Department of Health and Office of the Government Chief Information Officer mistakenly changing a member of the public's QR code in the "LeaveHomeSafe" mobile application to Red Code
Investigation Report

This Office received a complaint against the Department of Health ("DH") and the Office of the Government Chief Information Officer ("OGCIO").

The Complaint

2. The complainant's daughter ("Ms A") was not diagnosed with COVID-19. On 16 August 2022, her QR code in the "LeaveHomeSafe" mobile application ("LHS") became red (Red Code), indicating her as an infected person. The complainant called various DH hotlines on behalf of his daughter, but all the lines were busy. The voice mailbox was full and no message could be left. It was Ms A's birthday, but in the end she could not go out to celebrate due to the above mistake.

3. On 17 August, the complainant called DH. A staff told him that a foreigner had reported infection using Ms A's identity card number. The complainant queried whether DH had verified the information, as the foreigner's name was different from Ms A's. The staff said the case would be referred to relevant teams for follow-up. On 18 August, Ms A's code in LHS was restored to blue (Blue Code). At the same time, the LHS indicated that she had "Completed isolation or recovered", and showed "Yes" under "Previous infection with COVID-19". The complainant requested for rectification of Ms A's infection record, which should be "No". However, as at 6 September, no reply had been received from DH, and Ms A's infection record had not been rectified yet.

4. The complainant alleged that DH was slipshod to have changed Ms A's LHS QR code to Red Code without crosschecking the identity card, name and telephone number of the person who reported infection. After learning that Ms A had not been infected, the authorities only reverted her LHS QR code to blue but failed to give him a reply and rectify Ms A's infection record.

Our Findings

LHS and Vaccine Pass Arrangement

5. Upon receiving the nucleic acid test result/declaration of an infected person, DH's Centre for Health Protection ("CHP") would first check it against the list of positive nucleic acid test results from DH's Public Health Laboratory Services Branch ("PHLSB"). Where errors or omissions were found, the infected person's record would be revised by referring to the Laboratory Results Enquiry System and the information declared online, and a case file of the infected person would be created in CHP's internal Case Handling and Information Sharing Portal ("Case Portal"). The Case Portal had built in the function of verifying Hong Kong Identity Card ("HKID")

numbers to ensure the numbers were not inputted incorrectly. In addition, CHP's Communicable Disease Branch ("CDB") collected the positive nucleic acid test results from different sources on a daily basis for overall verification of information of infected persons. Where errors or omissions were found, it would be revised by referring to the information from other systems.

6. Based on the verified information of infected persons, CHP compiled the Record of Confirmed Cases and the List of Recovery Records. The Record of Confirmed Cases was transmitted to OGCIO's Electronic Vaccination and Testing Record System ("EVT System") every half hour to update its List of Red Codes[1]; the List of Recovery Records was transmitted to the Hospital Authority ("HA") three times every day to update its Central Vaccination Database ("Vaccination Database").

Sequence of Events

7. On 14 August 2022, CDB was notified by PHLSB that a nucleic acid specimen collected by a community testing centre on 11 August tested positive for COVID-19 after review. According to information from the private testing provider, the name registered was three capital letters of the English alphabet, and the HKID number registered was A1234XXX[2]. Upon receipt of the reviewed test result, CHP's electronic system created a case file automatically based on the relevant information. The case was listed in the Record of Confirmed Cases transmitted to the EVT System on the afternoon of 14 August.

8. On 14 August, a CDB staff found abnormalities in the name registered in this case during the routine verification process. After referring to the HKID data in the Laboratory Results Enquiry System, the staff considered that the person in this case had not provided the full name in English as shown on the HKID when taking the test. The staff, therefore, changed the name in the Case Portal from the three capital letters to the full name of the holder of HKID numbered A1234XXX (i.e., Ms A). The updated Record of Confirmed Cases and List of Recovery Records were transmitted to the EVT System on the night of 14 August, and to the Vaccination Database on the morning of 15 August, respectively.

9. On the night of 15 August, CDB received information submitted by the genuine infected person via the online declaration platform, including the person's full name (redacted from this report and represented as "AD"). The type of identification document was "Others", and the document number was A1234XXX, same as the HKID number of Ms A. After crosschecking other particulars, including the date of specimen collection and the telephone number, CDB staff found that the infected person in this case was not Ms A and revised the information as follows: the name of infected person was changed to "AD", the type of identification document was changed to "Others", and

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[1] The EVT System issued Red Codes according to the latest List of Red Codes after each update. In general, persons whose names were not on the latest list would have their Vaccine Pass reverted to Blue Code automatically.

[2] To protect the privacy of personal data, the number is represented as A1234XXX in this report.

the document number was unchanged as A1234XXX. The updated Record of Confirmed Cases and List of Recovery Records were transmitted to the EVT System on the night of 15 August, and to the Vaccination Database on the morning of 16 August, respectively. Ms A was not on the list anymore.

10. On 16 August, Ms A found her LHS QR code became red. Between 16 and 23 August, the complainant contacted DH by phone and email multiple times (some calls were answered by 1823), requesting for reverting his daughter's LHS QR code to blue and rectifying her infection record.

11. On 16 August, OGCIO received the case referred by DH. In its reply, OGCIO told DH that the Record of Confirmed Cases transmitted on the morning of 15 August included Ms A's information, and requested DH to rectify. On 17 and 18 August, OGCIO staff called the complainant and learned that Ms A's LHS QR code had already been reverted to blue, but "Yes" was shown under "Previous infection with COVID-19". OGCIO notified DH of the above situation on 18 August.

12. Between 16 August and 23 September, DH's relevant teams, OGCIO and HA jointly studied this case and explored a solution. Since the infection record stored in the LHS was saved automatically after the user retrieved the data from the Vaccination Database via the EVT System and downloaded the Vaccine Pass, Ms A's infection record could only be rectified after the entry was deleted from the Vaccination Database. However, the process involved modifying the system design of the Vaccination Database and thus took time to resolve. Eventually, the Vaccination Database was updated with the correct infection record of Ms A on 24 September. After the user downloaded and saved the Vaccine Pass again, the LHS would show "No" under "Previous infection with COVID-19".

13. CDB staff called the complainant on 2, 23 and 26 September to follow up the case and issued an interim reply on 5 September by email.

Response from DH

14. DH received the laboratory report of the specimen concerned on 14 August 2022, which showed that the name registered was three capital letters of the English alphabet, and the HKID number was A1234XXX. DH believed the error stemmed from the fact that the staff of community testing station failed to input the correct name of the tested person as shown on his passport, and wrongly inputted the type of his identification document as HKID. During the verification process on the same day, a DH staff noticed that the name registered in this case was probably incorrect. As such, based on the HKID number provided in the report, the staff searched the HKID holder's name from the Laboratory Results Enquiry System, and changed the infected person's name in the Case Portal to Ms A's full name. On 15 August, DH received information submitted by the genuine infected person via the online declaration platform. After crosschecking, the revised records were transmitted to relevant parties. Based on the understanding at that time, the EVT System would issue Red Codes according to the

latest List of Red Codes, and persons whose names were not on the list would have their Codes remaining unchanged or automatically reverting to blue. Accordingly, DH understood that Ms A's Code would be reverted to blue automatically, and hence the staff did not report the incident or take further action.

15. DH explained that the staff failed to notice that the personal data, including gender and age, did not match when revising the case information on 14 August and mistakenly changed the infected person's name to Ms A ; another staff failed to notify Ms A immediately after discovering the error on 15 August and caused her distress, which was unsatisfactory. DH has repeatedly reminded its staff that in the above circumstances, they should review all personal data, contact the person concerned promptly for verification, answer public enquiries in detail as far as possible, and maintain good communication with the public to avoid recurrence of similar incidents. Moreover, in view of the carelessness of the staff of community testing centre, DH has reminded through the Health Bureau the staff responsible for data entry to perform duties more carefully and accurately in future.

16. As regards rectifying the infection record stored in the LHS, DH explained that upon learning of the incident, DH staff had immediately followed up the case and requested the relevant departments to rectify the error in the computer system. The relevant record in the Vaccination Database was rectified on 24 September 2022, and DH had maintained communication with the complainant in the interim. In the process of rectifying the Vaccination Database, it was required to investigate and analyse the cause of the incident before making system correction, which included updating various systems, programmes and operational guidelines according to technical and service requirements, conducting system trials and ensuring compatibility of different systems, etc. Hence, the case took time to resolve. The system error was rectified as soon as possible so that Ms A could access the correct record. DH apologised for the inconvenience caused to the complainant and his family.

Response from OGCIO

17. To tie in with the measure of "Red and Amber Codes" introduced in August 2022, OGCIO updated the LHS to identify high-risk individuals. When local infections were reported, DH was responsible for updating and transmitting the list of confirmed cases to OGCIO's system on a regular basis. The LHS would perform automatic matching with the list and convert the Vaccine Pass QR code of the relevant persons to Red Code. The list of confirmed cases and the data in the QR code generated, including vaccination and infection records, were provided directly by the DH system.

18. Members of the public should file report with DH if suspecting that the data stored in their Vaccine Pass QR code, including the infection record, were incorrect. DH would review their vaccination record and the database of confirmed cases, and rectify the data as appropriate. After individual record of infection was rectified by DH, the user could download and save the Vaccine Pass via the EVT System again.

The LHS would update the data in the Vaccine Pass QR code instantly.

19. According to records, OGCIO received the complainant's case referred by DH on 16 August 2022 regarding Ms A's LHS QR code was mistakenly changed to Red Code. OGCIO staff replied to DH's enquiry and called the complainant to follow up. After learning of the complainant's request for rectifying Ms A's infection record, OGCIO also participated in the discussion with DH and HA to explore a solution jointly.

Our Comments

20. DH has explained why Ms A's LHS QR code was changed to red and "Yes" was shown under "Previous infection with COVID-19" (see **paragraphs 8 and 9**), and accounted for how it rectified the record and handled the complainant's enquiries (see **paragraphs 10–14**). The incident was caused by human error on the part of the staff of community testing station who inputted the data of a tested person incorrectly and DH's CDB staff failed to handle the case properly on the two occasions when the abnormal data were found. On 14 August 2022, a DH staff noticed the anomalies but casually and rashly changed the infected person's name to Ms A without carefully crosschecking. On the following day, another DH staff discovered the error but, due to DH's misunderstanding about the relevant operation at that time (see **paragraph 15**), the staff only updated the relevant record and list without reporting the incident to the parties concerned for special handling. We consider the error serious. The Government announced on 8 August 2022 to introduce the Red Code under the Vaccine Pass requirements for more precise control of infected persons, who were disallowed to enter scheduled premises. At that time, the Vaccine Pass touched almost every aspect of people's daily life. Failure to meet those requirements, even for just one day, would have a significant impact on the person concerned. The incident not only reflected that DH staff were not careful enough in handling the data of infected persons, but also showed that DH had not provided frontline staff with clear guidelines, such that the two staff members who discovered the error successively only rectified the data without taking further special action as soon as possible. If the staff had crosschecked properly after discovering the anomalies on 14 August, it would have prevented Ms A's LHS QR code from converting to Red Code, and would have saved the extra workload caused to the departments and HA to rectify the infection record stored in her LHS, which took over a month to process.

21. OGCIO was responsible for the technical issues of this incident. We consider it to have taken reasonable action for this case.

22. Regarding the rectification of infection record stored in the LHS, we understand that it took time to update the computer system, and the departments concerned had proactively explored a solution. However, when DH learned that Ms A's infection record was incorrect on 18 August 2022, it should have contacted the complainant swiftly to informed him of the case progress, thereby alleviating his concern.

23. Based on the above analysis, this Office considers the complaint against DH **substantiated**, and the complaint against OGCIO **unsubstantiated**.

Concluding Remarks

24. The Vaccine Pass requirements were lifted on 29 December 2022. Nevertheless, as the Chief Executive pointed out at a media session before the Executive Council meeting on 31 January 2023, various Government departments would, depending on epidemic development, continuously consolidate experience, transform effective contingency plans into regular and permanent measures by incorporating them into guidelines; as well as continuously optimise and update the guidelines, and optimise their adaptability in the most pragmatic and effective way to cope with new changes. This Office urges DH to learn the lesson from this case, continuously improve its measures and ensure that it has the adaptability to rise to any new changes and threats in future.

Office of The Ombudsman
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