collaborating to enhance regional medication management

A clinical governance model was developed for 12 health services to improve patient safety and quality of care and increase access to pharmacy services in southwest Victoria.

## Background

Medication is the most common treatment used in healthcare. Although appropriate use of medication contributes to significant improvements in health, medication can also be associated with patient harm.

Because it is so commonly used, medication is associated with a higher likelihood of errors and negative patient outcomes than other healthcare interventions.

Up to 50 per cent of these negative patient outcomes are potentially avoidable. Standardising and systemising processes can help prevent medication incidents and improve medication safety.

The Central pharmacy project was led by four health services – South West Healthcare (SWH), Western District Health Service, Colac Area Health (CAH) and Portland District Health – that had hospitals with dedicated on-site pharmacy departments.

The project also involved eight smaller health services that had hospitals with no pharmacy resources:

* Lorne Community Health
* Otway Health
* Hesse Rural Health Service
* Timboon and District Healthcare Service (TDHS)
* Terang and Mortlake Health Service
* Moyne Health Services
* Heywood Rural Health
* Casterton Memorial Hospital.

These services received varying levels of support from nearby hospital pharmacies and local community pharmacies.

The project aimed to design a regional pharmacy governance system that could share and maximise the limited pharmacy resources available across southwest Victoria.

The governance group would be responsible for identifying best practice in medication management and administration to improve patient safety across the Barwon South West region.

Central pharmacy

**Lead** South West Healthcare

**Partners** Western District Health Service, Colac Area Health, Portland District Health

**Duration** December 2017 – December 2018

**Key outcomes**

* Designed a regional governance framework that was incorporated into a health agreement signed by the board chairs of all 12 health services
* Identified medication safety gaps in participating health services
* Piloted a smart pump system that was able to improve medication management and safety
* Trialled a ward box process that demonstrated potential to reduce costs and streamline medication ordering for health services with no pharmacy resources

## Key activity

The initial phase of the project involved the design of a regional governance framework.

To support the development of this framework, a variety of activities were undertaken, including:

* a **medication safety** **gap analysis**, which wasconducted at the eight health services that had no dedicated pharmacy departments. A survey of a wide variety of staff – including chief executive officers (CEOs) and nurse unit managers – from across all 12 sites was also conducted to understand staff views on clinical governance for medication management and pharmacy services
* the **pilot of a smart pump**, an intravenous drip system with computer software that can alert clinical staff to the administration of unsafe medication dosages and programming errors once a dataset of standard concentrations and dose limits has been programmed into it
* the **pilot of a ward box** medication ordering and distribution system that aimed to centralise the ordering of medications across the 12 sites and improve access to competitive pricing for smaller health services
* a study on the feasibility of a **regional cytotoxic medication compounding service** where one health service prepares (or ‘compounds’) the medication before distributing it to the other 11 sites.



## Outcomes

### Regional governance framework design

* Under the framework that was designed as part of the project, the CEOs and governing bodies of the 12 health services would delegate authority and appoint representatives to a central regional pharmacy governance group (RPGG).
* The RPGG would be responsible for monitoring and providing advice, direction and recommendations on the quality and safety of pharmacy services and medication management across the 12 health services. These recommendations would be presented to a clinical governance executive team for consideration and action.
* Once approved, any RPGG decisions would be implemented across the 12 health services via a federated structure, with health services independently managing implementation at their site but in a collaborative manner with other sites.
* This regional governance framework was incorporated into a health agreement which was signed by the board chairs of all 12 health services.

### Medication safety gap analysis

The eight smaller health services self-identified gaps or areas for improvement that generally focussed on two distinct areas:

* **Pharmaceutical assistance with transition of care** – When moving patients between healthcare locations or providers, or to a different level of care within the same location, there can be an increased risk of medication-related incidents. Patient harm can be minimised through safe and effective medication management.
* **Issues with quality use of medicines** – The health services identified common difficulties in accessing regular, highly skilled and competent clinical pharmacy assistance to help with accreditation and medication safety.

Surveys showed that more than 75 per cent of the 116 respondents felt collaboration on shared clinical governance for medication management should definitely or probably be a priority for their health service.

### Smart pump pilot

A proof of concept for a smart pump system was conducted at SWH and Moyne Health Services to demonstrate the use of clinical information and communications technology-based advances in medication safety. It also provided a practical example of what could be achieved under the proposed regional governance framework.

The smart pump pilot succeeded in demonstrating that complex clinical pharmacy skills available from one major health service can be extended across a region, significantly improving the management of risk and providing safer medication systems.

### Ward box pilot

This proof of concept aimed to improve oversight of medication management for all 12 health services and streamline service provision by implementing a ‘ward box’ process at TDHS that was managed by CAH.

Under the new process, TDHS submitted its medication orders electronically to the hospital pharmacy at CAH. The larger hospital would review the order, send it on to a wholesaler, and the order would be delivered directly to the ward via courier.

Previously, TDHS sourced some of its medications from the local community pharmacy, which would be at retail cost with additional mark-up. The ward box process allowed TDHS to order all medications at wholesale prices available to CAH through arrangements with Health Purchasing Victoria.

This pilot demonstrated that the ward box process could be successfully implemented at a site while being managed by an external hospital pharmacy department, and that cooperation between larger and smaller services could lead to positive outcomes. Benefits included efficiency of delivery, decreased staff time spent on financial accounting duties, and improved cost-effectiveness.

The pilot also initiated the establishment of a common regional list of approved medicines (a formulary) that could be overseen by the medication safety committee proposed in the regional governance framework.

### Regional cytotoxic compounding service

A study was undertaken by the Monash Centre for Medicine Use and Safety to identify and evaluate the legal, operational and financial factors relevant to the preparation and distribution of cytotoxic medication within the region. This group of medicine is used to treat cancer.

The study found that while the existing facility at SWH could legally compound cytotoxic medication for all the health services in the region, significant challenges would first need to be addressed. These included inefficiencies and risk associated with variations in treatment protocols across the different health services, and the need for a secure, reliable and prompt way to transport the medications to each site.

## Key learnings

* The proposed RPGG would be responsible for medication management matters that may be beyond the responsibility of pharmacy management but which pharmacy managers identify as potential problems. As this would likely include broader concepts of medication management and safety, groups other than pharmacists would need to be represented in the RPGG.
* Smart pumps can provide a great deal of data and help identify at-risk behaviours exhibited by practitioners that could compromise medication and patient safety – for example, the number of times an alert comes up, or how many times an automatic stop due to dosage limitations is overridden by a clinician. It is recommended that health services use this information to enhance the safe use of medications and to correct problems.