Ministry of Health

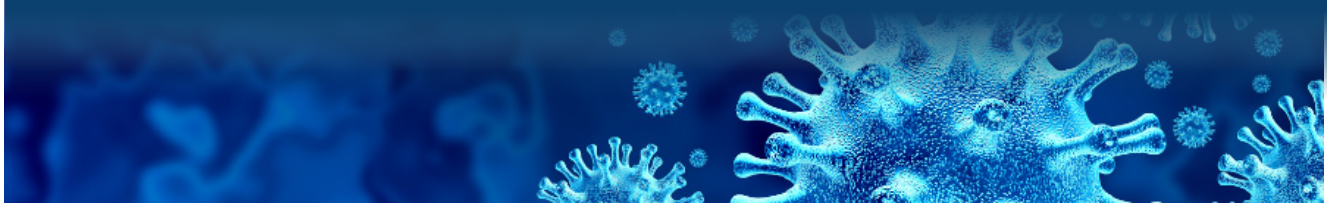
RAPID EVIDENCE BRIEF

Cross-border control measures to contain COVID-19 pandemic in Kenya

August 2021

Key Messages

- Knowledge on COVID-19 measures is key in implementing the cross-border management measures, therefore health education interventions are critical to enhance knowledge on COVID-19 among cross-border communities.
- Despite the successful implementation of the pandemic intervention measures at the borders, the social life of most families needs to be cushioned by the stakeholders to minimise negative impact such as domestic violence, high numbers of teenage pregnancies, and loss of daily income.
- There is need for a more resilient health system linked intricately to the community to minimise implementation delays and ensure availability of routine health services; this requires investments e.g. infrastructure and human resource.
- Integrated measures were found to be more efficient in COVID-19 control at the borders.



Introduction

COVID-19 is a novel virus that first occurred in Wuhan, China in 2019 and has since spread all over the world causing a global pandemic that has been a global public health crisis (1). The virus is caused by a novel coronavirus known as Severe Acute Respiratory Syndrome – Coronavirus -2 (SARS-CoV-2) (2). The mode of transmission is airborne via inhalation or by contact with infected droplets on contaminated surfaces; with the incubation period ranging from 2 to 14 days (1). The disease is mild in most people; but in some (e.g. the elderly, those with co-morbidities) it may progress to pneumonia, Acute Respiratory Distress Syndrome (ARDS) and multi organ dysfunction/failure. Many people are however, generally asymptomatic within the population and the overall case fatality is about 2%-3%. Therefore, many measures have been put in place to curtail the movement of people with the aim of slowing and containing the pandemic.

Some of these measures include travel restrictions; screening measures including at airports; quarantine implementation; use of mandatory Personal Protective Equipment (PPE) and screening at airports (3). This has enable management to reduce spread of virus as well as tracking/surveillance of transmission pathways which may be followed. The restrictions have been implemented at the both local i.e. cross-county as well as cross-border i.e. regional and international level.

In March 2020, the East Africa Community came together to deliberate on ways of containing the pandemic following the declaration of COVID-19 as a Public Health Emergency of International Concern (PHEIC). In an effort to control the pandemic without interfering with trade as guided by IHR 2005 (4), the ministries responsible for Health and East African Community Affairs developed a guideline to be used by cross-border travellers and port health officials at the point of entry and along the transport corridor. Some of the measures include being in possession of COVID-19 negative results certificate and having an attestation letter 48 hours before travel. Attestation letter is a letter originating from country Ministry of Health (MoH) and authenticated by the relevant department of public health stating that one has been tested for COVID-19 (with negative result at the time of testing) in the last fourteen days.

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COVID-19 measures

Travel restrictions

Globally the travel restrictions have been put in place as a rapid intervention to stop the transmission of COVID-19 across different countries. The measures put in place include official lockdown of borders via cessation of international flights out of and into the country. Proper establishment of screening measures at international airports proved to be effective in preventing the introduction and reintroduction of the virus to new geographical locations i.e. countries (7). In addition, it was observed that border closure gave positive effects in the shift in epidemic development, with the study being conducted in several countries including United States of America (USA), Sweden, Canada, United Kingdom, British Columbia, Germany, Belgium, New Zealand and Japan (5).

In Kenya, cross-border restriction between counties has been ongoing depending on the severity of COVID-19 disease in the country. However, where necessary, cross-county movement was restricted, in a bid to stop the spread of the virus to other counties. Movement was restricted in and out of exit points, and dusk to dawn curfews also imposed on the general population (6).

Screening

This has involved the use of proper and diagnostic techniques to detect the SARS-COV-2 virus within the body. The laboratory techniques involved in performing this include the use of Rapid Antigen Testing Kits to detect circulating antigen in blood and real-time (serology); and PCR (rt-PCR) to detect viral Ribonucleic acid (molecular testing). The latter has been preferred over the former because it is more sensitive (8). The preferred sample of choice is the nasopharyngeal swab, with results able to be obtained before 24 hours. Travellers had to have a test 72 hours before travelling.

Since March 2020, the Kenya Government requires that all persons departing or arriving in the country should have a negative COVID-19 test as a condition of entry/exit (negative rt-PCR COVID-19 test and an associated trusted travel code), which airlines and Kenya's Port Health authorities will verify at the airport. However, the negative test does not apply to domestic flights within Kenya (9).

Further, the Kenyan authorities have been conducting random temperature screening in spaces frequented by the general public. If one shows signs or symptoms of coronavirus and are able to self-isolate, then one can expect to be directed to do so.

Quarantine

This form of self-isolation was mostly employed to people who may have come into contact with suspected/known cases of COVID-19. This identification of people at risk would be done through contact tracing. The isolation would occur for a period of two weeks to check for appearance of the antigen in blood circulation or whether there is onset of clinical symptoms. This would enable contact tracing and withdrawal of suspected COVID-19 cases from the general population, thus playing a part in limiting further spread of the infection within the population (7).

Use of mandatory Personal Protective Equipment (PPE) and hygiene practices

The methods implemented included the use of protective surgical masks and hand-washing using soap; plus the use of PPE material especially for health care workers and laboratory personnel. There has also been social distancing measures implemented i.e. a distance of 1.5m while in public.

It was noted with a high level of certainty, that a major part of particles of respiratory origin stay airborne for a considerable time for them to be inhaled. They noted that the number of particles produced by speaking is significant, especially as it is normally done continuously over a longer period (10). The use of PPEs - especially masks - therefore has greatly contributed to the reduction in the spread of the virus through reduced human-to-human contact and prevention against entry by the virus through the viral barrier (11).

Integrated measures

Combinations of more than one measure have been used in many countries. i.e. quarantine and screening at borders, with most studies suggesting some benefits (3). The measures have proved to be timely in restricting the spread of the virus to low income and limited resource settings which may not have been adequately prepared to handle the large scale public health implications of the pandemic. Quarantine and screening at borders was reported to be an effective measure by several studies (15, 16). This included PCR testing on arrival then final testing on day 14 of quarantine to identify true cases. In New Zealand, there was a reported reduction in the number of daily reported cases; a shift in the epidemic peak as a result of border closure and quarantine measures implementation (13). The same measure was reported to be effective in Egypt (16).

Objective

Rapid evidence summary to highlight the cross-border measures used so far and valuable insights on the areas of improvement in Kenya.

Results

Overall, there were four cross-sectional studies conducted in Kenya presented in the 11th KASH conference held in 2021 as stated below:

1. Factors that influenced the control of COVID-19 in border counties.

2. Health system response to COVID-19 in border counties in Kenya.

3. Socio-economic status and knowledge of COVID-19 prevention measures in border counties of Busia and Mandera, Kenya.

4. Effect of the COVID-19 pandemic response measures on social life in the two border counties of Kenya.

Overall, the studies sought to understand the measures put in place at the border level with clear elaboration on facilitators and challenges experienced in response to COVID-19 in two border counties of Busia and Mandera in Kenya (13, 14, 17,18).

Setting

All the four studies looked at measures used at the manned border control in Busia and Mandera counties.

Population target

- **Health care workers:** targeted due to the direct handling of patients and samples, needed capacity and infrastructure support.
- **Members of the community:** they need proper access to health services and information concerning COVID-19 from relevant sources.
- **Stakeholders:** they need to understand the situation on the ground so as to develop and implement policies that support COVID-19 public education/awareness and control measures.

Measures

i) Facility level

- There was implementation of physical distancing for sitting arrangements within the facility
- There was establishment of triage points at health facilities. In addition, dedicated quarantine and isolation facilities were designated in each county.

ii) Community level

- Sessions held with the public to sensitise members on the COVID-19 pandemic for them to take up preventive and precautionary action to safeguard themselves from the virus.

iii) At the border level

- Closure of manned border crossing to restrict the movement of people in and out of the restricted areas/high -risk areas to restrict movement of possible asymptomatic/symptomatic cases.
- Establishment of hand-washing stations for staff at the borders for maintenance of personal hygiene.
- Screening and sample collection for people granted special permission to cross, enabling testing to know infection status .
- Cross-border reporting to enable proper mapping/ surveillance in trends of spread of infection.

Lessons learnt

i) Public health awareness

Raising awareness on COVID-19 contributes positively to the decrease in cases by educating people on better hygiene practices to better enable their own personal protective measures.

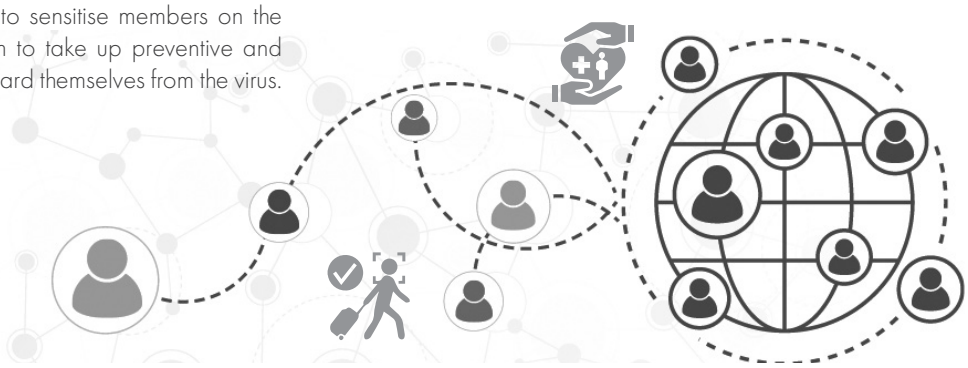
Some of the examples included the use of PPE to prevent person-to-person contact and eventual transmission (11).

ii) Stakeholder engagement

The need to take a multi-sectoral collaborative approach is important to properly raise awareness of the public, since the implications of certain control measures may go beyond a single sector e.g. health care facilities needing resource support to boost capacity handling of infected persons through more test-kits, laboratory and hospital equipment and adequate number of medical personnel to handle patients (14).

iii) Border testing and closure

The border closure and cessation of inter-county movement positively contributed to controlling the spread of infection and reduction in COVID-19 cases. Additionally, testing at the border for essential persons crossing was important to know infection status and where necessary undertake contact tracing (18).



Facilitators and challenges experienced in cross-border COVID-19 management

Table 1 below summarises the facilitators and challenges experienced during the time when measures were implemented at the Busia and Mandera borders.

Study title and author	Facilitators on cross-border COVID-19 management	Challenges/ barrier on cross-border COVID-19 management	Conclusion
Mbuka Schiller *et al.* (2021); Factors that influenced the control of COVID-19 in border counties	- Closure of manned border crossing, - Establishment of hand-washing stations, - Screening and sample collection - Cross-border reporting - Community sensitisation on COVID-19	- Long testing turn around time - Crowding of truckers - Stockouts of test and sample collection kits - Use of unofficial border crossings - Infrastructure constraints	- The need to replicate facilitating factors and county-specific innovations in other border counties - Multi-sectoral efforts are needed in, resourcing, enhancing health education and enforcing COVID-19 control measures
Doreen Mitaru *et al.* (2021); Health system response to COVID-19 in border counties in Kenya	- Physical distancing and establishment of triage points were done at health facilities - Dedicated quarantine and isolation facilities were designated in each county	- Community health workers not trained adequately enough to support home-based care and isolation centres	- There is a need for a more resilient health system linked intricately to the community - There is a need to minimise implementation delays and secure routine health services - The need to put in more capacity investments e.g. infrastructure and human resource is critical
Ahmed Ismail *et al.* (2021); Socio-economic status and knowledge of COVID-19 prevention measures in border counties of Busia and Mandera, Kenya	- Level of education is key in understanding the importance of hand-washing prevention measure	- Education levels negatively affected people's perception of COVID-19 measures e.g. those with lower education levels were less likely to take up personal protective measures than those with higher levels (i.e. secondary education)	- Education level impacted adherence to COVID-19 prevention measures - There is a need to develop initiatives towards at reducing economic disparities
Priscilla Maiga *et al.* (2021); Effect of COVID-19 pandemic response measures on social life in two border counties of Kenya	None	- Social networks/links (peer groups, religious networks, families) were disrupted by movement restrictions, curfews and closure of educational institutions - Negative changes in quality of social relationships reported - Long-term consequences: i.) educational attainment (e.g. teen pregnancies for girls) ii.) family structure and stability (e.g. divorce, separation etc)	- The government needs to establish slightly more lenient measures to reduce the negative strains placed upon interpersonal relationships, while enforcing high control measures

Discussion

Kenya's porous land borders remain a cause for concern among policy-makers and public health experts, who fear that unchecked movement may contribute to the further spread of COVID-19. Kenya's cross-border communities have strong trade, linguistic and cultural ties, which create a conducive environment for unchecked movement and interaction. A Kenyan study (18) advocated for, among other interventions, community advocacy and health education as a key intervention to enhance knowledge on COVID-19 among cross-border communities. In addition, standard interventions like hand-washing stations, screening and sample collection stations, harmonised testing, case management at point of detection, reporting across border points and pre-existing cross-border health committees have been shown to be effective; and may help if further improved (16, 18).

In assessing the health system response to COVID-19 in border counties in Kenya, a need was observed for a more resilient health system linked intricately to the community to minimise implementation delays and ensure availability of routine health services; with the help of investments e.g. infrastructure and human resource (14). A study conducted on knowledge status at the Busia and Mandera counties showed that ignorance of the COVID-19 prevention measures undermined efforts to reduce virus transmission (14).

Social life has been negatively affected by the implementation of the COVID-19 measures in most areas. Majority of social networks/links (peer groups, religious networks, families) were disrupted by movement restrictions, curfews and closure of educational institutions. Social relationships were also negatively affected; gender-based violence, teen pregnancies and family instabilities were among the negative effects reported (17).

The findings from a widespread systematic review (3) shows that travel restrictions may limit the spread of disease across national borders. Symptom/exposure-based screening measures at borders on their own are likely not effective; PCR testing at borders as a screening measure likely detects more cases than symptom/exposure-based screening at borders, although if performed only upon arrival, this will likely also miss a meaningful proportion of cases. Quarantine, based on a sufficiently long quarantine period and high compliance is likely to avoid further transmission from travellers. Combining quarantine with PCR testing at borders will likely improve effectiveness. Many studies suggest that effects depend on factors, such as levels of community transmission, travel volumes and duration, other public health measures in place, and the exact specification and timing of the measure.

Conclusion

The evidence summary suggests that travel-related control measures during the COVID-19 pandemic may have a positive impact on infectious disease transmission and screening-related outcomes. However, as the pandemic progresses and efforts in countries including Kenya to ensure up-to-date vaccination for travelers and community at large, vaccination checks at the port of entries might be considered (3). Decision-makers can implement/ increase or de-implement/loosen a range of potentially appropriate measures, however, importantly, travel-related control measures affect health and society in much broader ways, and decisions will need to balance all benefits and potential harms associated with a specific measure.

Recommendation

- To advocate for more rapid antigen testing for affordable PCR testing.
- Robust community engagement and sensitisation on physical measures like social distancing, use of PPE and hand washing is critical.
- Health care workers should have frequent training and up-to-date guidelines on COVID-19 given the ongoing evolving strains/variants of the virus.
- Sufficient supply of PPEs and testing kits to prevent stock out and proper utilisation.
- Close monitoring system and applications such as the *JITENGE APP* need to be optimised to enhance tracing and follow up.
- Engaging stakeholders is key to enhance involvement and investments e.g. infrastructure and human resource.

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