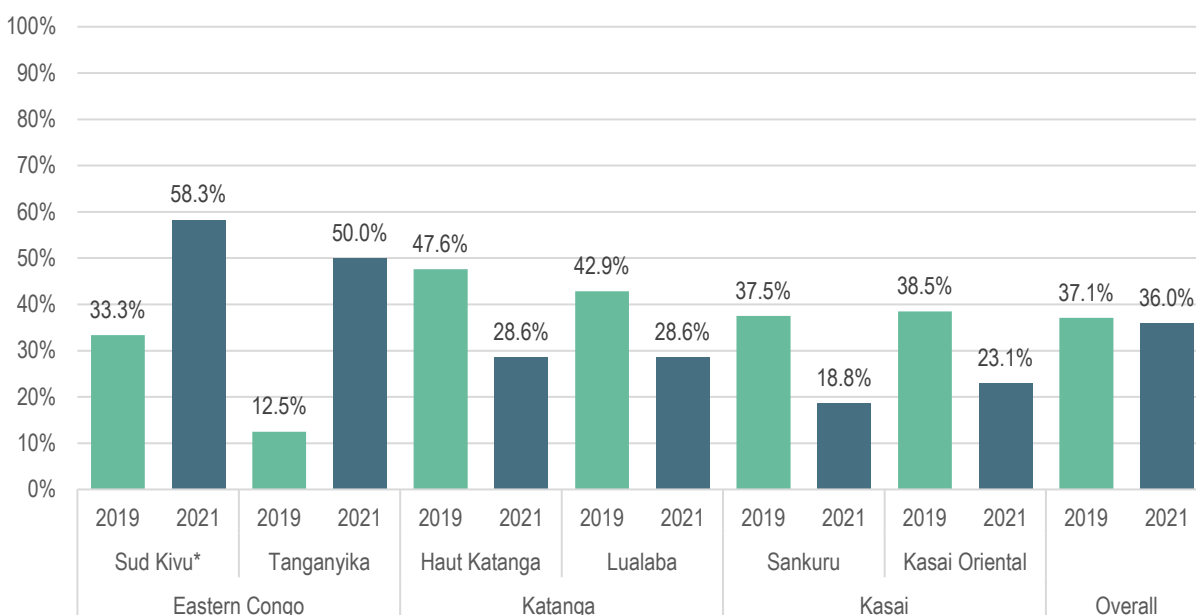
Figure 3.14. Health centers with at least one health worker trained in youth-friendly FP services, by province and survey round†



† 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.

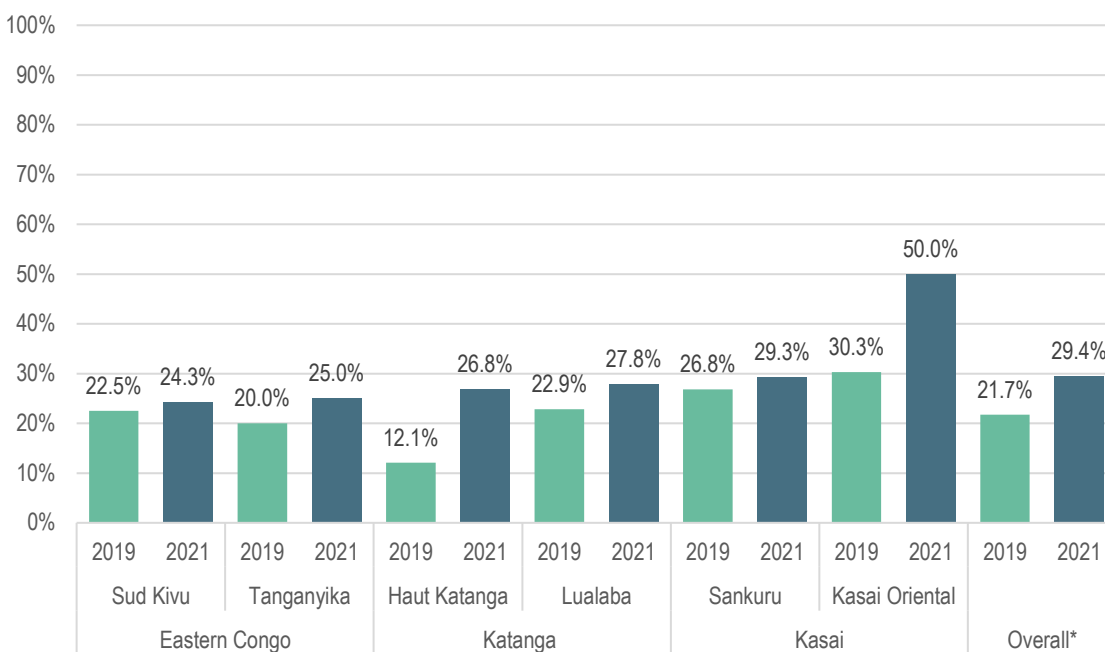
Figure 3.15. Hospitals with at least one health worker trained in youth-friendly FP services, by province and survey round†



† 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.

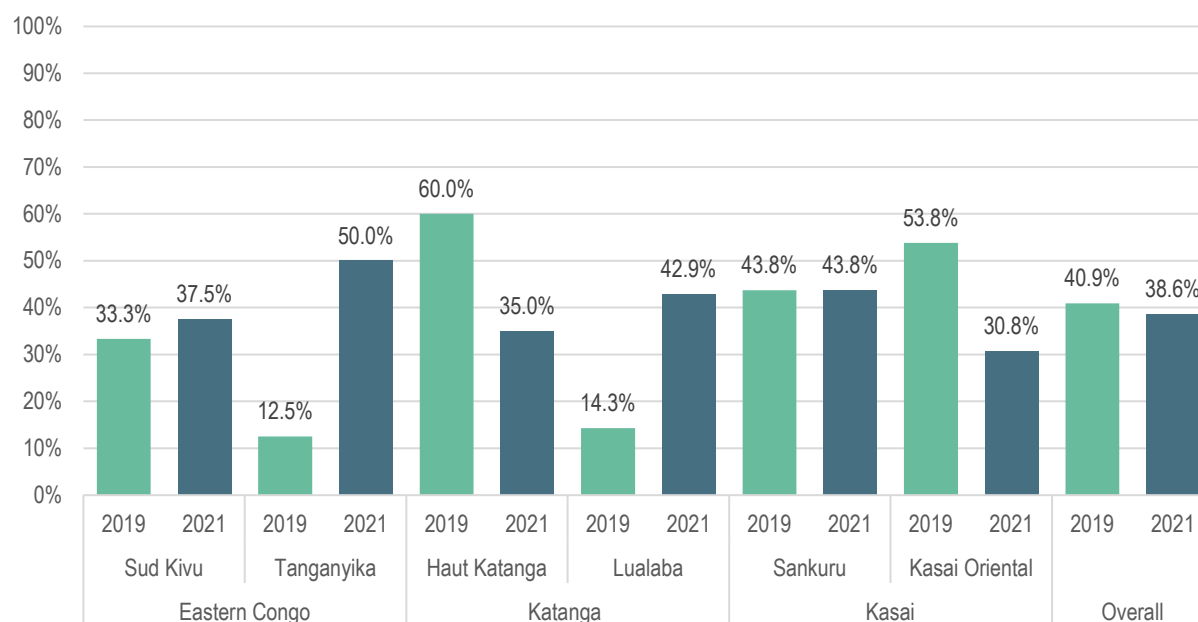
Figure 3.16. Health centers with FP information and resources specific to youth, by province and survey round†



† 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		2021		PP difference	p-value	2021	
	(n=313)		(n=313)				(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
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
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		2021		PP difference	p-value	2021	
	(n=107)		(n=107)				(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
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
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†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(n=337)		(n=337)						(n=551)	
		n	Percent	n	Percent					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†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(n=337)		(n=337)						(n=551)	
		n	Percent	n	Percent					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†				PP difference		p-value		Cross-section	
		2019		2021						2021	
		(n=337)		(n=337)						(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†				PP difference		Cross-section	
		2019		2021				2021	
		(n=337)		(n=337)				(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		2021		PP difference	p-value	2021	
	(n=726)		(n=732)				(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
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	1961	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**	1735	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*	1808	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		2021		PP difference	p-value	2021	
	(n=726)		(n=732)				(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	1926	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	1696	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**	1954	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***	1775	88.6

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

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 asks 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 center-based health workers asked about the hypothetical client in the FP vignette, by survey round

	Matched panel†						Cross-section	
	2019		2021				2021	
	(n=227)		(n=421)		PP difference	p-value	(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 center-based health workers who would prescribe the hypothetical client contraception, by province and survey round

		Matched panel†				PP difference		Cross-section	
		2019		2021				2021	
		(n=337)		(n=421)				(n=720)	
		n	Percent	n	Percent			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		PP difference	p-value	2021	
	n=187		n=252				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†				PP difference	p-value	Cross-section	
	2019		2021				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				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.

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 3.29). Slightly more than half of the health centers had an indigent fee schedule. There were no significant differences between 2019 and 2021.

Table 3.29. 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 3.29). Again, slightly more than half (53.1%) had an indigent fee schedule. There were no significant differences between 2019 and 2021.

Table 3.30. 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 3.31 and 3.32). 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 3.31. 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 3.32. Acceptance of payment after treatment of emergencies and labor and delivery in hospitals, by survey round

	Matched panel†						Cross-section	
	2019		2021				2021	
	n=115		n=121		PP difference	p-value	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.

Summary and Implications

This report presents results from the analysis of the D4I midline survey data, collected in 2019 and 2021. 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 over the study period, particularly internet access. 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.
- 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.
- 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.
- Health facility communication with CODESAs appeared to be strong. CODESAs also had relatively good access to patient feedback. As only midline data is 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.
- CODESAs appeared not to have widely implemented the community scorecard; however, as the scorecard is a new intervention this is to be expected. Similarly, health zone participation in the PICAL assessment, another intervention that has been introduced by the program, appeared low, but has increased significantly over time as USAID IHP is implemented.
- Lastly, although health workers' overall satisfaction was relatively low in 2021, it improved significantly since 2019. Further analysis into the reasons for this increase could inform the implementation and sustainability of the program's impact on health worker 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.
- 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 stock-outs in tracer drugs may have been partially attributable to the COVID-19 pandemic, stock-outs warrant 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.
- 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. Efforts could 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.
- In the family planning vignette, less than 40 percent of health workers said that they would prescribe contraception to the hypothetical patient, citing the facts that she had no children, was married, and that her husband was not present as reasons. There were no significant differences between male and female health workers in their likelihood to prescribe, nor were there differences by year. A very small percentage asked the patient about her relationship with her husband or experience with SGBV.

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.

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	↓
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."

**Data for Impact**

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