

# Ambulance Victoria Improves Emergency Care with Mobile Solution



Ambulance Victoria  
Melbourne, Australia  
[www.ambulance.vic.gov.au](http://www.ambulance.vic.gov.au)

**Industry:**

Healthcare

**Annual Revenue:**

US\$600 million

**Employees:**

3,000

**Oracle Products & Services:**

Oracle Database Lite  
Oracle Database  
Oracle Discoverer  
Oracle Discoverer Plus

*“You need robust backend systems to handle the analysis of nearly 720,000 emergency incidents a year. Oracle handles the task impressively.” – Cameron Crampton, Executive General Manager for Information Systems, Ambulance Victoria*

If you ever need emergency medical treatment in the Australian city of Melbourne, Ambulance Victoria (AV) will make sure you receive the best possible care.

AV provides up to 450,000 emergency transport services and approximately 270,000 less urgent services each year. It also operates air ambulance services for the state of Victoria, ensuring people in regional areas can access the world-class medical facilities in Melbourne, the state’s capital.

The urgent nature of the work means it is not enough to be efficient. AV requires tools that give paramedics and their managers all the knowledge they need to provide optimum patient care. That means capturing all information about a patient’s condition and the treatment they receive from emergency workers.

The organization implemented VACIS, an electronic patient care record application built on Oracle Lite technology, to allow paramedics to record on tablet PCs each treatment they provide to a patient. Regular analysis of in-field patient treatment will help AV refine and enhance its services, increasing the quality of emergency care.

## Improving Patient Care

“AV is moving from a system that measures performance solely in terms of how fast we arrive at an emergency to a system where we are also judged on the improvement we make to the patient’s situation,” explained Cameron Crampton, executive general manager for information systems at Ambulance Victoria.

“That means we need to understand if our people have the right training and are using the correct interventions,” he said. “We need all sorts of information, like what we knew when we finished talking to them on the phone, what we did on the scene

**Key Benefits:**

- Enhanced emergency patient care through regular performance analysis and sophisticated measurement of outcomes
- Enabled switch from monthly reports to real-time analysis
- Improved day-to-day operations management by giving staff the ability to drill down to individual cases for closer review
- Ensured that information, such as clinical practice guidelines and street closures, can be uploaded into tablet PCs used by paramedics

and in transit, what happened in hospital, and what the overall outcome was for the patient. To capture that information and then develop quality indicators for this kind of measurement is a big job.”

AV is able to collect and assess information of the required detail by deploying Oracle Lite (as part of VACIS) to tablet PCs used by paramedics in its ambulance fleet. The system allows paramedics to record information about patients and every treatment they provide.

Oracle Lite’s synchronization utilities make the information available for later analysis through an Oracle-powered data warehouse. This will allow AV operational staff to analyze their performance and fine-tune care further for the benefit of patients.

“Using Oracle, we can look at fairly detailed clinical and performance information and then drill down to assess the performance of individual divisions and teams,” Crampton said. “That is powerful and gives the operations teams the information they need to manage our field staff. It is already having an impact on the way operations management carries out its day-to-day business.”

**Quicker Performance Analysis**

Before it adopted VACIS, AV recorded on paper each emergency it attended. In addition to being a time-consuming process, this approach limited the amount and quality of analysis the organization could conduct.

The move to VACIS with its Oracle Lite technology makes it possible to capture information instantly and analyze it daily, if necessary. Paramedics now record information on tablet PCs equipped with WiFi facilities. It is then uploaded wirelessly into AV’s clinical information system.

An Oracle data warehouse combines clinical information with information from the computer-aided dispatch and mobile data network systems. Each incident can be analyzed with reports produced using Oracle Discoverer that the operations team at AV can access every day.

“In the past, we took data from the dispatching system at the end of the month and looked at performance reports a few days later,” Crampton explained. “Combining Oracle with our new mobile

data network means we can now see fairly detailed performance information in near real time.

“You need robust backend systems to handle the analysis of nearly 720,000 incidents a year. Oracle handles the task impressively.”

### **Incorporating On-the-Road Business Rules**

Oracle Lite’s ability to capture the imprint of the whole database makes VACIS an effective tool for paramedics to use in the field.

“We can build in business rules at the database level and then propagate these to the tablet PCs in the field,” Crampton said.

“One particular screen might need fields to enter vital signs and another to collect patient history. Dynamic business rules mean we can always be certain that information relevant to a particular case or new clinical guideline is collected.”

The software’s synchronization tools also ease workflow and compliance tasks. “Instead of data capture in the field being a potential source of conflict at the database level, once a case is closed by a paramedic on a tablet PC we know the business rules will ensure their input becomes part of the overall patient care record,” Crampton said. “We also get a full audit log for future reference.”

AV can also make sure that the right content reaches paramedics. “We can publish software updates and documents such as clinical practice guidelines to the tablet PCs,” Crampton said. “We are developing sophisticated interfaces with other systems and medical devices such as our CAD system, Hospital Emergency Department administration systems, and defibrillators.”

### **Why Oracle?**

AV chose Oracle Lite for its new system because it was the only application that provided the functions it needed and the only one that offered a route to developing other required features.

“We tried some off-the-shelf systems but there was not much out there,” Crampton said. “There were certainly no enterprise-level systems that offered the level of clinical detail we needed.

“AV has used Oracle Financials for a number of years. When we started looking at building a portal and a data warehouse, it made sense to reuse our skills rather than try a solution that would require a lot of integration work in the future.”

Crampton was also concerned that working with a smaller vendor could make it difficult to access innovation.

“Working with a specialist means you can have the best product for a while,” he said. “But what about the future? Will there be extra integration work to upgrade?”

Oracle, by contrast, made AV a part of the beta program for Oracle Lite. “It enabled us to get features into the system that was important to us, especially around data synchronization,” said Crampton. “It helped us get our field devices working the way we need them.

“We cannot imagine another vendor offering the same level of access in the product design process the way Oracle did to make sure we got what we wanted.”

### **Implementation Process**

AV implemented its Oracle systems itself over two years. The organization also used contract workers to bolster its IT team.

### **Advice from Ambulance Victoria**

- Don't be afraid to work with technology that is fit for purpose, rather than best-of-breed, as the cost of integrating and adapting niche products can tax the resources of any IT department.
- Try to work collaboratively with vendors—the benefits of helping to design a core product can be extraordinary.
- Don't be dogmatic with “make or buy” policies. An integrated product built substantially from commercial off-the-shelf components using established skills can often be simpler and more flexible in the long term than a complete out-of-the-box solution.

*Ambulance Victoria (AV) provides pre-hospital emergency and non-emergency care and patient transport to 5 million residents. AV is one of the most progressive ambulance services in the world, boasting operational staff with specialist medical skills and clinical training.*