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| Government response to the *Review of response to the thunderstorm asthma event of 21-22 November 2016* |
| Inter-agency working group |

Introduction

On 27 April 2017, the Victorian Government released the Inspector-General for Emergency Management’s *Review of response to the thunderstorm asthma event of 21-22 November 2016* Final report[[1]](#footnote-1).

The review found there was no evidence to suggest that this storm would result in a health emergency of such unprecedented scale and consequences, and that Victoria had no way of predicting the likely extent, or duration of the event.

It confirmed that never before had hospitals, ambulance services and emergency call takers experienced such rapid-onset demand in such a condensed time period, and across such a large geographical area. It found Ambulance Victoria received the largest number of requests for assistance within the shortest period, in Victoria’s history.

The review focussed on identifying opportunities to learn from this event in order to improve future preparedness and response arrangements and performance.

The Inspector-General made 16 recommendations in his report which have all been accepted in-principle by the Government.

Following the November event, significant steps have been taken to strengthen Victoria’s ability to better understand, predict and respond to events like this in

the future. The following important measures will be in place by the commencement of the 2017 pollen season:

* a new State Health Emergency Response Plan
* early detection and monitoring of hospital emergency department demand
* an epidemic thunderstorm asthma forecasting and warnings system
* public health communications, engagement and education.

An inter-agency working group is in place to oversee the government’s response to the Inspector-General’s review. The working group includes representatives from:

* + the Department of Health and Human Services (Chair)
  + Emergency Management Victoria
  + Ambulance Victoria
  + Emergency Services Telecommunications Authority
  + Office of the Inspector-General for Emergency Management (as observer).

This report (dated 22 September 2017) provides the Government’s response and outlines the key activity being undertaken to address the recommendations made by the Inspector-General.

Recommendation 1

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| **The Inspector-General for Emergency Management (IGEM) acknowledges the work undertaken since 22 November 2016 and recommends that the Department of Health and Human Services (DHHS) continue to work with all relevant health services and broader health system organisations to establish and/or strengthen communication channels, processes and systems to enable effective, consistent and timely two-way information flow.**  **This includes convening a regular forum, bringing together hospital representatives to ensure that when emergencies occur, previously established connections are in place so that appropriate personnel are kept informed.**  **DHHS should also establish or utilise existing governance arrangements to enable joint planning, bringing together organisations with a role in the health system to better prepare for, respond to and recover from emergencies. These governance arrangements should consider the role of broader health system organisations, including pharmacies, NURSE-ON-CALL and general practitioners.** | | |
| **Government response (Lead agency: DHHS)** | **Actions/Deliverables** | **Completion date** |
| The government supports strengthening communications between DHHS, health services and the broader health system to facilitate more effective response planning for future rapid-onset health emergencies.  The DHHS Health and Medical Emergency Management Stakeholder Reference Group (reference group) has been place in place since 2014, providing the key forum for strategic health emergency response planning. The reference group is convened at least four times per year, chaired by DHHS, and includes members from across the health sector including the Pharmacy Guild and Primary Health Network Alliance.  Since the November 2016 event the reference group has provided specific input into improving emergency communications systems for the sector including contributing to the review of the State Health Emergency Response Plan and broader arrangements.  The reference group provided input to the definition of roles, responsibilities and high-level processes required for health sector communications and emergency management coordination which are outlined in the new State Health Emergency Response Plan (fourth edition) (SHERP4) which will be effective from 1 October 2017.  The terms of reference for the reference group have been reviewed to ensure alignment with SHERP4 and to reaffirm the group’s continuing role in supporting communications and joint emergency management planning with the health sector. | Engage Health and Medical Emergency Management Stakeholder Reference group on requirements for health sector communications and coordination and capacity and capability in SHERP4. | June 2017 |
| Finalise SHERP4 to include requirements for communications and coordination and capacity and capability. | July 2017  1 October 2017 |
| Develop guidance notes on arrangements for health sector emergency response capability and capacity. | 1 October 2017 |

Recommendation 2

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| **Government response (Lead agency: DHHS)** | **Actions/Deliverables** | **Completion date** |
| The government recognises the importance of maintaining situational awareness of the demand on health services.  DHHS has established a hospital single contact point for public and private health services that provide acute care. A SMS notification capability has been developed to alert health services to emerging issues and potential impacts on services.  DHHS is also working with hospitals to ensure early notification of emergency department demand through development of the Real-time Emergency Department Information Trending system (REDITS) which is an IT monitoring system that displays emergency department presentations data in real time. This will contribute significantly to DHHS’s capability to monitor surges in demand on the health sector.  Thresholds built into the system trigger an alert to notify DHHS when numbers of emergency department presentations exceed acceptable threshold levels for a period of time. Real-time data from the system will enable DHHS to efficiently escalate its emergency response as appropriate. The system does not require hospital staff to use or directly access the system.  The Mass Casualty Intelligence and Information Sharing Project Steering Committee is responsible for oversight of REDITS development and implementation. Prior to 30 June 2018, the Steering Committee will give consideration to the sustainability of the system including future scope and ongoing resourcing requirements. | Development and implementation of a SMS notification capability | December 2016 |
| Establishment of hospital single contact points | August 2017 |
| Development of REDITS:  - Proof of Concept  - Develop Alert Threshold Model  - System dashboards, SMS and email capability | March 2017  June 2017  June 2017 |
| Implementation of REDITS:  - Stage 1: Proof of concept (5 health services /8 EDs on the system)  - Stage 2: Calibration of pilot (12 health services/20 EDs on the system)  - Stage 3: Production (29 health services / 38 EDs on the system)  - Development and implementation of Standard Operating Procedure   * Training of DHHS operational staff * Review & investigate feasibility for inclusion of other primary health services | March 2017  30 June 2017  31 December 2017  1 October 2017  1 October 2017  30 June 2018 |

Recommendation 3

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| **Government response (Lead agency: DHHS)** | **Actions/Deliverables** | **Completion date** |
| The government acknowledges the central role that community pharmacies played in meeting community needs during the November 2016 event, and the valuable support that community pharmacies can provide to the management of health emergencies or emergencies with health impacts.  DHHS continues to engage with the Pharmacy Guild and the Primary Health Network Alliance on the Health and Medical Emergency Management Stakeholder Reference Group for the purpose of joint planning and inclusion of community pharmacists and broader primary care networks in emergency responses.  The State Health Emergency Response Plan includes guidance notes on arrangements for health sector capability and capacity, including primary care providers. | Engage Health and Emergency Management Stakeholder Reference group on requirements to undertake joint planning for emergencies. | Ongoing |
| Develop a protocol with the Pharmacy Guild regarding notifications to community pharmacies about potential and actual health emergencies. | 1 October 2017 |

Recommendation 4

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| **Government response (Lead Agency: EMV)** | **Actions/Deliverables** | **Completion date** |
| The government is committed to enhanced notifications, intelligence gathering and dissemination of information across the emergency management sector.  The Emergency Management Commissioner receives notification of developing or significant incidents in accordance with the Joint Standing Operating Procedure (JSOP 3.16 – Significant Event Notification). This notification, where appropriate, initiates broader information sharing to ensure awareness or the initiation of arrangements for managing major emergencies.  EMV will work with departments and agencies to review JSOP 3.16 and identify and address any gaps in existing notification processes, and enhance the notification process to alert the broader emergency management sector.  ESTA has reviewed its incident and escalation process and this will support greater situational awareness during a rapid-onset emergency, and can inform part of an early alert to the broader emergency management sector of a developing health situation.  A revised Critical Incident Response Plan (CIRP) will have seven sub-plans added, including a Health Sub-Plan that outlines arrangements for managing a surge in Call-taking and Dispatch activities due to a wide-spread health incident occurring in Victoria, that will or is having an impact to ESTA’s service delivery capabilities.  ESTA has also introduced the use of One Click which expedites the notification of an incident to emergency services, and can be used as part of an early alert to the broader emergency management sector of a developing Health situation. | Review JSOP3.16– Significant Event Notification with key stakeholders | 1 November 2017 |
| Review State Control Centre Notification processes to agencies and ensure this compliments the ESTA Critical Incident Response notification process. | 1 November 2017 |
| Make ESTA ERTCOMM Situational awareness dashboard available for incident escalation processes. | 1 October 2017 |
| Revised Critical Incident Response Plan and additional Health sub-plan presented to the State Emergency Management Team. | 2 October 2017 |
| Introduce One Click notifications as part of ESTA revised incident and notification process | 17 May 2017 |

Recommendation 5

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| **Government response (Lead agency: DHHS)** | **Actions/Deliverables** | **Completion date** |
| The government supports the rapid sharing of information with relevant agencies and services to support situational awareness about health emergencies or emerging situations regardless of the time of day. The method for sharing information between agencies however should be relevant and appropriate for the nature of the event.  The State Control Centre and DHHS State Emergency Management Centre facilities allow for video and teleconferencing and face-to-face meetings as part of routine practice when activated in an emergency.  In addition, analysis of real-time data from emergency departments, coupled with DHHS’s ability to issue SMS first wave notifications to health services (of potential or actual incidents) will provide greater intelligence to support information sharing and strengthen the evidence base for decision making.  The State Health Emergency Response Plan (fourth edition) (SHERP4) also provides greater clarity of roles and responsibilities, escalation processes, and communication channels to support an effective and efficient health emergency response. In particular, SHERP4 introduces an escalation processes based on observable impacts and consequences to improve situational awareness and enable informed decision-making during health emergencies.  The new arrangements in SHERP4 support the use of multiple communication channels for effective and efficient sharing of information with the health sector and across emergency response agencies. This is particularly important when an event occurs with minimal or no warning, out of hours or with rapidly escalating impacts. | Development and implementation of a SMS notification capability. | December 2016 |
| Development of REDITS:  - Proof of Concept  - Develop Alert Threshold Model  - System dashboards, SMS and email capability. | March 2017  June 2017  June 2017 |
| Implementation of REDITS:  - Stage 1: Proof of concept (5 health services /8 EDs on the system)  - Stage 2: Calibration of pilot (12 health services/20 EDs on the system)  - Stage 3: Production (29 health services / 38 EDs on the system)  - Development and implementation of Standard Operating Procedure   * Training of DHHS operational staff * Review & investigate feasibility for inclusion of other primary health sector. | March 2017  30 June 2017  31 December 2017  1 October 2017  1 October 2017  30 June 2018 |
| Revise State Health Emergency Response Plan edition 4 (SHERP4) to include requirements for communications and coordination. | 1 October 2017 |

Recommendation 6

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| **Government response (Lead agency: DHHS)** | **Actions/Deliverables** | **Completion date** |
| The State Health Emergency Response Plan edition 4 (SHERP4) includes an escalation process that considers the scale, complexity and consequences of an emergency on the community and the state’s health system. The process is based on a risk assessment methodology that seeks to mitigate adverse health consequences for communities. It also outlines the stand down (de-activation) activities. DHHS maintains a state of readiness at all times, with a team of senior and operationally trained emergency management staff ready to be mobilised to form an incident management team at short notice. The state of readiness also includes the ability to activate DHHS’ State Emergency Management Centre and the State Control Centre when required.  An assessment of the impact and potential consequences is necessary for appropriate early escalation. The November event was unprecedented, the cause uncertain and information limited. Since the event, significant work has been undertaken to improve intelligence (gaining information for the purpose of effective decision making) through the development and use of forecasting and monitoring systems. | Revise State Health Emergency Response Plan edition 4 (SHERP4) to include requirements for communications and coordination including escalation of response. | 1 October 2017 |

Recommendation 7

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| **Government response (Lead agency: DHHS)** | **Actions/Deliverables** | **Completion date** |
| The government is committed to working with hospitals to ensure a well-coordinated health emergency response, and effective management of resources across the health system during times of significant demand for assistance.  A Code Brown guidance note was issued by DHHS to mitigate any uncertainty created by the experience of the November event, and to confirm the arrangements for responding to health emergencies. Code Brown is a nationally recognised code (Australian standard) for health service planning for response and recovery from external emergencies.  The guidance note assists health services and facilities to prepare Code Brown plans by providing information to clarify the purpose of Code Brown plans, and highlighting key steps to take before, during and after an external emergency that may impact health services.  The revised SHERP4 articulates the responsibilities of health services regarding planning for emergencies, including their responsibilities within the arrangements for escalation and notification. SHERP4 also references the Code Brown guidance note from the DHHS website. | Issue Code Brown guidance note to health services | December 2016 and February 2017 |
| Revise Code Brown guidance note (February 2017 version) for alignment with SHERP4.  Revise Code Brown guidance to include indicators for escalation | 1 October 2017  1 December 2017 |
| Revised State Health Emergency Response Plan version 4 (SHERP4) to note health service responsibilities in Code Brown planning and reference guidance note. | 1 October 2017 |

Recommendation 8

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| **Government response (Lead agency: EMV)** | **Actions/Deliverables** | **Completion date** |
| The government recognises the importance of timely communication to the community and responsiveness to emergency events. It is committed to ensuring that early information is provided to the public, even if the situation or the cause of the emergency is not clear.  The DHHS Thunderstorm Asthma Warnings Protocol was agreed in December 2016 for the issuing of thunderstorm asthma warnings via the Victorian Warnings System. The Victorian Warnings System includes the VicEmergency website, app, hotline, Emergency Alert and arrangements with emergency broadcasters. The protocol is consistent with the Victorian Warning Protocol, and will be updated to Version 2 prior to the 2017 pollen season to reflect new knowledge and the improved forecasting methods which are under development.  The Victorian Warning Protocol is also being reviewed to ensure it is contemporary, reflects emergency management and public information reforms and that it is applicable to both Class 1 and Class 2 emergencies.  DHHS, in partnership with EMV and AV, is developing a public information and warnings business rules and a decision-making guide for issuing health emergency warnings on the Victorian Warnings System.  The capability is now available within the Victorian Warnings System to issue public information and warnings for Class 2 Health Emergencies. | Establishment of Thunderstorm Asthma Warnings Protocol | December 2016 |
| Develop Thunderstorm Asthma Warnings Protocol version 2 | 1 October 2017 |
| Review the Victorian Warnings Protocol to ensure it is applicable to both Class 1 and Class 2 emergencies. | 1 December 2017 |
| Development of a public information and warning business rules and decision-making guide for issuing public information and warnings in health emergencies in line with the Victorian Warnings Protocol. | 30 September 2017 |
| Ensure Class 2 Health Emergency public information and warnings can be issued via the Victorian Warnings System. | December 2016 |
| Develop public health related public information and warnings templates for inclusion in the EM-COP warnings platform with priority focus on Thunderstorm asthma. Further templates to be developed as a matter of priority once identified by DHHS and EMV. | 1 November 2017 |

Recommendation 9

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| **Government response (Lead agency: EMV)** | **Actions/Deliverables** | **Completion date** |
| EMV is working with DHHS and AV to ensure the effective delivery of emergency warnings for rapid onset health events. A thunderstorm asthma warnings protocol, public information and warnings business rules and a decision-making guide for health emergency warnings have been developed.  The State Health Emergency Response Plan edition 4 (SHERP4) outlines the responsibility of DHHS and AV to collaborate and provide timely, accurate and relevant public information and warnings for all types of health emergencies.  The State Control Centre Public Information Officer or the on-call Warnings and Advice Duty Officer is currently able to issue warnings on behalf of DHHS and AV during events such as epidemic thunderstorm asthma and other rapid-onset health emergencies.  EMV, with DHHS and AV will develop and facilitate access to training for AV and DHHS to enable each to disseminate public information and warnings for rapid onset health emergencies. | Development of SHERP4 to outline the roles and responsibilities for the provision of warnings in health emergencies. | 1 October 2017 |
| Identification of training needs | November 2017 |
| Development of training package | March 2018 |
| Disseminate training/provide access | March – June 2018 |

Recommendation 10

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| **Government response (Lead agency: EMV)** | **Actions/Deliverables** | **Completion date** |
| The government recognises the importance of efficient capture, use and dissemination of data or other intelligence to ensure an efficient, coordinated and effective response to future rapid-onset health emergencies.  ESTA has implemented a real-time dashboard to support timely decision making, such as enacting the Critical Incident Response Plan. This will support greater situational awareness during a rapid-onset emergency.  EMV is working with DHHS and other emergency management sector partners to continuously improve the interoperability and integration of systems, including the use of EM-COP.  Scoping will be undertaken to inform the development of a business case for a solution to integrate data from, and across a range of sources and agencies to a single accessible platform to inform decision making, public information and warnings, and consequence management. | Scope the work required to develop a business intelligence system that would integrate into an existing system such as EM-COP for inclusion into a business case. | 30 June 2018 |

Recommendation 11

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| **Government response (Lead agency: DHHS)** | **Actions/Deliverables** | **Completion date** |
| The government acknowledges there are significant opportunities to better understand and forecast potential epidemic thunderstorm asthma events so that Victorians can receive adequate information, warning and advice in the future.  Building on the interim forecasting system which was put in place following the November 2016 event, DHHS has partnered with relevant agencies to develop and implement an enhanced epidemic thunderstorm asthma forecasting system. The system includes an expanded Victorian pollen monitoring network with 5 additional monitoring sites. A standardised pollen and fungal monitoring protocol will be developed to ensure consistency across these sites. Pollen information, along with various meteorological elements, will be fed into an algorithm to produce the epidemic thunderstorm asthma forecast.  The forecasting system is being informed by local, national and international research and expert input. DHHS is investing in research to enable improved understanding of the mechanisms involved in epidemic thunderstorm asthma and in future progressive improvements in forecasting capability through improved mathematical modelling of inputs.  Forecasts delivered by the system will allow DHHS to provide advice to health services and the community about the possibility of any future epidemic thunderstorm asthma events. DHHS will use forecasts delivered by the system to trigger public advice and warnings on the Victorian warnings system (VicEmergency), and forecasts will be made publicly available during the grass pollen season. | Hold an epidemic thunderstorm asthma symposium to gather expert input. | 17-18 March 2017 |
| Publish a literature review on epidemic thunderstorm asthma and its Implications for Public Health Advice. | May 2017 |
| Develop a standardised pollen and fungal monitoring protocol for Victoria. | 1 October 2017 |
| Expand the pollen monitoring network to appropriate sites across Victoria. | 1 October 2017 |
| Deliver the enhanced epidemic thunderstorm asthma forecasting system. | From 1 October 2017 |
| Forecasts made publically available and linked to strategic communications actions and provision of advice. | 1 October 2017 |

Recommendation 12

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| **Government response (Lead agency: DHHS)** | **Actions/Deliverables** | **Completion date** |
| DHHS is developing a comprehensive public health communication, engagement and education program to promote effective asthma and hay fever management and community resilience.  The program includes an awareness and education campaign for the public and health providers which will focus on what epidemic thunderstorm asthma is, who may be at risk, and what actions can be taken to manage the risk.  The program is being developed and undertaken with key partners, including the National Asthma Council Australia, Asthma Australia and the Murrumbidgee Local Health District. The program will also be informed by key national and international frameworks, including the Ottawa Charter for Health Promotion.  Attention on epidemic thunderstorm asthma allows a renewed focus on the management of asthma and hay fever generally. Both conditions are common in the Victorian community and optimising their control will bring overall health improvements, beyond epidemic thunderstorm asthma. | Launch of epidemic thunderstorm asthma public health campaign, including publication of new and updated resources on the Better Health Channel and Health.Vic for the community and health professionals. | 31 August 2017 |
| Create new online epidemic thunderstorm asthma training modules for health professionals. | 30 September 2017 |
| Update existing asthma-related online training modules for schools and early childhood facilities, sports and recreation groups and workplaces to include epidemic thunderstorm asthma information. | 1 October 2017 |
| Hold face-to-face epidemic thunderstorm asthma training sessions across Victoria for health professionals. | 30 October 2017 |
| Hold face-to-face epidemic thunderstorm asthma training sessions across Victoria for the community. | 31 December 2017 |

Recommendation 13

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| **Government response (Lead agency: DHHS)** | **Actions/Deliverables** | **Completion date** |
| DHHS and EMV will explore the potential application of emergency management sector wide performance standards for system integration and intelligence sharing.  DHHS and EMV will also develop and adopt outcome measures and source appropriate data for monitoring and evaluation of the ongoing effectiveness of system integration; intelligence sharing; community information; emergency warnings and health advice.  DHHS will use appropriate frameworks, including the Victorian Public Information Evaluation Framework, to inform this work. | Develop and adopt outcome measures and source appropriate data for monitoring and evaluation of the ongoing effectiveness of system integration; intelligence sharing; community information; emergency warnings and health advice. | 30 September 2018 |

Recommendation 14

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| **Government response (Lead agency: EMV)** | **Actions/Deliverables** | **Completion date** |
| The government has an ongoing focus on continuous improvement to better position Victoria’s emergency management system to prepare for and respond to all emergency management events.   * Scoping work has been undertaken by EMV with relevant agencies to determine the needs of the ‘Next Generation State Control Centre’ in order to ensure facilitation of increased information sharing between EMV, DHHS, AV and the broader EM sector. * DHHS is also developing guidance that outlines the process for DHHS to activate the State Control Centre (SCC) should it be determined that use of that facility is appropriate. * The State Control Centre (SCC) will be provided with a web-based view of the REDITS Geospatial dashboard to display the location of all emergency departments and which visibly indicates when emergency departments breach certain thresholds. | The Next Generation State Control Centre (NGSCC) project to identify opportunities to better integrate both class 1 and 2 emergencies and also support class 3 emergencies, including the integration of early relief and recovery. | December 2016 |
| Guidance for arrangements to activate SCC. | 1 October 2017 |
| Provision of a web-based view of the REDITS geospatial dashboard to the SCC | 30 November 2017 |
| Scoping work to facilitate information sharing between EMV and DHHS/AV before, during and after major health emergencies and during recovery operations. | 1 December 2017 |
| Identification of key data and systems to be incorporated into the SCC and EM-COP to improve situational awareness of health emergencies. | 30 June 2018 |
| Review MOU for use of SCC resources and consider appropriateness for inclusion of DHHS and AV. | 30 June 2018. |

Recommendation 15

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| **Government response (Lead agency: EMV)** | **Actions/Deliverables** | **Completion date** |
| The government strongly encourages all responding agencies ‘working as one’ before, during and after emergencies to improve the emergency management sector’s capability and capacity.  The joint activities of responding agencies that occurred during thunderstorm asthma has been discussed by heads of agencies at the State Control Team. It was agreed in principle that these activities should form part of any future response to rapid-onset, large scale events. This will be formally recognised through an exchange of letters between heads of agencies. | Ambulance Victoria to formally write to Emergency Management Victoria, Victoria Police, the Metropolitan Fire Brigade and the Country Fire Authority. | 1 November 2017 |

Recommendation 16

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| **Government response (Lead agency: DHHS)** | **Actions/Deliverables** | **Completion date** |
| The government supports the sharing of timely information between relevant departments and agencies before, during and after emergencies to drive effective outcomes.  EMV will develop a business case to scope the resources required to review existing information sharing processes and policies to identify any gaps that may inhibit information' sharing practices of response agencies.  DHHS has developed and implemented an Emergency Incident Casualty Data Collection Protocol in February 2017. This protocol details the procedures for the sharing of emergency incident information (casualty information) between health services and DHHS in the management of an emergency.  The protocol applies to all Victorian private and public health services with an Emergency Department or Urgent Care Centre. It is activated by DHHS in an emergency, for example a Level 2 or Level 3 event under the State Health Emergency Response Plan edition 4 (SHERP4).  The objectives of the protocol are to collate reliable, accurate, timely and consistent information on presentations to health services resulting from an emergency incident, in order for DHHS to:  • facilitate information sharing between key stakeholders  • meet its responsibilities under the SHERP4  • provide information to Victoria Police for law enforcement purposes. | Emergency Incident Casualty Data Collection Protocol and Standard Operating Procedure. | February 2017 |
| Development of a business case to scope the resources required to review existing information sharing processes and policies to identify any gaps that may inhibit information' sharing practices. | 30 June 2018 |

1. http://www.igem.vic.gov.au/home/our+work/reviews/review+of+the+thunderstorm+asthma+event+2016 [↑](#footnote-ref-1)