Protecting Patients and Health Workers during Public Health Emergency

Lessons from Kenya and UW Medicine

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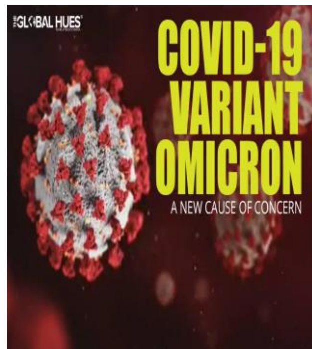
Background

Infections spread among hospitalized patients and hospital staff



PHE like COVID-19 pandemic present a new nosocomial infection and amplify traditional HAI risk factors

HAI account for up to 10% of healthcare complications

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HAIs during the Pandemic (USA)

Nationally, significant increases in 2020 were observed for CLABSI, CAUTI, VAE, and MRSA bacteremia compared to 2019. The largest increases occurred during quarter 4 (October, November, December) of 2020

CLASBI

- 47% increase in Q4 across all location types
  - 65% increase in intensive care units (ICUs)
  - 16% increase in select inpatient wards

VAE

- 45% increase in Q4 across all location types
  - 44% increase in ICUs
  - 35% increase in adult inpatient wards

CAUTI

- 19% increase in Q4 across all location types
  - 30% increase in ICUs

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SARS-CoV-2 transmission in Health-care settings

- **Health-care settings are important in COVID-19 transmission (and control)**
  - Potentially infected people seek outpatient services and a few are admitted
  - Generally congregate settings
  - Risk perception: Precautions are weakest among colleagues in health-care settings
- A review of 2 early case series in China **estimated that 44%** of 179 severe acute respiratory syndromecoronavirus2 (SARSCoV-2) infections were hospital-acquired
- **St Augustine's Hospital in Durban, South Africa:**
  - single unsuspected case of SARS-CoV-2
  - 6 major clusters involving 5 hospital wards and an outside nursing home and dialysis unit
  - Confirmed infection among 80 staff members and 39 patients,
  - 15 deaths

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Current infection prevention and control activities implemented during the COVID-19 pandemic; rationale and key reference(s)

Infection control activity	Rationale	Key reference
❖ Infection prevention and control team	Manage risks associated with healthcare-acquired or nosocomial infection (HAI)	Loveday et al.[8]
❖ Screening	Patient and staff screening is key for controlling introduction of SARS-CoV-2, especially among asymptomatic or pre-symptomatic persons	Yau et al.[9]
❖ Hand hygiene	Cornerstone of infection prevention practice; reduces risk of viral transmission between contaminated hand-touch sites and mucous membranes	Garg et al.[10]
❖ Isolation & cohorting	Crucial for all infected patients; ring fencing elective surgical units minimises infection risk	Patterson et al.[11]
❖ Cleaning	Increased cleaning targets 'frequently touched' surfaces to reduce exposure risk	Kampf et al.[12]
❖ Personal Protective Equipment	Masks, gloves, aprons, gowns and visors provide a physical barrier to protect staff and patients	Garg et al.[10]
❖ Surveillance	Ongoing surveillance of positive SARS-CoV-2 provides data on infection rates and trends in order to inform control practices	Hamilton et al.[6]
❖ Staff vaccination	Local vaccine programme reduces risk of hospital admission and serious illness	Shah et al.[13]

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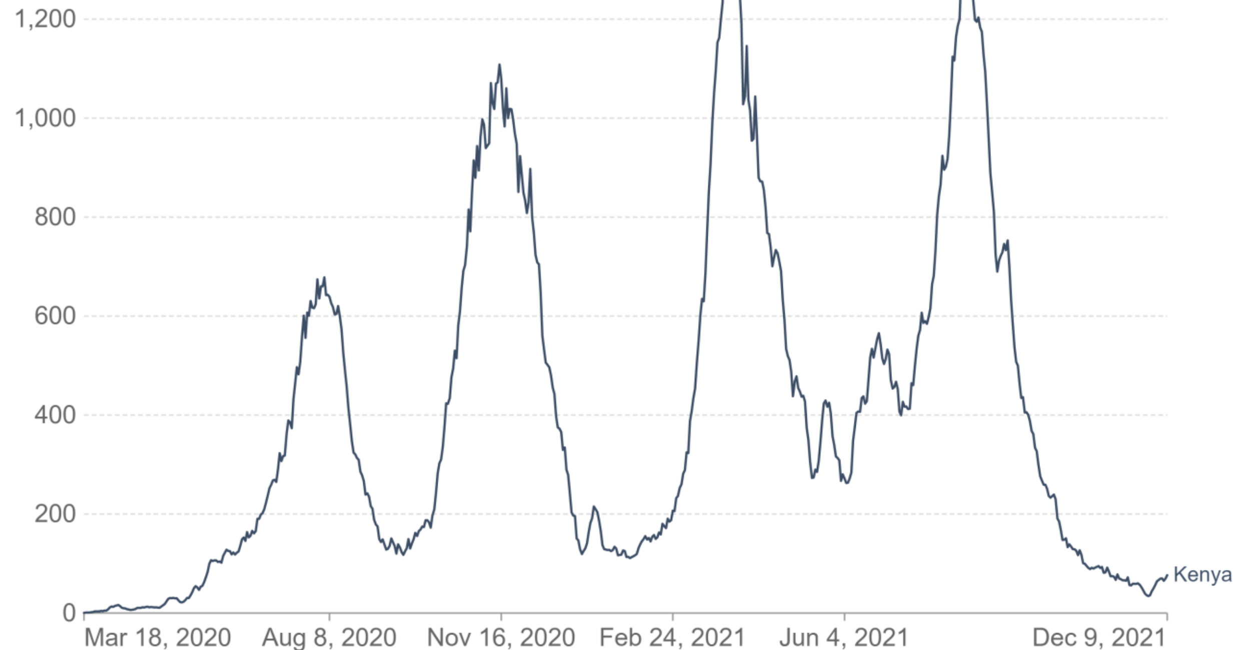
COVID-19 Trend: Kenya

No. Cases



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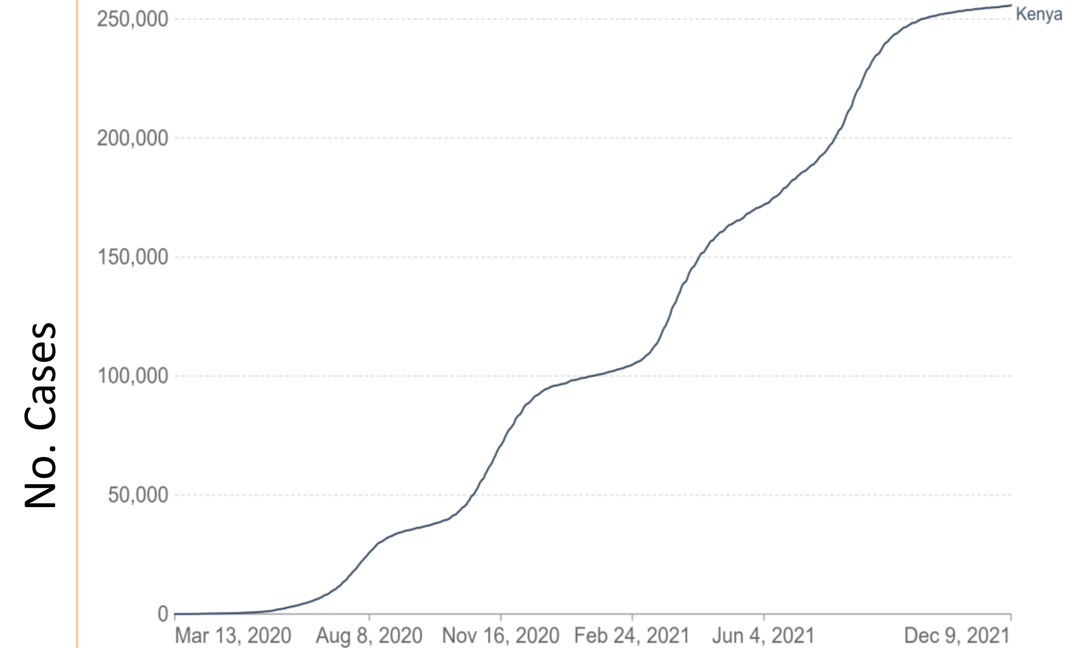

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What we did

- TA in Development of IPC policies and guidelines
- TA in development of COVID-19 IPC training modules and Training HCWs including support staff
- Emergency Support with PPEs
- Conducted COVID-19 IPC Facility Readiness Assessment (countrywide)
- Engaged County governments and Health Facility leadership to set-up IPC committees
- Designed interventions for targeted referral facilities (KEPH Level 5)-10 facilities
  - Over 100 bed
  - Tertiary services
  - High prevalence geographical region or existing MOH support

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COVID-19 Facility Readiness Assessment (FRA)

COVID-19 FRA 2020

- Used a uniform tool to identify overall scores across various hospital types and levels
- Identify clear practice and knowledge gaps in combating COVID-19 within healthcare facilities
- Provide feedback to healthcare workers, facilities, the two-tier systems of government and implementing partners

interventions

- Develop IPC teams and appoint FTE 100% IPC coordinators
- Reinforce Screening, triaging and Isolation
- Establish COVID-19 surveillance among inpatients and HCWs
- Enforce Rational Use of PPEs, social distancing and proper Mask Use
- Promote Hand Hygiene practice using WHO's multimodal strategies

COVID-19 FRA 2021

- Improved accuracy of the tool
- Assess Progress
- Establish a culture of regular monitoring/Audits and Feedback
- Provide a basis for targeted investment by government and implementing partners

COVID-19 priority interventions in Health care settings

- **Rapid identification of suspect cases**
  - Screening/triage at initial healthcare facility encounter and rapid implementation of source control
  - Limiting entry of healthcare workers and/or visitors with suspected or confirmed COVID-19
- **Immediate isolation and referral for testing**
  - Group patients with suspected or confirmed COVID-19 separately
  - Test all suspected patients for COVID-19
- **Safe clinical management**
  - Immediate identification of inpatients and healthcare workers with suspected COVID-19
- **Adherence to IPC practices**
  - Appropriate personal protective equipment (PPE) use e.g masks
  - Hand hygiene compliance

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Case finding among HCWs and in-patients

Passive Surveillance

- Suspected cases are identified by the healthcare worker who sees the case in their normal work activities and who then reports suspect cases to those that need to know

Enhanced Passive Surveillance

- Suspect cases are identified by the healthcare worker who sees the case in their normal work activities supplemented by a system that reminds the healthcare worker to check for suspect case and to report to appropriate authorities

Active Surveillance

- Suspect cases are identified by the designated workers who are also responsible for taking appropriate action

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Our approach

- Developed specific tools for COVID-19 case finding among in-patients and Healthcare workers
- Mandatory inpatient screening on daily basis during ward rounds
- Mandatory daily self attestation for HCWs
- Standard protocol for triaging, testing and isolation of COVID-19 positive clients and/or Healthcare workers

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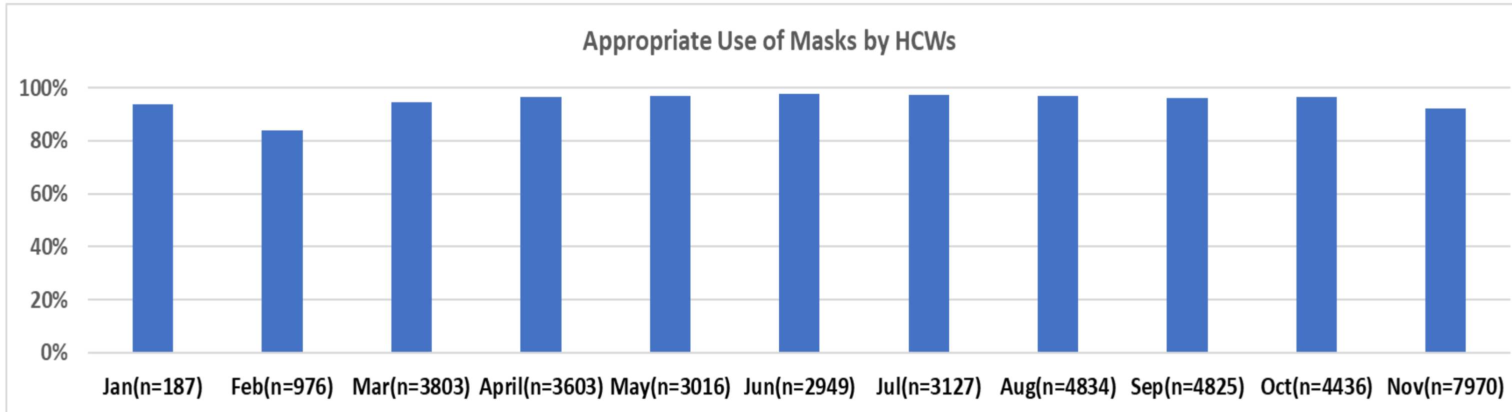
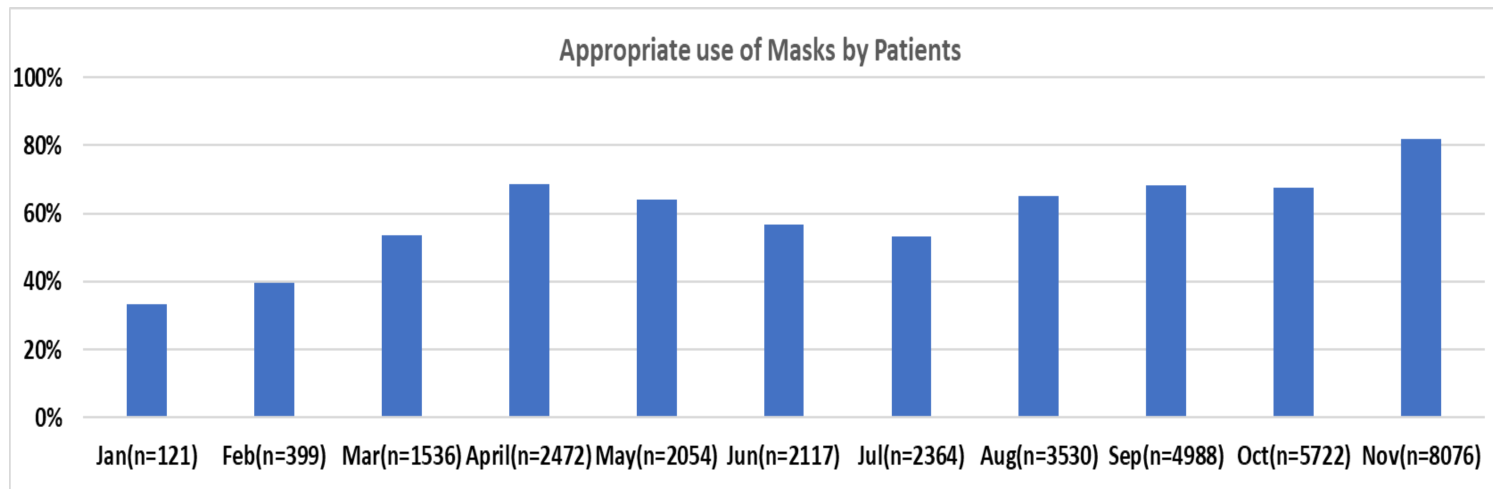
Enforcing and monitoring Use of Masks, by month (n=10)



Overall use of mask by HCW remains high, although number of observations across the 10 facilities Increased but compliance dropped marginally last month.



Improvement of mask use by in- and outpatients over the 3 months

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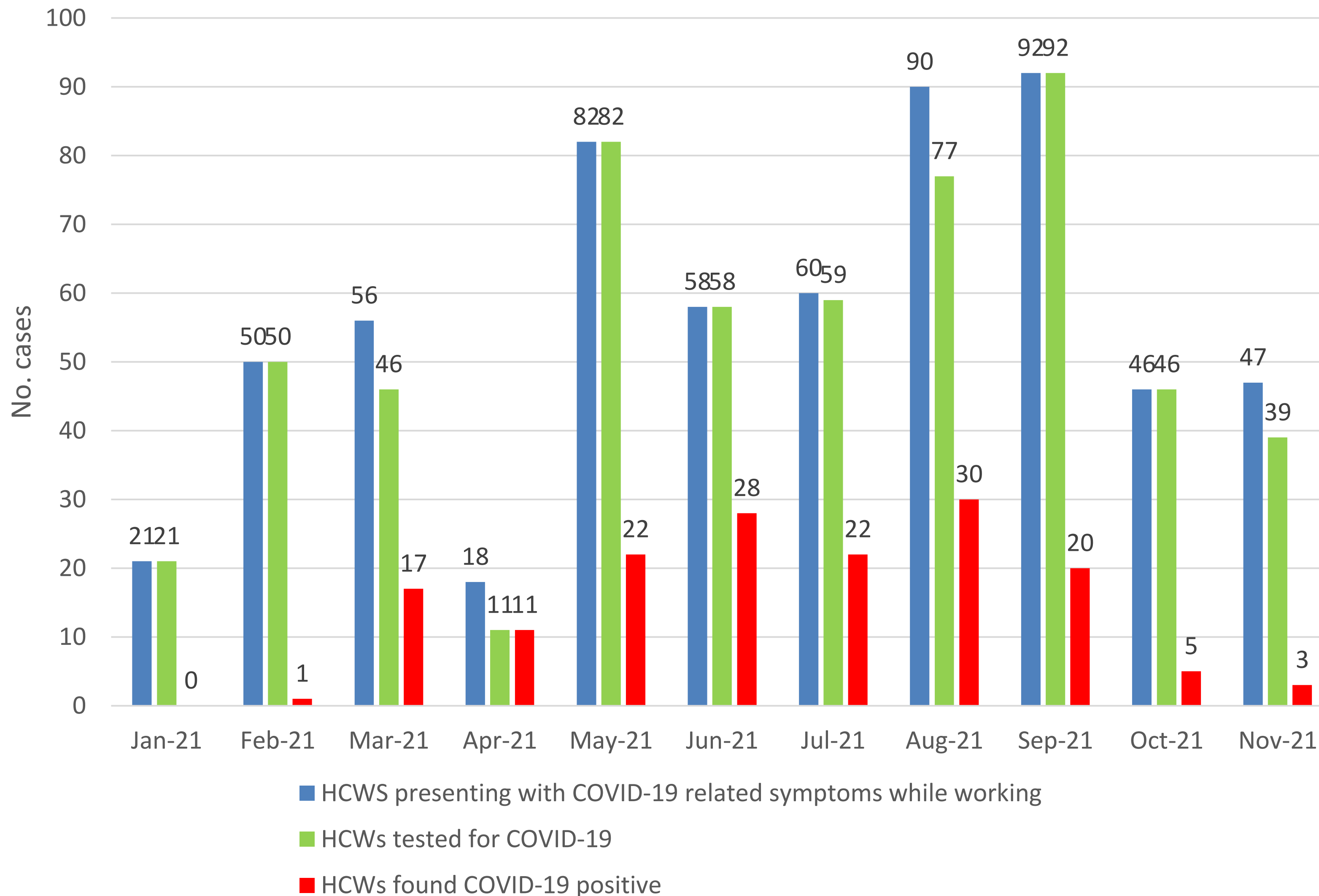
COVID-19 Surveillance Among HCWs (10 facilities)



Month	Positivity
Jan	0%
Feb	2%
March	37%
April	61%
May	27%
June	48%
July	37%
Aug	38%
Sept	22%
Oct	11%
Nov	8%

Positivity among HCWs follows the pattern of COVID-19 wave in the immediate community

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COVID-19 Surveillance Among HCWs (10 facilities)

COVID-19 surveillance among HCW by Cadre

Cadre	HCW presenting with COVID-19 related symptoms while working	HCW tested for COVID-19	HCW Found COVID-19 positive
Physician/surgeons	126	126	36
Nurse	241	241	61
Lab.officer	11	11	4
pharmacist	10	12	3
support staff/casuals	54	53	22
Others	152	147	33

No. of Cases: 0, 50, 100, 150, 200, 250, 300

Nurses, doctors and the support staff/casuals among the most affected

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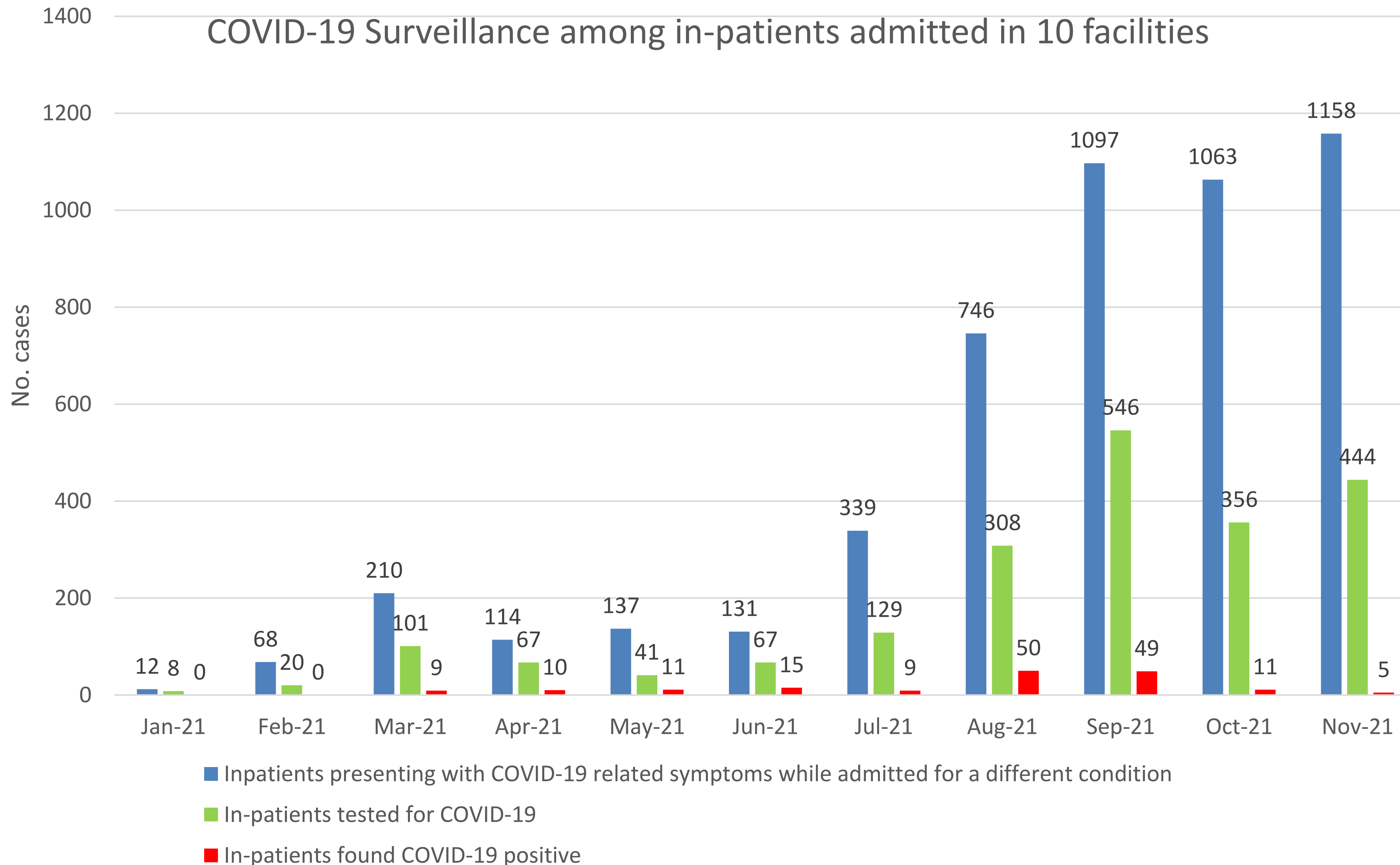
COVID-19 Surveillance among inpatients (10 facilities)



- Increased surveillance activities would net more COVID-19 cases among in-patients
- Need to increase testing among symptomatic inpatients.
- Need to investigate the discrepancy between the symptomatic and tested patients and identify any possible issues with testing supply or testing awareness.

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Enhancing IPC in Isolation Units (10 facilities)

IPC improvement in Isolation Units

Percent

	Documents	Infrastructure/layout	IPC processes/practices	Supplies
Apr-21	46	52	79	63
May-21	58	52	82	58
Jun-21	79	67	85	70
Jul-21	94	80	93	80
Aug-21	94	81	81	80
Sep-21	97	80	84	84

- IPC practices for isolation have improved from Jan to Sept 2021.
- Challenges persist in infrastructure and layout as some facilities are using areas that were not originally designed for isolation.

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Lessons and Recommendations

- Literature indicate evidence that newly infected COVID-19 patients present risk of onward transmission to patients and HCWs in hospital settings
- Need for enhanced strategies to prevent and identify early hospital-onset SARS-CoV-2 infection among hospitalized patients, for example, regular screening and prompt testing to identify these patients
- Measures to ensure infected staff are not at work, including regular staff screening and adequate sick pay arrangements, are vital
- Conducting quality Improvement on various aspects of IPC improves accessibility of health services in a safe and conducive work environment.
- M&E is helpful for quality improvement, but IP need to be aware of challenges institutionalizing regular data collection

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