Safer Care Victoria

December 2020

Review into blood glucose level monitoring equipment in the COVID-19 quarantine accommodation program

Summary report

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Summary

The discovery of blood glucose level (BGL) monitoring equipment that posed a risk to resident safety in the coronavirus (COVID-19) quarantine accommodation program is a concerning find. The quarantine accommodation program was designed to protect public health by preventing the spread and transmission of coronavirus (COVID-19). The risk of blood borne virus (BBV) transmission to residents was not an expected outcome. This report summarises the findings and recommendations from the Safer Care Victoria (SCV) review into how and why this happened.

It should be noted many of those who participated in interviews for this review still work or support the quarantine accommodation program. The responsibility and enormous pressure to care for many thousands of residents in the dynamic and high stakes quarantine environment has left a lasting impact. We acknowledge their hard work and dedication in protecting public safety and supporting the residents of the program.

BACKGROUND

Quarantine accommodation program timeline

27 March 2020	National Cabinet decided that all travellers arriving in Australia would be required to participate in mandatory quarantine for 14 days in designated facilities provided by each state and territory.
28 March	The Department of Health and Human Services (DHHS) established Operation Soteria and enforced 14-day quarantine measures for all individuals arriving in Victoria after midnight on 28 March 2020. The objective of Operation Soteria was to contain the spread of coronavirus (COVID-19), pursuant to the s200 of the *Public Health and Wellbeing Act 2008*. Clinical services were initially provided by a range of contractors under the governance of DHHS.
17 June	In response to a request from DHHS to Alfred Health (AH), AH commenced a clinical service role initially at the Brady Hotel. Over the following days AH expanded its service at the other hotels, most of which were progressively stood down from operation.
30 June	Following an increase in coronavirus (COVID-19) cases in Victoria and at the request of the Premier of Victoria, international flights were diverted from Victoria, reducing the demand on quarantine accommodation.
27 July	Operation Soteria transitioned from DHHS to the Department of Justice and Community Safety (DJCS).
7 December	International flights into Victoria recommenced.

BGL monitoring in the quarantine accommodation program

BGL monitoring is a test performed to measure the amount of glucose (sugar) in a person's blood. It is a simple test that involves pricking the skin (i.e. a finger prick) to obtain a drop of blood that is subsequently placed on a small single-use test strip after it has been inserted into a battery operated BGL meter. The meter displays a numerical value indicating that person's BGL.

Definitions

Lancet: The small sterile needle that is used to prick the skin to obtain a blood sample. This can be used as a single lancet (single-use safety lancet) or in conjunction with a lancing device (for self-testing only, i.e. for repeated use by one individual only and not to be used on multiple individuals).

Lancing device: Used to secure the lancet to perform the skin prick. Lancing devices can control the depth the lancet goes into the skin. Lancing devices are reusable for self-testing only.

Test strip: A small disposable single-use strip which is inserted into the blood glucose meter. A small blood drop is applied to the end of the test strip to perform the BGL test.

BGL meter: A battery-operated device used for measuring glucose in fresh whole blood samples taken from the finger, forearm, upper arm or base of the thumb. The meter displays the numerical blood glucose result in millimoles per litre (mmol/L).

There are a variety of resident health conditions that require BGL monitoring – some are essential and must occur regularly (i.e. type 1 diabetes, insulin-treated type 2 diabetes and gestational diabetes) and other conditions only require a one-off BGL test (i.e. fainting or an episode of dizziness).

There were two purposes for supplying BGL equipment into the quarantine accommodation program:

1. Restocking the personal supplies of residents who were able to self-manage their own BGL.
2. Providing a central stock of equipment to quarantine accommodation sites to allow registered nurses (RNs) to conduct BGL monitoring for residents with a clinical need.

Incident description

On 19 August 2020, it was identified the BGL testing devices used in the quarantine accommodation program were used across multiple people despite being intended for use by one person only.

On identifying this risk, the incorrect lancing devices and all BGL monitoring equipment designed for repeated use by a single person were removed from all quarantine accommodation sites, and replaced with suitable equipment (i.e. single-use disposable lancets).

Confirmation of risk to residents

The body of these single-person BGL devices can retain microscopic amounts of blood. If used on multiple people, there is a low risk of transmission of BBVs, such as Hepatitis B, Hepatitis C or Human Immunodeficiency Virus (HIV).

External advice obtained from an Independent Expert Advisory Committee confirmed the risk, albeit low, and recommended actions to protect public health.

Based on the external advice, the following actions were undertaken:

- From 1 October, a review of the health records of **20,500** residents who had passed through 19 hotels in the quarantine accommodation program commenced. This was to determine which residents had been impacted by the use of incorrect BGL equipment. Record keeping was initially paper based before transitioning to an electronic system. The review of the records, particularly the paper-based records, was complex and lengthy as it required a manual review to identify which residents needed to be contacted.
- From 19 October, AH started calling residents identified through the review of health records. Coinciding with a public call for action, the Health Protection Branch (HPB) established a phone line for anyone concerned they had received a BGL test in quarantine accommodation but had not yet been contacted.

About the review

This SCV-led review was conducted by a team of professionals with relevant subject matter expertise.

In order to collect information, semi-structured interviews were conducted with stakeholders and additional quantitative data relevant to the incident was reviewed. A systems analysis was undertaken to identify factors that contributed to the incident, develop findings and opportunities for systems improvement.

Please note: This review is separate from the HPB lookback process, but does make note of broader lessons relating to record keeping.

Findings

Victorians, and our broader international community, should have confidence in the safety of the quarantine accommodation program. This review found the initial set up of the program was overwhelmed by the rapid timeframes which made it challenging for leaders to establish robust systems for clinical governance.

Overall, the review identified that a lack of clinical governance arrangements resulted in a series of missed opportunities at different levels in:

- procuring appropriate BGL monitoring equipment
- identifying that inappropriate BGL monitoring equipment was in use.

The need for BGL equipment for RNs to monitor resident BGL was established early in the set up of the program, and equipment appears to have been ordered by phone or email in one of two ways:

1. Team leaders (often following a request from a RN) placed an order with a community pharmacy.
2. RNs made a request directly to the pharmacy.

SUMMARY OF FINDINGS

The review identified six specific findings:

1. Governance

Limited timeframes to set up the program impacted the development of effective clinical governance arrangements and limited understanding of residents' complex health requirements. This contributed to incorrect BGL equipment being purchased and used for a prolonged period of time.

2. Logistics and supply

There was a lack of formal agreement with community pharmacies to supply BGL equipment, and no direction to pharmacies about the specification requirements of BGL equipment. This led to a lack of oversight on BGL products supplied to the program.

3. Nursing leadership

There were no formal nursing leadership roles allocated to quarantine accommodation sites, which reduced opportunities to recognise and escalate BGL equipment issues.

4. Formal recruitment strategy

There was no formal recruitment strategy for Victorian Public Service (VPS) staff deployed to the quarantine accommodation sites, contributing to team leaders lacking relevant leadership and management knowledge to recognise clinical risks relating to BGL equipment.

5. Clinical practice guidelines, training and education

There were no clinical practice guidelines, training or orientation on BGL equipment provided to nursing staff. This may have contributed to a lack of recognition of the cross-contamination risks related to BGL equipment designed for single-patient use.

6. RNs were working in an unfamiliar environment

The quarantine accommodation environment was unfamiliar for RNs who applied their familiar ways of working from a hospital environment where BGL equipment is different. This may have contributed to the assumption that BGL equipment was fit for purpose.

Based on these findings, we have developed recommendations to further strengthen the quarantine accommodation program.

Recommendations

This review recommends 13 opportunities for systems improvement to prevent re-occurrence of a similar incident. Please note this review is reflective of a past period in time. As such, we acknowledge many findings and recommendations may have already been addressed.

BGL monitoring is an essential assessment tool to support the health needs of the residents of the program. We recommend BGL monitoring equipment remains available for use in the program. This can be achieved safely by implementing the recommendations outlined below.

SUMMARY OF RECOMMENDATIONS

Recommendation	Agency responsible for implementation
Finding 1 – Governance	
1.1 Develop a clinical governance procedure, supported by the Emergency Management Victoria State Health Emergency Response Plan (Edition 4), that can be used in responding to health emergencies outside of hospital settings.	DHHS
1.2 Implement an incident management system to support timely identification, escalation and response to adverse events for the quarantine accommodation program.	DJCS COVID-19 Quarantine Victoria (CQV)
Finding 2 – Logistics and supply	
2.1 Establish a formal Memorandum of Understanding with community pharmacies that stipulates the scope of the equipment that will be provided to the program.	DJCS DHHS CQV
2.2 Establish a logistics and supply chain to ensure BGL equipment provided to the program is safe and fit for purpose.	DJCS DHHS CQV
2.3 Develop procurement standards for BGL equipment.	DJCS DHHS CQV
2.4 Develop health assessment kits with essential equipment that are available for rapid deployment in an emergency. Essential equipment should include BGL equipment, alongside oxygen saturation monitors, thermometers and blood pressure monitoring.	DJCS CQV
Finding 3 – Nursing leadership	
3.1 Develop position descriptions with key selection criteria for nursing leadership roles across the quarantine accommodation program and implement a nurse leader role across hotel sites.	DJCS AH

Recommendation		Agency responsible for implementation
Finding 4 – Formal recruitment strategy		
4.1	Develop a formal recruitment strategy for recruiting team leaders who provide leadership at quarantine accommodation sites.	DJCS
4.2	Develop position descriptions with key selection criteria for team leader roles across the quarantine accommodation program.	DJCS
4.3	Develop a preparedness training program to ensure VPS staff are provided skills and knowledge prior to deployment, including a working understanding of clinical governance.	DJCS
Finding 5 – Clinical practice guidelines, training and education		
5.1	Develop formal orientation and induction program for nurses working in the program that includes training to support the use of standardised BGL monitoring equipment.	DHHS AH
Finding 6 – RNs were working in an unfamiliar environment		
6.1	Develop BGL monitoring clinical practice guidelines.	DHHS
6.2	Refer the lack of warning on BGL lancing devices to the Therapeutic Goods Administration and recommend that lancing device manufacturers be required to apply a suitable warning on the devices themselves, such as 'Single person use only'.	DHHS

MONITORING

The recommendations outlined in this report will be monitored by SCV.

The agencies responsible for implementing improvements will be required to submit reports to SCV each quarter for 12 months.

Lessons

On top of the recommendations, there are lessons we can learn that will further strengthen the supply and use of BGL monitoring equipment in the program. During the course of this review, a number of systems issues were identified that did not directly contribute to the incident under review. These systems issues represent important opportunities for systems improvement are referred to as 'lessons' rather than findings.

This review found:

- during the program, a paper-based system and electronic clinical record software (Compliance and Welfare Management System – CWMS) were used in parallel. Transition dates between these systems were not clearly documented which meant that clinical records were split across both paper-based and electronic records
- there was no universal record keeping system across hotels, with each hotel developing their own systems and processes
- the identity of residents (full name, date of birth, gender) was not consistently recorded on both paper-based and electronic records.

ADDITIONAL RECOMMENDATIONS

	Recommendation	Agency responsible for implementation
A.	Develop universal electronic record keeping systems to be used across locations.	DJCS CQV
B.	Create a data log to clearly document when transitioning between record systems.	
C.	Use a standardised paper-based system **only** as a back-up when the CWMS system is not working or requires maintenance.	
D.	Ensure **all** resident records (electronic and paper based) have three health identifiers (i.e. name, date of birth, unique medical record number).	DJCS CQV
E.	Systematically record basic contact and demographic details (i.e. phone number, email or address, age, gender, next of kin/medical treatment decision maker) as a minimum data set for each resident.	DJCS CQV

Abbreviations

AH	Alfred Health
BBV	Blood borne virus
BGL	Blood glucose levels
COVID-19	Coronavirus disease 2019
CQV	COVID-19 Quarantine Victoria
CWMS	Compliance and Welfare Management System
DHHS	Department of Health and Human Services
DJCS	Department of Justice and Community Safety
HIV	Human Immunodeficiency Virus
HPB	Health Protection Branch (DHHS)
RN	Registered nurse
SCV	Safer Care Victoria
VPS	Victorian Public Service

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