



Trancop

Transforming Covid-19 from Crisis



PanaBIOS

Pan-African Reopening Tech Platform



Ghana, as part of its Trancop policy framework, is pioneering the PanaBIOS bioscreening and risk-based reopening protocols to advance the African Union’s Open Corridors Initiative and the Africa CDC Public Health Corridors program. PanaBIOS leverages the BioCordon platform, developed by African technologists and AI thinkers. The reference implementation is based on the AU Open Corridors DABBIT protocol and delivers improved analytics in the contagion monitoring, events surveillance, port clearance, travel screening, and health security management systems of nation states and sub-national entities.

PanaBIOS provides “pandemic digital vigilance in a box”, covering human density monitoring, contagion tracking, digital contact tracing, community screening, and mass testing traceability. Together, these capabilities enable governments to reopen economies through technology-enabled, risk-based, control of the factors that spread disease. Ghana intends to demonstrate the way forward by replacing expensive and burdensome physical restrictions on movements and gatherings with smart, digital, alternatives.

USER GUIDELINES

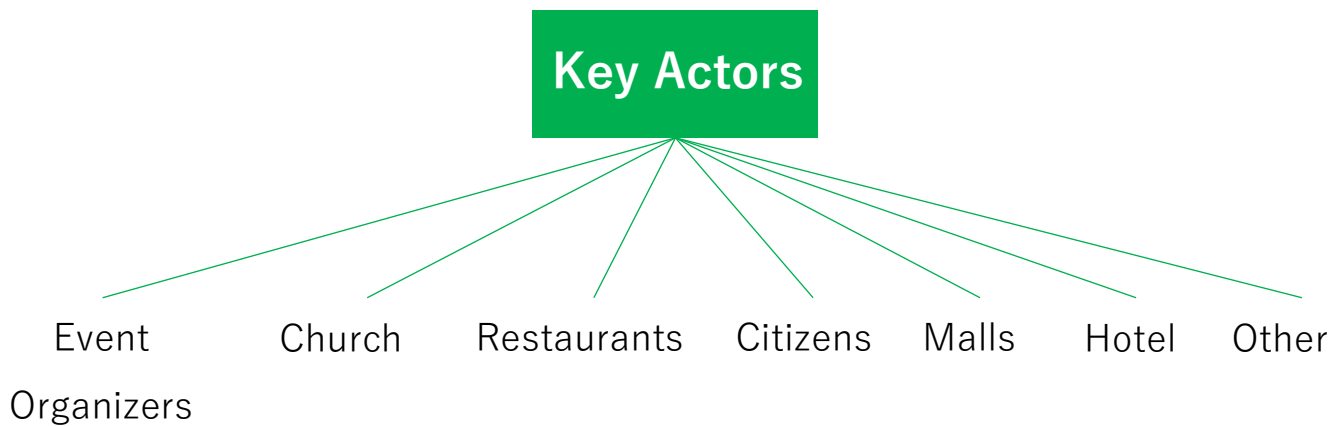


**Monitoring Contagion
& Disease Transmission Risk Using
Human Density Gauging and Contagion
Tracking (Events And Hotspots Logging)**



Monitoring Contagion & Disease Transmission Risk Via Events And Visits Logging

Locations or activities susceptible to disease super-spreading risk will be subjected to smart digital controls. PanaBIOS uses privacy-compliant digital movement and human density gauging to keep track of visitors/attendees who frequent high-risk locations or participate in high-risk gatherings to enhance contact tracing in the event of someone contracting COVID-19 infection.



“These players are made up of three groups; Visitors/Attendees, Closed and Open Locations/Activities Event Organisers and Venue Operators.”



Open Locations/Activities



These activities and locations are those where visitors/attendees are usually unknown prior to their arrival. Such locations and activities include **hotels, conferences, secondary schools, funeral houses, weddings, malls, supermarkets, and workshops** etc.



Venue/Location Operators Guide

- 1 Operator registers location/venue in PanaBIOS
- 2 Generate venue/location 2D QR Code and Passcode
- 3 Display print outs of 2D QR Code and Passcode at the entrance of Venue/Location
- 4 Ensures visitors/attendee scan 2D QR Code or use the Passcode via PanaBIOS or USSD to confirm their visit or attendance



Event Organizers Guide

- 1 Event Organizer registers event, venue and logs relevant details like date, duration, time, event ground/room size etc.
- 2 Generates event 2D QR Code and passcode
- 3 Display print outs of 2D QR Code and passcode at the entrance to venue for event
- 4 Ensures attendee scans 2D QR Code or use the passcode generated and delivered through PanaBIOS or USSD to confirm their attendance



Location/Activities Visitors/Attendees Guide

- 1 Visitor/Attendee scans 2D QR code or use a passcode generated and delivered by the App to register their visit/attendance. Alternatively, the passcode can be used to do same via the USSD menu.
- 2 Complete a simple form to indicate presence or on behalf of dependents without mobile phone access.
- 3 Proceed to confirm entry via the mobile app or USSD in order to obtain a record or timestamp of their attendance/visit.
- 4 Checks out when leaving location/event; however, should the visitor/attendee refuse to check out, the system will check them out automatically after a pre-defined period.



Detailed Coverage of Closed Locations/Activities



These activities and locations are the ones where visitors/attendees are known ahead of time. A special “digital badge” is generated through the distributed identity managed platform. Trancop provides a framework for integrating PanaBIOS with Ghana’s established digital infrastructure, such as the Digital Addressing System and the National Identification System. Such locations and activities include church services, corporate meetings, conferences, etc.



Event Organizers Guide

- 1** Organizer registers event, venue and logs other event details such as date, duration, time, event ground/room size etc.
- 2** Generate venue/location 2D QR code and passcode
- 3** Send 2D QR Code and passcode to attendees as invitations via the PanaBIOS App and USSD/SMS interface
- 4** Scan 2D QR Codes or use the passcodes generated by attendee upon accepting to attend event via PanaBIOS or USSD to confirm their attendance



Closed Event Attendees

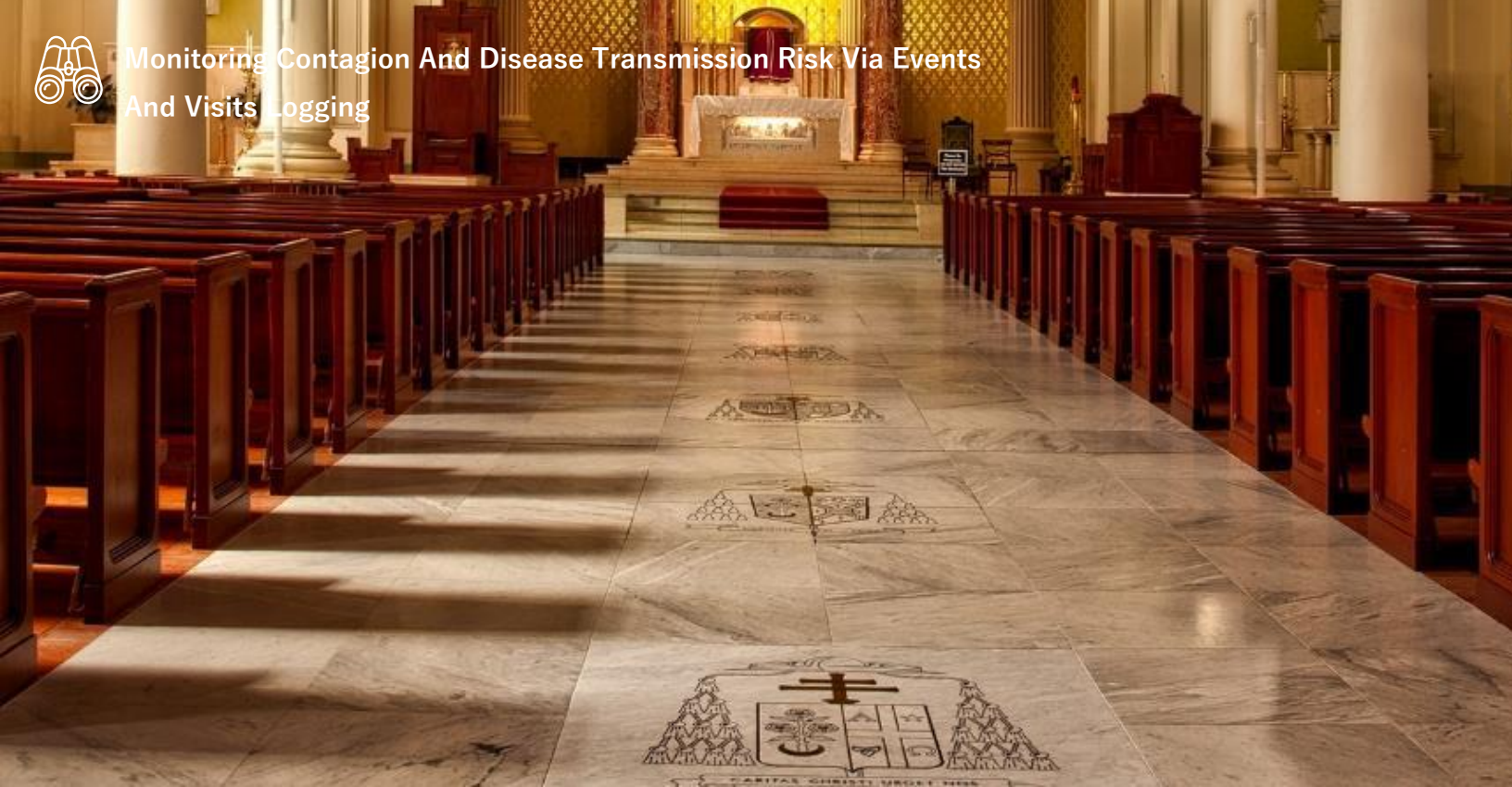


These are persons attending events with other attendees known ahead of time. Such events include **church services, corporate meetings, conferences,** etc.



Event Attendees Guide

- 1 Attendees honour invitations sent via the PanaBIOS App or via SMS by accepting to attend.
- 2 Acceptance of invitation generates a unique 2D QR code and passcode as a passage/attendance ticket.
- 3 Attendee presents 2D QR code or passcode at the entrance to the venue of the event to be granted passage and also to log their attendance.
- 4 Attendee completes a simple form to indicate if they are attending the event together with someone and proceed to confirm entry to the event.



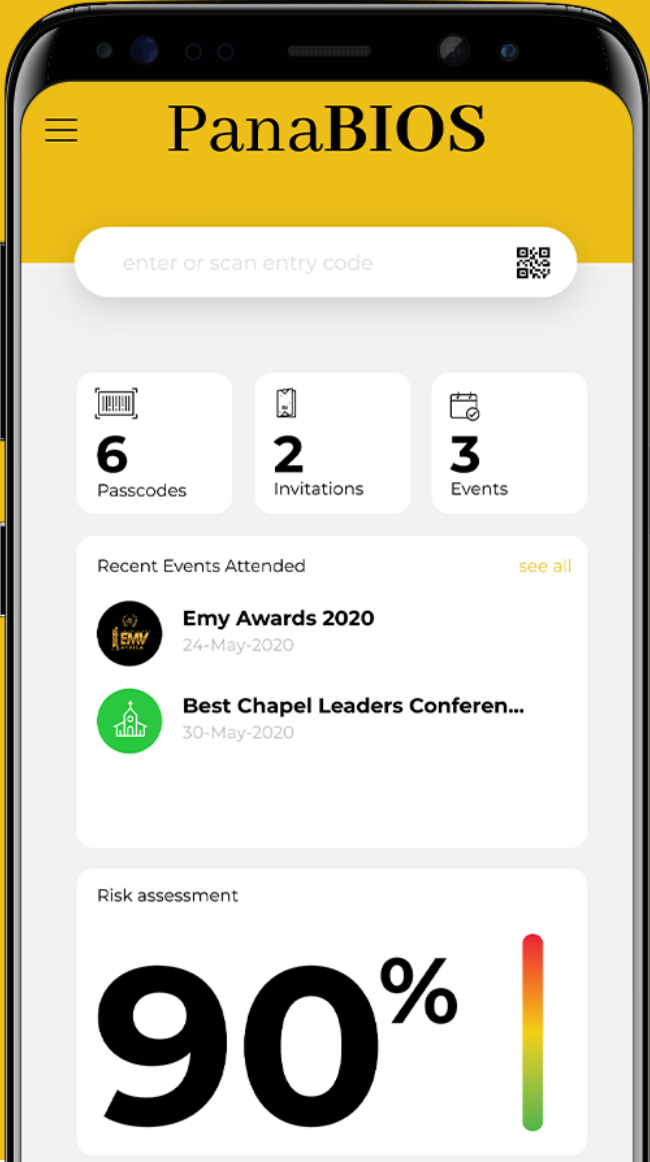
SPECIAL CASES

Venue Operator Self-Monitoring

Some event operators like churches and other associations/groups already have member lists and can therefore be given the option of managing their own attendance sheet their own way, but they must submit records detailing attendance of a particular service or event.

Consumer User Experience

A Simplified Church Example



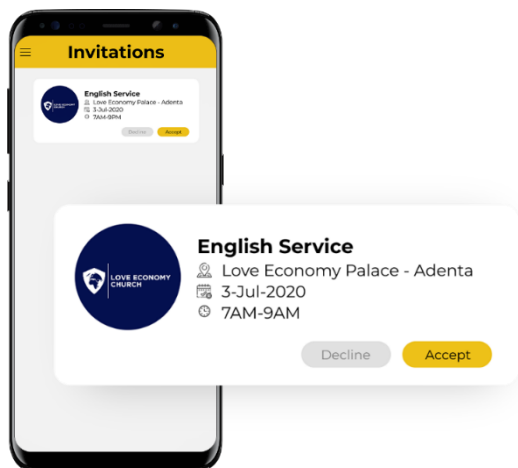


Monitoring Contagion & Disease Transmission Risk Via Events And Visits Logging

The church admin must register each service as an event, generate and print out a **QR code** together with the event **passcode** and position it at the entrance of the church premises for app-based or USSD validation by members



or

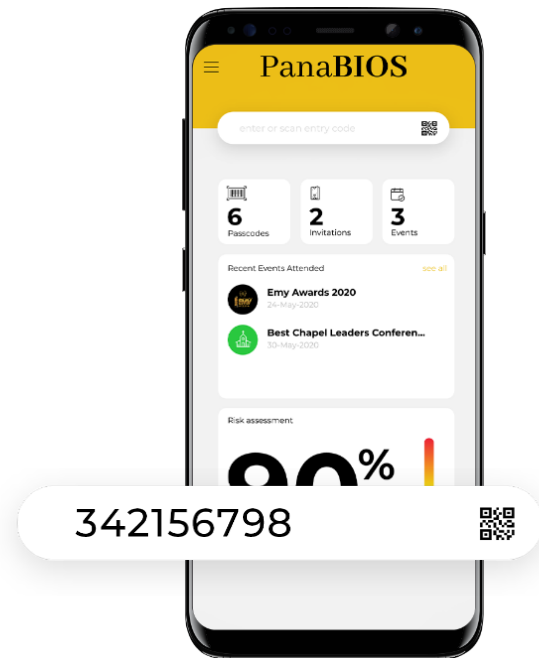


The church admin instead registers the service as an event and send the passcode as invitations via the PanaBIOS app or through their own WhatsApp channel to their members



Monitoring Contagion & Disease Transmission Risk Via Events And Visits Logging

The church attendant scans the **QR code** or enters the **passcode** via the app or via USSD at the entrance of the premises to log their attendance.



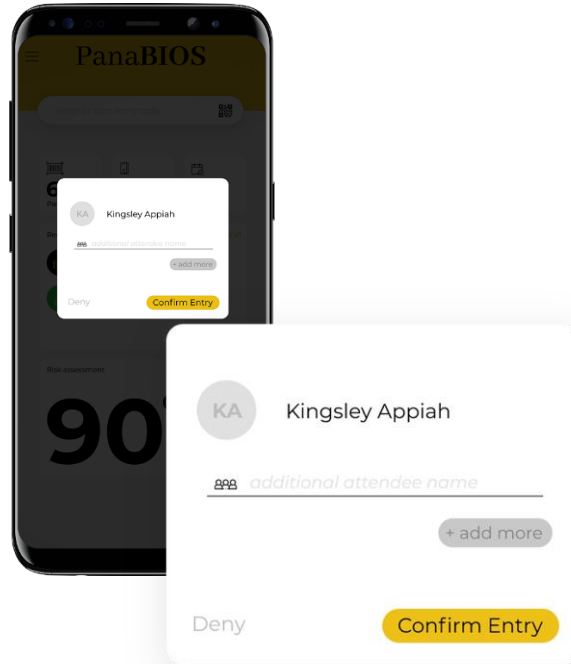
or



Attendee accepts the digital invitation sent via the app or through WhatsApp and gets a special **QR code** and **passcode**, which is then presented at the entrance of the church premises to be verified by church officials to confirm attendance.



Monitoring Contagion & Disease Transmission Risk Via Events & Visits Logging

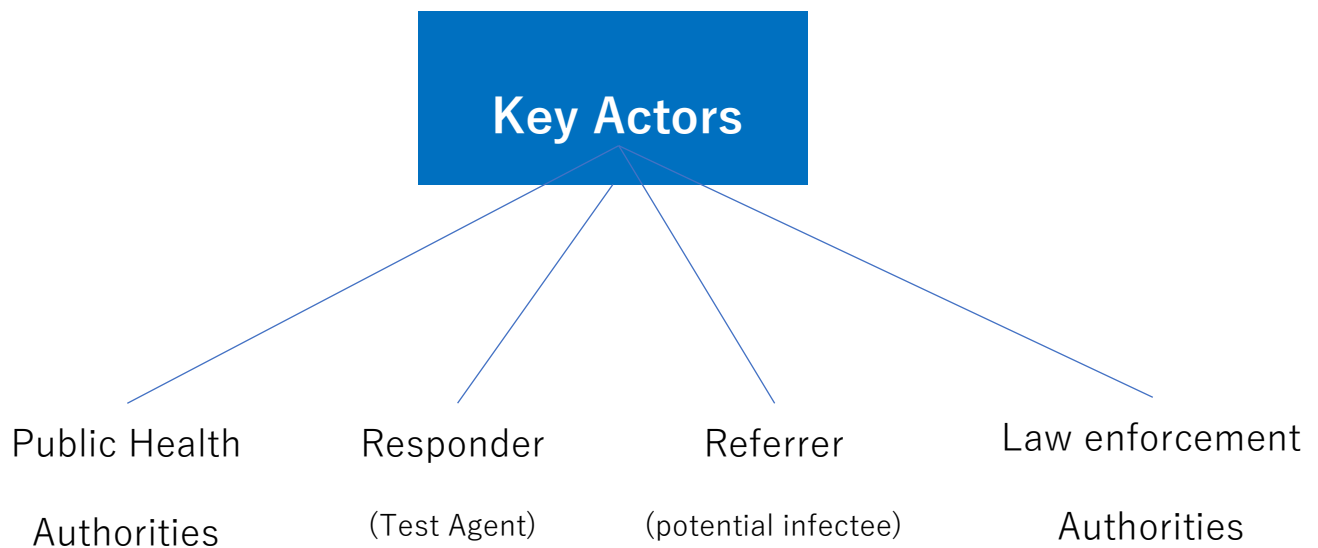


Attendee's entry is confirmed before he/she is allowed into the church premises.

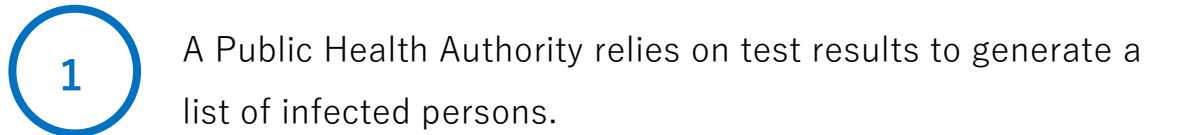
*Whichever process is used, the **confirmation screen** gives the attendee the chance to register a relative(s) who may not have access to a mobile phone. The relative or other dependent is then linked to that church attendant.*

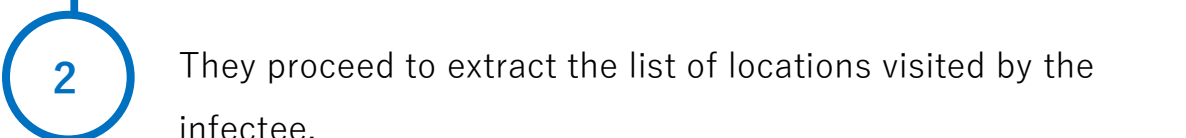
Contact Tracing

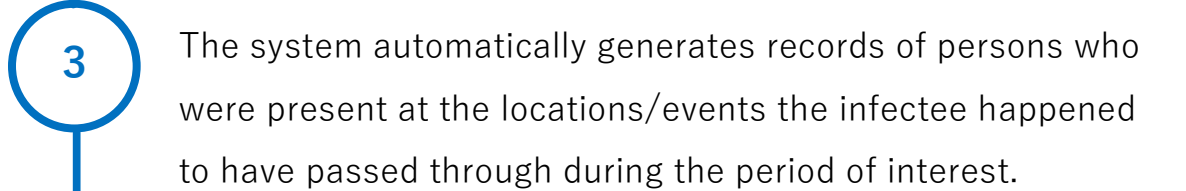
This module relies on digitized health records to power predictive analytics that help identify infection hotspots at a most granular level. The module utilizes various triangulation algorithms to track and trace persons facing potential health threats. The index of suspicion is generated by running a search of locations and events logged in the system to exfiltrate contact details of persons who have been in proximal contact with the infectee and have been algorithmically determined to be at high risk of contagion.

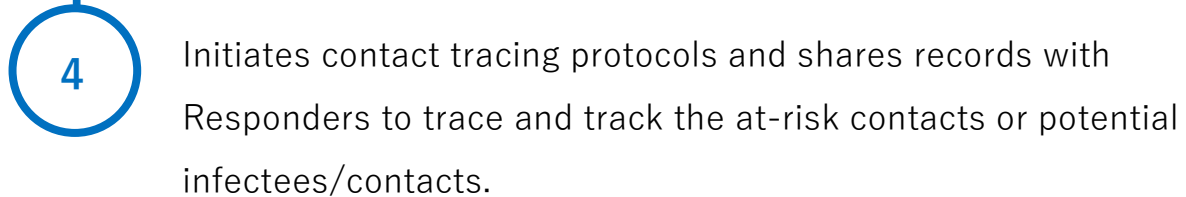


Public Health Authorities Guidelines

- 

1 A Public Health Authority relies on test results to generate a list of infected persons.
- 

2 They proceed to extract the list of locations visited by the infectee.
- 

3 The system automatically generates records of persons who were present at the locations/events the infectee happened to have passed through during the period of interest.
- 

4 Initiates contact tracing protocols and shares records with Responders to trace and track the at-risk contacts or potential infectees/contacts.

Responders Guidelines

1

Receives potential infectee records from a Public Health Authority.

2

Works with security or Law Enforcement Agencies to track down the locations of potential infectees/at-risk contacts.

3

Conducts COVID-19 test of potential infectee and immediate relatives.

4

Sends test samples to Lab entity for necessary actions to be taken to generate test statuses for all tested individuals.

Law Enforcement Agency Guidelines

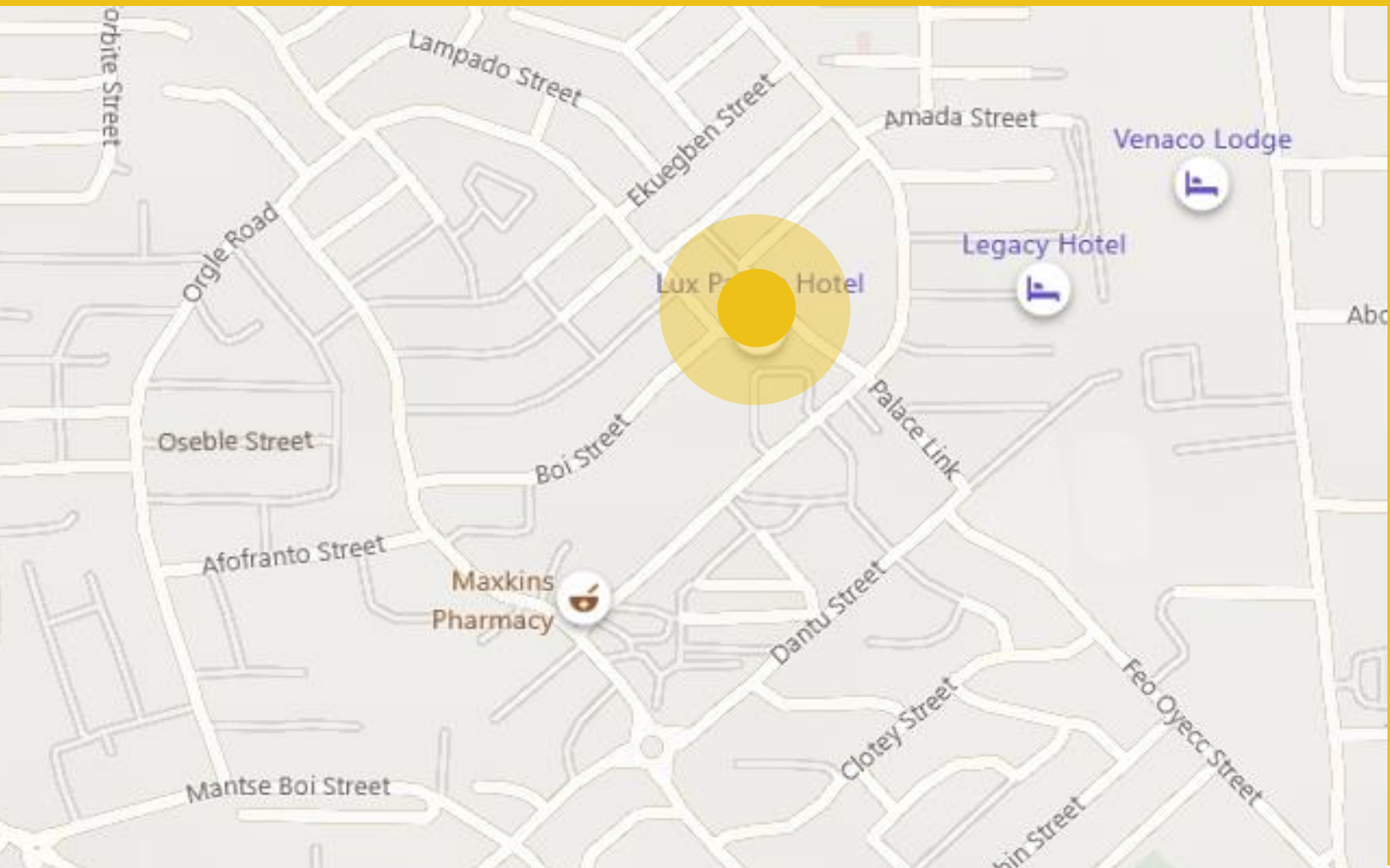
- 1 Provides contact search assistance to Responders.
- 2 Protect Responders during case investigation and testing.
- 3 Generates health security data to inform human security strategies.

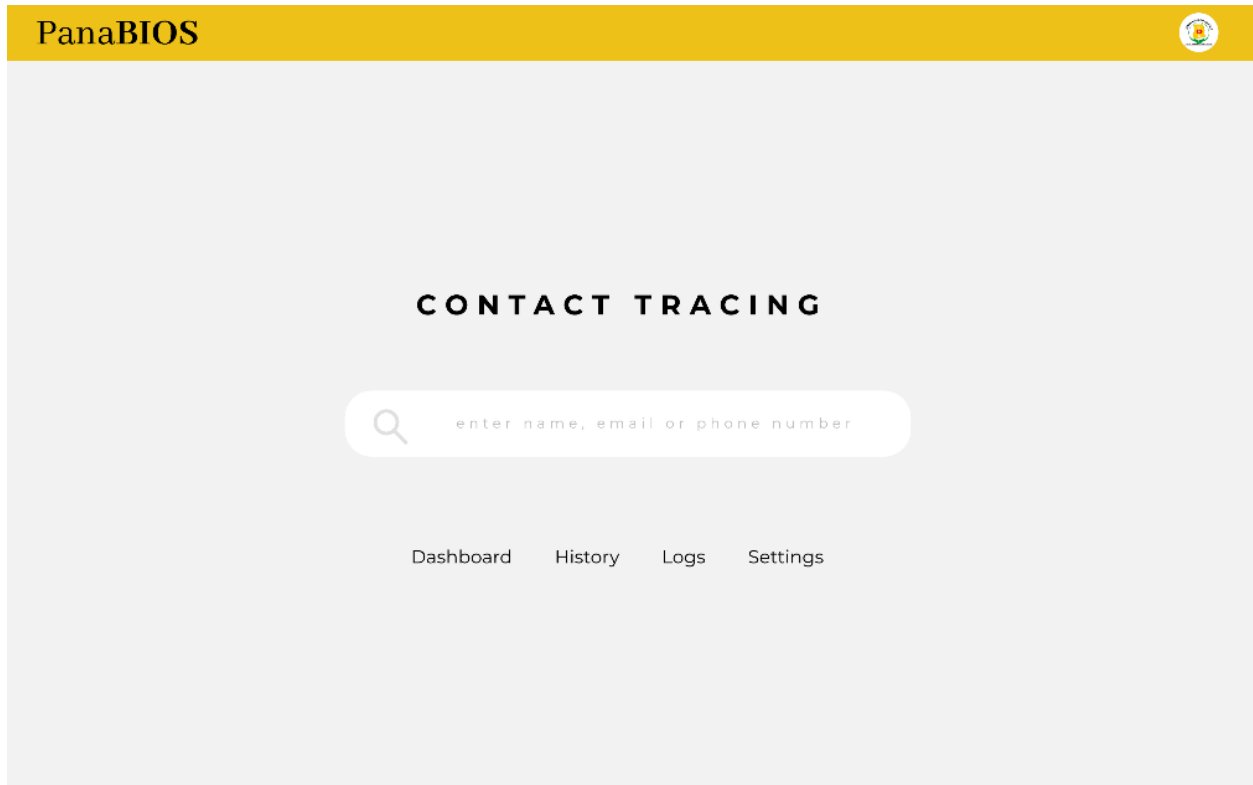
Potential Infectee Guidelines

- 1 Provides contact search assistance to Responders.
- 2 Ensures compliance with digital control protocols.
- 3 Avoid unnecessary risks.

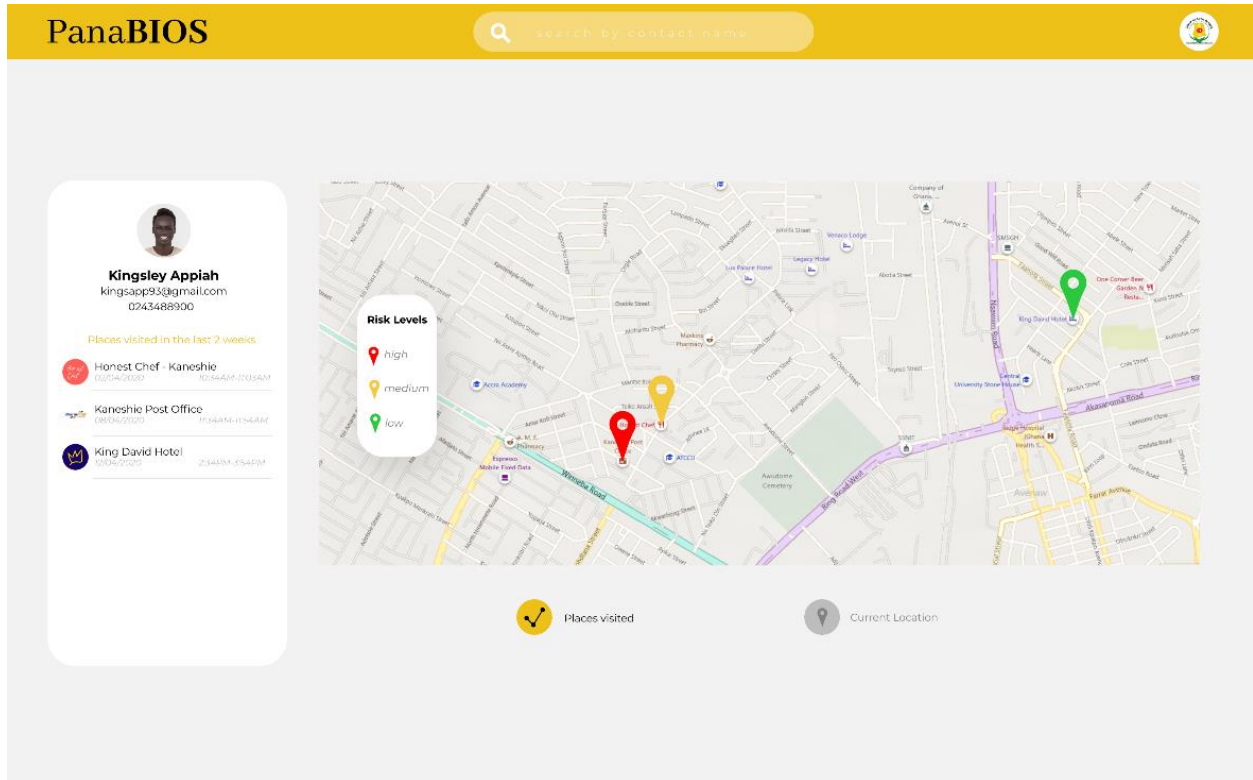
Contact Tracing

A Simplified Tracing Process

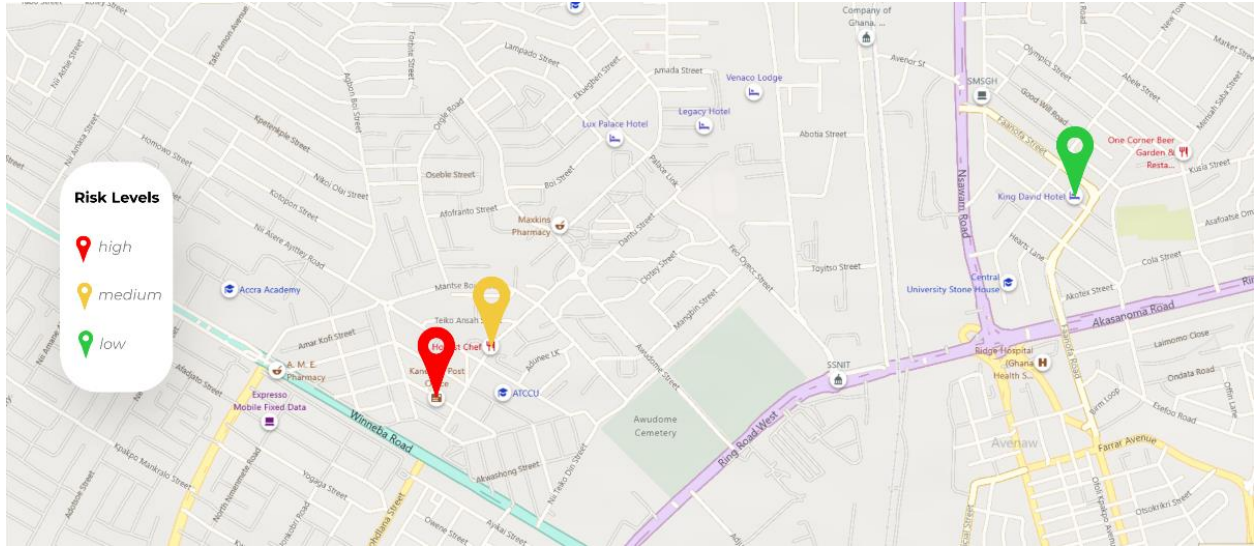




Public Health Authorities run “Proximal Contact” search functions against “radius of contagion” data linked to an infected person. Using unique identifiers like Name, phone number or email address in the PanaBIOS Contact Tracing Portal or directly from Public Health Authorities’ Portal.



System runs check to find out where an infected person has been and which events they have attended during the period of interest.



System runs “priority proximity” checks to identify most at-risk contacts.

System operators identify & prioritise riskiest hotspots.

High Risk = Small venue + high number of attendees
+ whistleblowing about noncompliance



Kingsley Appiah
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0243488900

Places visited in the last 2 weeks



Honest Chef - Kaneshie
02/04/2020 10:34AM-11:03AM



Kaneshie Post Office
08/04/2020 11:34AM-11:54AM



King David Hotel
12/04/2020 2:34PM-3:54PM

Suspected infectees identified


Suspected infectee contacted via phone (phone number is accessible only to the appropriate authorities).


Or,

Use the existing contact tracing methods.

PanaBIOS


🔍






Kingsley Appiah
kingsapp93@gmail.com
0243488900


Places visited in the last 2 weeks




Honest Chef - Kaneshie
08/04/2020 10:34AM-11:05AM



Kaneshie Post Office
08/04/2020 11:34AM-11:54AM



King David Hotel
12/04/2020 2:34PM-3:04PM



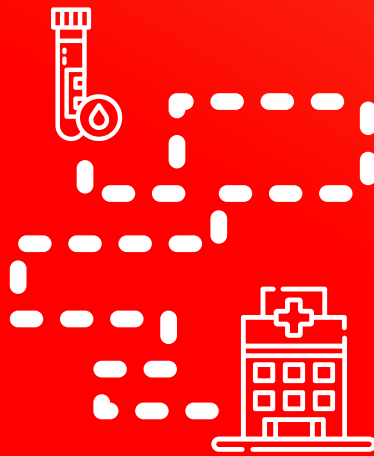
Kaneshie Post Office
08/04/2020 11:34AM-11:54AM

List of persons present during the period

Name	email	Phone Number	Address
Abiba Assan	abiassan231@yahoo.com	0541098723	Kaneshie-Abbeam Junction
Mohammed Amin	moamin@live.com	0201092712	Awoshie-Laet Stop
Abigail Peprah	perpstar123@gmail.com	0241098720	Weija- SCC
Patrick Bamfo	patrickbamfo@gmail.com	0502098999	Adabraka- Champion
George Marfo	georgemarfo532@yahoo.com	0233092222	Adabraka- Presty
Susan Aikins	asuzie31@hotmail.com	0277772212	Swanlake- Greenhand
Anna Lawson	anlaw432@gmail.com	0521233321	Adenta- Commendo
Aaron Alumo Dadzie	aadadzie@gmail.com	0243322421	Kaneshie-Abbeam Junction
Barbara Awuah	awuahbarbs@gmail.com	0231232376	North Kaneshie-Fan Milk
Anita Okai	anlookai96@gmail	027652608	Fadama- Musuli
Kofi Appiah Marfo	aappiahmarfokofi@gmail.com	0253144212	Lapaz- Las Palmas

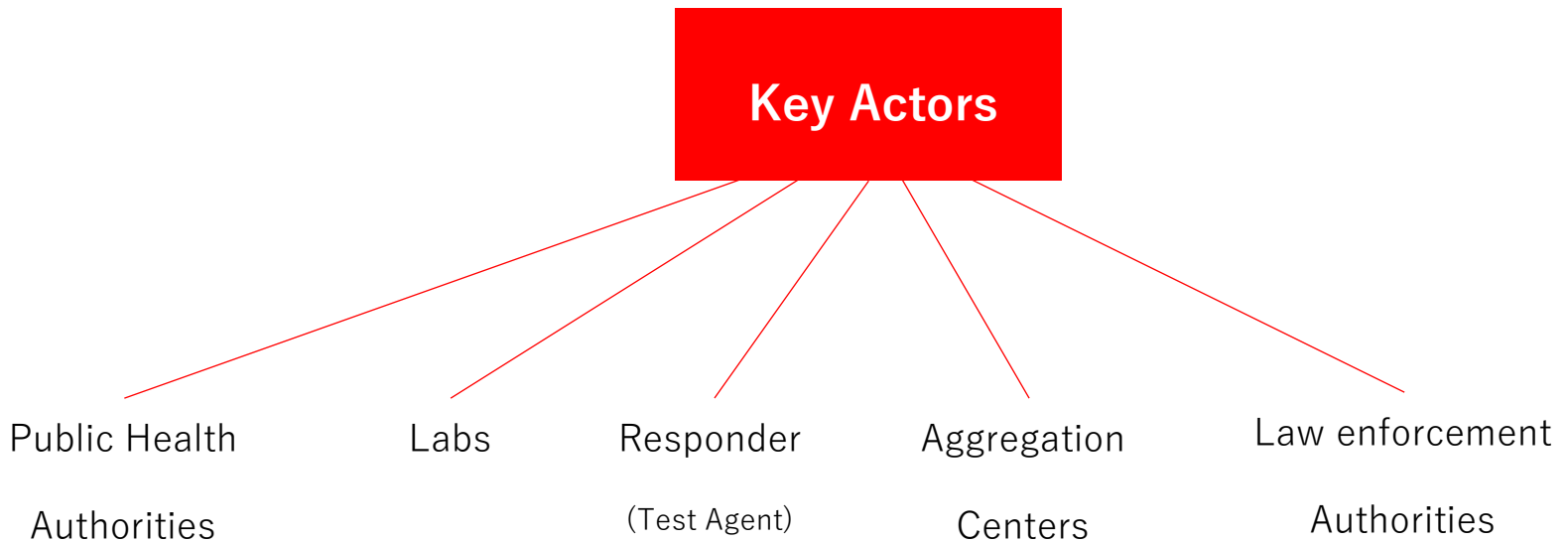
[next](#) 1 2 3 4 [prev](#)

User clicks on a particular location or event an infected person has visited to obtain authorized, privacy-controlled, access to details of all other persons who were likely present during the period the infected person was also present.



Sample Tracking

The sample tracking module of the PanaBIOS technology makes it possible to track and keep records of test samples from their origin to Labs without mixups. The system monitors each batch/lot of test samples and provides digital analytics of the items all the way to various Labs.



Responders and Aggregation Center Guidelines

1

Responder conducts test, label sample vial, scan and link records to collected samples. Sample vial is put in a cold box. Box is labelled and scanned and sent to aggregation centre.

2

Aggregation center actor scans codes on boxes to log receipt and generates consignment code.


3

Boxes are sent to Lab for sample processing/testing.





Sample Tracking

Labs Guidelines

- 

Lab receives samples from the Responders/Aggregation Center, confirm receipt and scans boxes or consignment code for validation.

Validation links boxes to aggregation centers and ultimately to samples
- 

Necessary actions are taken on the samples to determine the status of test samples.
- 

Test results are pushed into the system and Public Health Authorities are alerted.



Public Health Authorities Guidelines

- Approves results for all authorized parties to have access

Citizen Guidelines

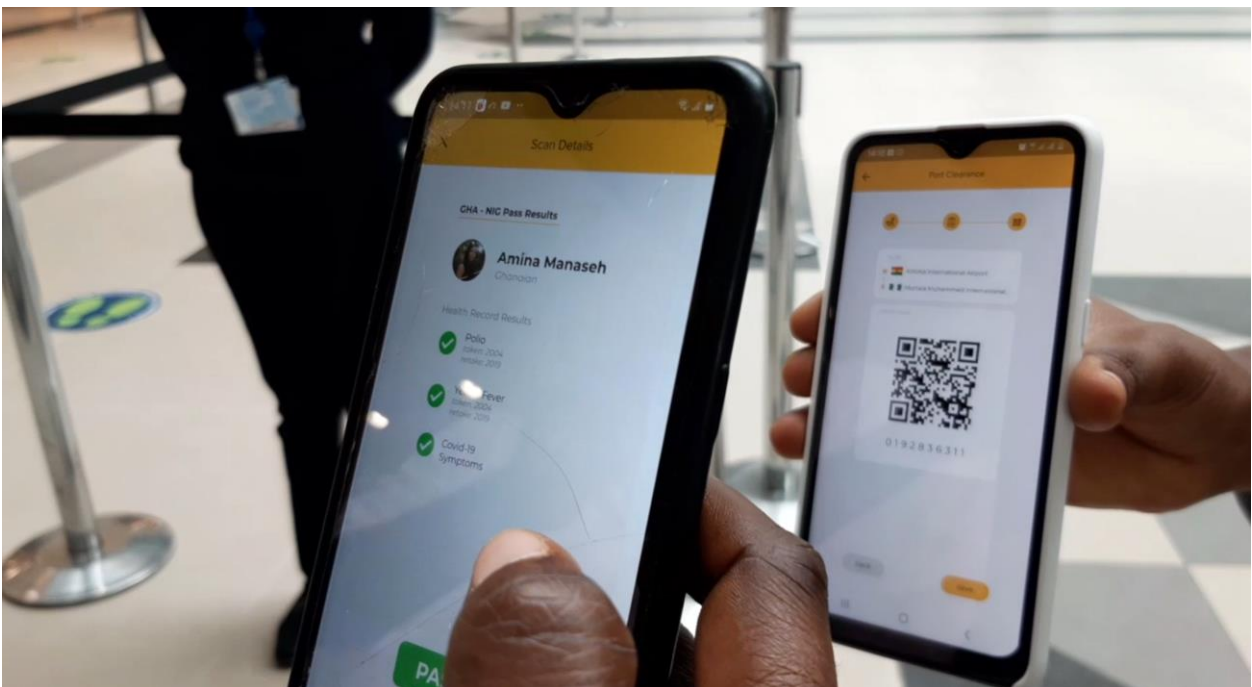
- Provide accurate personal records and assist with registration on PanaBIOS

Law Enforcement Guidelines

- Act as security escort for test samples

Digital Travel Health Clearance

- ✈ Passenger navigates to PanaBIOS.org or uses app to fill digital travel health clearance form prior to departure to Ghana.
- ✈ Or Airline crew member fills form on behalf of passenger ahead of checkin.
- ✈ Either way, a unique code or barcode is generated containing all the declaration details.
- ✈ Upon arrival in Ghana, Port Health officials scan the code or barcode to clear passenger for arrival.
- ✈ Data goes into risk model to secure Ghana from disease importation.



Prerequisites and Dependencies:

- Accessibility to web (www.panabios.org) or USSD (769 OR 819).
- All Telecom Networks
- Setup of users at GHS Disease Surveillance Unit, Public Health Department, Port Health Unit of GHS, CID of Ghana Police Service, Ghana Tourism Authority and all COVID-19 testing labs - ongoing.
- Trainer of Trainers engagement with hospitality industry.
Public website with full details of the program.



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General Inquiries:

Ghana Covid-19 Steering Committee

Ministry of Communications, Ghana

Ghana Health Service