



The Infection Prevention and Control Pilot Study in Kenya

Disruptions in health service delivery related to infection prevention and control in the context of COVID-19

WHAT IS INFECTION PREVENTION AND CONTROL?

Infection prevention and control (IPC) processes and procedures are used in health care settings to prevent patients and health workers from being harmed by hospital-acquired infections, antimicrobial resistance, and infectious disease outbreaks. Examples of IPC measures include hand washing, environmental cleaning, and wearing personal protective equipment (PPE) such as masks and gloves.

WHY IS IPC IMPORTANT IN THE CONTEXT OF COVID-19?

The outbreak of the SARS-CoV-2 pandemic in late 2019/early 2020, significantly affected health services globally. IPC measures are critical to prevent the spread of infection and to reduce mortality, however, IPC processes and procedures are often lacking in low- and middle-income countries, due to limited health care infrastructure and resources. In some settings, health systems did not have the capacity to rapidly scale up IPC measures to mitigate the spread of SARS-CoV-2 infection and manage those who were infected. It is also important to understand how other essential medical care, such as HIV prevention and treatment, antenatal care (ANC), childhood immunizations, and other key services, have been disrupted by the COVID-19 pandemic.

WHAT DID THE STUDY EXPLORE?

The IPC Pilot Study in Kenya was designed to assess the extent to which IPC processes and limitations may have contributed to health service disruptions between March 2020 and February 2021. Key study questions included:

- **POLICY CONTEXT:** What policies and guidance were adopted and implemented in response to the COVID-19 pandemic? This includes restrictions on travel and people gathering, and IPC guidance at health facilities.
- **DISRUPTIONS:** How many and what types of health service disruptions occurred? How severe were the disruptions and how often were services disrupted? Which service points were most disrupted? What plans were put into place to prevent future disruptions?
- **IPC LIMITATIONS OR COMMITMENTS:** How many disruptions were related to IPC limitations or commitments, such as policies, resources, personal protective equipment (PPE) and other supplies, training, staff availability, and exposure procedures?
- **FACILITY ATTENDANCE BY SERVICE POINT:** What effect did the COVID-19 pandemic have on facility attendance across different service delivery points, such as inpatient and outpatient services?

WHO PARTICIPATED IN THE STUDY?



Phone interviews were held with **Facility Directors** and **IPC Focal Points** at **65 health facilities** in Nairobi, Kiambu, and Machakos counties using a structured questionnaire. Government and faith-based health facilities participated. The IPC Focal Point was the person in charge of overseeing IPC activities at the facility, typically a nurse, but sometimes the facility director/administrator in smaller facilities.

Participating Facilities by Level



In a 2021 WHO global survey¹ of essential health service continuity:

94%

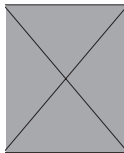
of the 135 countries/territories reported essential health service disruptions due to the COVID-19 pandemic; and

35%

reported disruptions in over half of national essential services

¹World Health Organization. Second round of the national pulse survey on continuity of essential health services during the COVID-19 pandemic: January - March 2021. Interim Report. Available from: <https://www.who.int/publications/item/WHO-2019-nCoV-EHS-continuity-survey-2021.1>

WHAT INFORMATION WAS COLLECTED?



The **structured questionnaire** captured dates and types of disruption, frequency and severity of disruptions, changes in staffing or patient processes, and shifts of services to other facilities or community venues from March 2020 to February 2021. Answers by Facility Directors and IPC Focal Points at each facility were compared for accuracy, however, few discrepancies were found.



At facilities reporting IPC-related service disruptions, **IPC Focal Points were interviewed** to obtain additional information about specific IPC policies, procedures, resources, and supplies, such as actions taken in response to COVID-19 cases among staff or patients, availability of PPE and other commodities, and changes made to the delivery of services.



Policies, procedures, and guidance on IPC and national COVID-19 response activities were compiled and documented using a standard form.

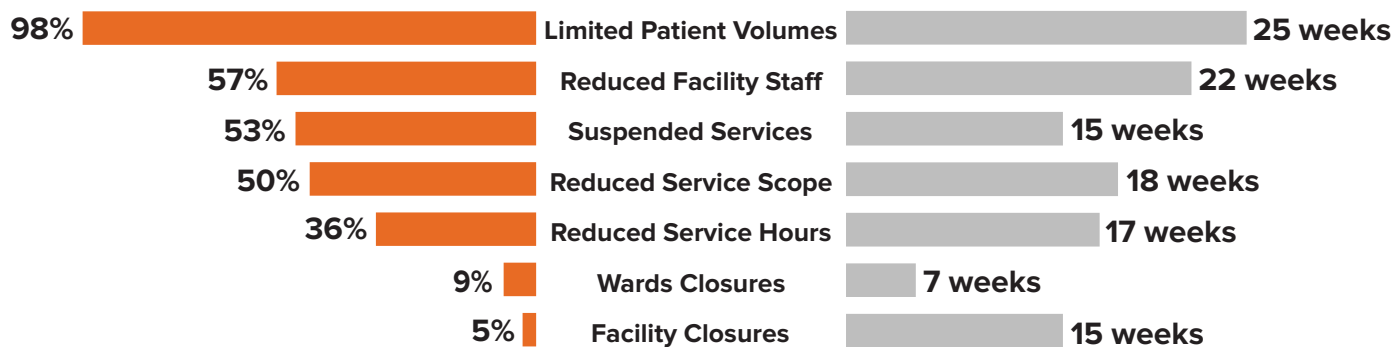


Aggregate patient attendance data was extracted from the national DHIS2 system for March 2019 – February 2020 and March 2020 – February 2021 to assess the potential effect of IPC-related service disruptions on facility attendance at various service points.

WHAT WERE THE KEY RESULTS?

All facilities experienced health system disruptions.

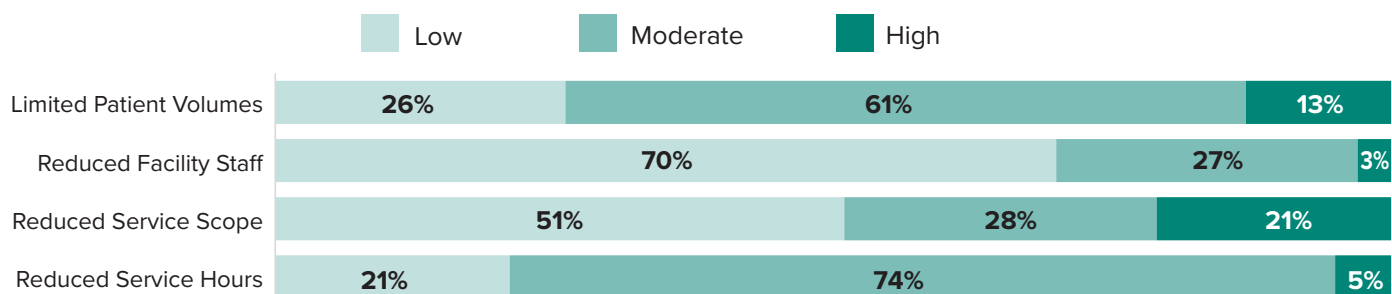
Percentage of Facilities Who Experienced Disruptions by Type and Median Weeks of Disruption



Health service disruptions were defined as an active policy decision enacted by facility administration that led to reduced provisions of essential health services. Disruptions were categorized into 7 types: **Limited patient volume** (reduced number of patients served), **reduced facility staff** (fewer staff working), **suspended services** (services stopped or no longer offered), **reduced service scope** (breadth of services decreased), **reduced service hours** (open hours shortened), **ward closures**, and **facility closures**. Extent of disruption was measured by the number of weeks disruptions occurred. Nearly all facilities experienced limited patient volume and more than half reduced facility staff, suspended health services, or reduced service scope. Ward and facility closures were less common. Limited patient volume disrupted services for a median of 32 weeks.

The severity of disruptions was mostly low to moderate.

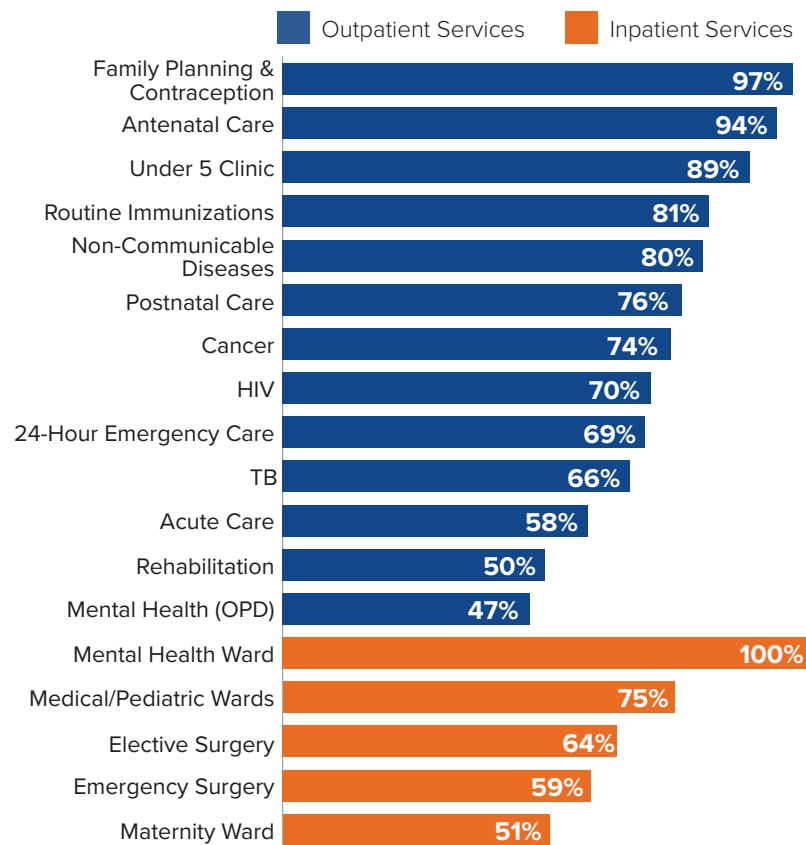
Severity of Disruptions as Measured by the Proportion of Service Delivery Points Affected



Severity of disruption was measured by the proportion of the service delivery points (such as ANC, HIV, Under 5, etc.) that experienced disruptions at each facility. Severity was categorized as **low** (less than a quarter of service delivery points were affected), **moderate** (between one quarter and one half of service delivery points were affected), or **high** (more than half of all service delivery points affected). Overall, the severity of disruptions were mostly low to moderate across all disruption types, however, high severity was reported most with disruptions related to reduced service scope and limited patient volume.

All outpatient and inpatient service delivery points experienced disruptions.

Percentage of Service Delivery Points Reporting Disruptions by Type of Services Provided



Disruptions were common across all service delivery points, demonstrating the crosscutting impact of the COVID-19 pandemic on health services. Preventive services, such as immunizations and family planning were disrupted in over three-quarters of facilities, however, even emergency and acute services were disrupted in over half of facilities. The most disrupted outpatient service points were **family planning and conception, maternal and child health service points (i.e. ANC, Under 5, Immunizations, etc.),** and **non-communicable disease services.** Most outpatient service points experienced limited patient volume disruptions and reduced service staff, hours, and scope were also commonly reported.

Among inpatient services, disruptions were experienced by **all mental health wards** as well as **most maternity and medical/pediatric wards.** Over half of inpatient service points experienced limited patient volume disruptions and about one-third reported reduced service staff.

Fewer patients seeking care and national or county COVID-19-related directives were major drivers of disruptions.

While the study was unable to determine why service attendance declined, fear of contracting COVID-19 and patient perceptions of inadequate safeguards against COVID-19 transmission may have contributed to **reduced patient attendance.** A high proportion of facilities were also affected by **government directives,** either indirectly, through travel restrictions, or directly through **physical distancing requirements** and the **suspension of elective surgeries** in government-run facilities in March 2020.

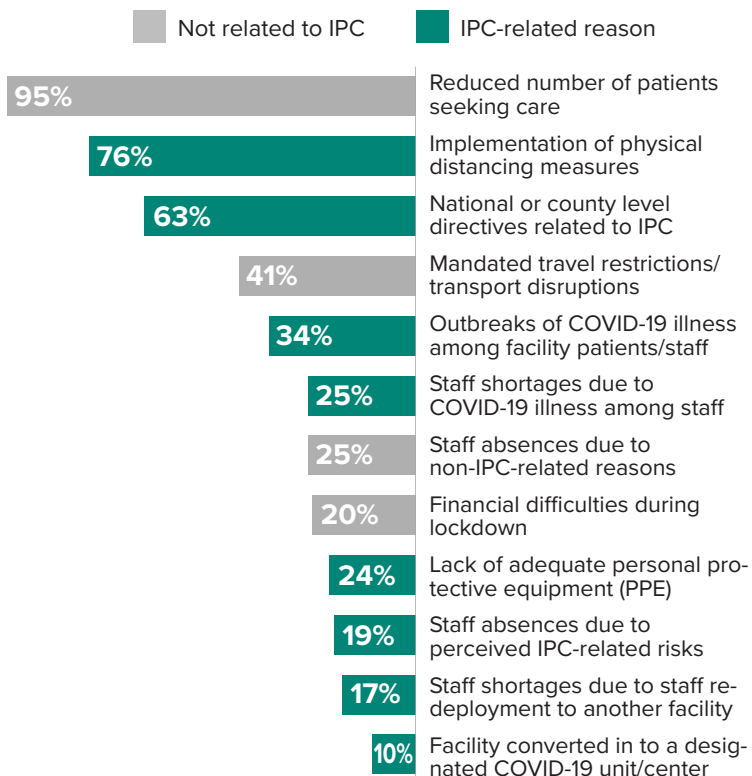
Significant health service disruptions occurred due to IPC-related reasons.

Physical distancing, government directives, staff shortages and absences, staff redeployment and conversion of facilities to COVID-19 centers were all important reasons for disruptions, indicating a need to **improve IPC processes and procedures** to prevent disruptions in future public health emergencies.

Protecting staff against COVID-19 illness was a challenge in facilities.

Over one-third of facilities reported that **efforts to mitigate intra-facility outbreaks** of COVID-19 led to services disruptions and one-quarter of facilities reported **staff absences** due to COVID-19 illness. About 1 in 5 facilities reported that **lack of PPE** and **perceived risks** of getting COVID-19 led to service disruptions. Protecting healthcare personnel must be a priority to reduce disruptions to essential health services.

Top Reasons Reported by Facility Directors and Focal Points for Health Service Disruptions in Their Facilities



Ways health staff may have been exposed to COVID-19 prior to service disruption	Percent of facilities
Insufficient or no training in IPC	85%
No COVID-19 orientation or training	81%
Insufficient or no PPE	77%
Congregating in settings with other staff	77%
Inadequate training in using PPE	73%
Unable to social distance from other staff	73%
Insufficient or no cleaning/disinfecting supplies	69%
Insufficient space to social distance from patients	69%
Unclear or no IPC guidance	69%
Improper use of PPE	65%
Insufficient or no hand washing supplies	65%

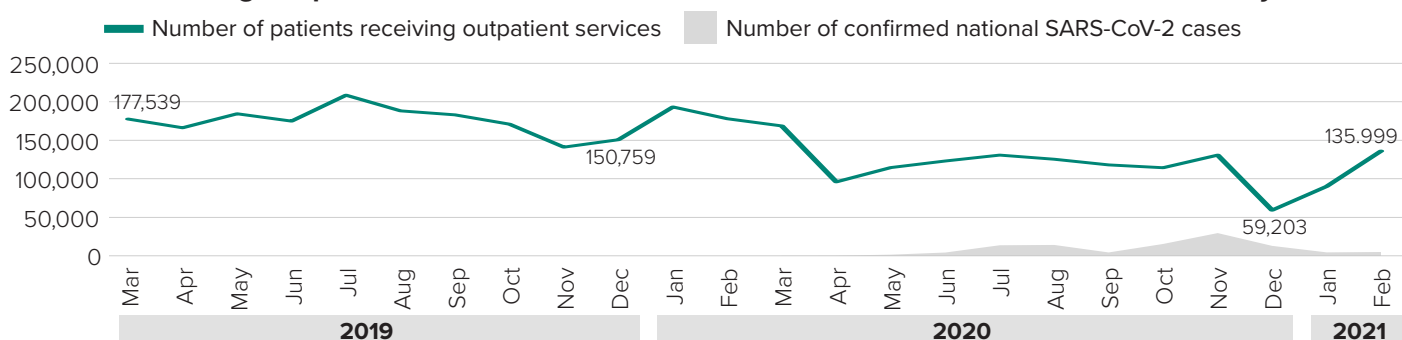
Health personnel may have been exposed to COVID-19 in many ways.

Disruptions due to COVID-19 illness or fear of illness were reported in 26 health facilities. When asked about staff exposure to SARS-CoV-2 prior to the disruption, most IPC Focal Points reported there was **insufficient or no training in IPC and COVID**, see table, left.

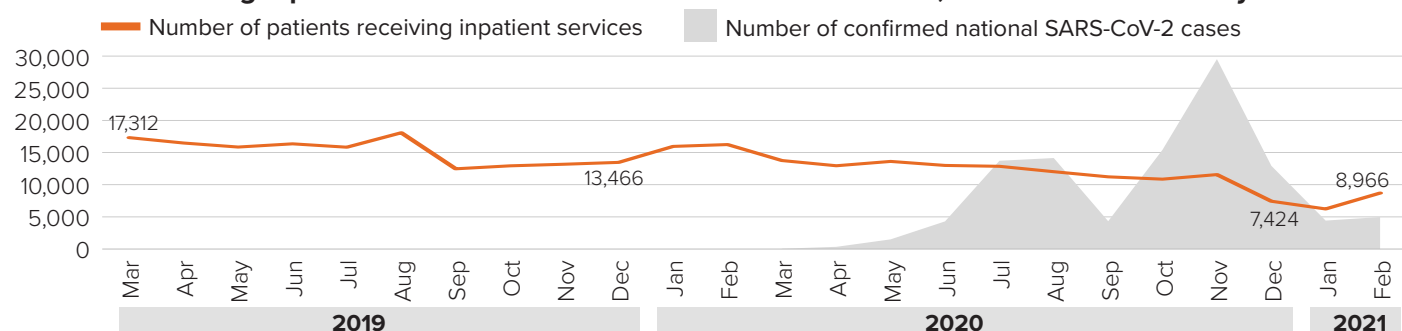
Patient attendance at health services declined from March 2020 and had not yet reached 2019 levels by February 2021.

Outpatient attendance was **60% lower** and inpatient attendance was nearly **45% lower** in December 2020 compared to December 2019.

Patients Attending Outpatient Services and National SARS-CoV-2 Cases, March 2019 - February 2021



Patients Attending Inpatient Services and National SARS-CoV-2 Cases, March 2019 - February 2021



Strengthening IPC infrastructure and capacity is critical to reduce and mitigate the impact of SARS-CoV-2 on health services.

This study highlights how IPC-related processes and limitations contributed to disruptions in health service delivery during the COVID-19 pandemic. Protection of health staff through vaccination, PPE use, screening, isolation of infected staff, regular communication on the situation, and training must be prioritized. Investments should be made in the visible protection of patients through environmental cleaning, screening, and testing to maintain patient confidence in health facilities. Investments in IPC measures and capacity are a key way to prevent disruptions during future public health emergencies.

KEY TAKEAWAYS

- All facilities reported health services disruptions during the COVID-19 pandemic.
- Many reasons for health service disruptions could be mitigated through improved IPC processes and procedures at the facility level.
- Protecting healthcare personnel to prevent staff shortages and absences must be a priority.
- Attendance at both inpatient and outpatient services declined since the COVID-19 epidemic began through February 2021.
- Further investment in IPC measures and capacity is key to reducing and mitigating the impact of COVID-19 on health services and preventing disruptions during future public health emergencies.