Web based Information Portals

Important tools for health registries

- Shaila Chavan
- Carol George
- Marcela Forero

For the Australian and New Zealand Intensive Care Society Database Management Committee

ANZICS Health Registries

- ANZICS Registries
  - Adult Patient Database
    - 730,000 individual patient records from over 140 individual intensive care units (ICUs) across Australia and New Zealand
  - Paediatric Registry
    - Individual patient records from 8 dedicated paediatric units and admissions from 8 adult/ paediatric ICUs – 7203 admissions in 2005 [1]
  - Research Centre for Critical Care Resources
    - 15 years of physical and human resource usage information on Australian and New Zealand ICUs
- Purpose
  - Intensive care quality assurance, epidemiological research and information provision to government for future health planning and resource management

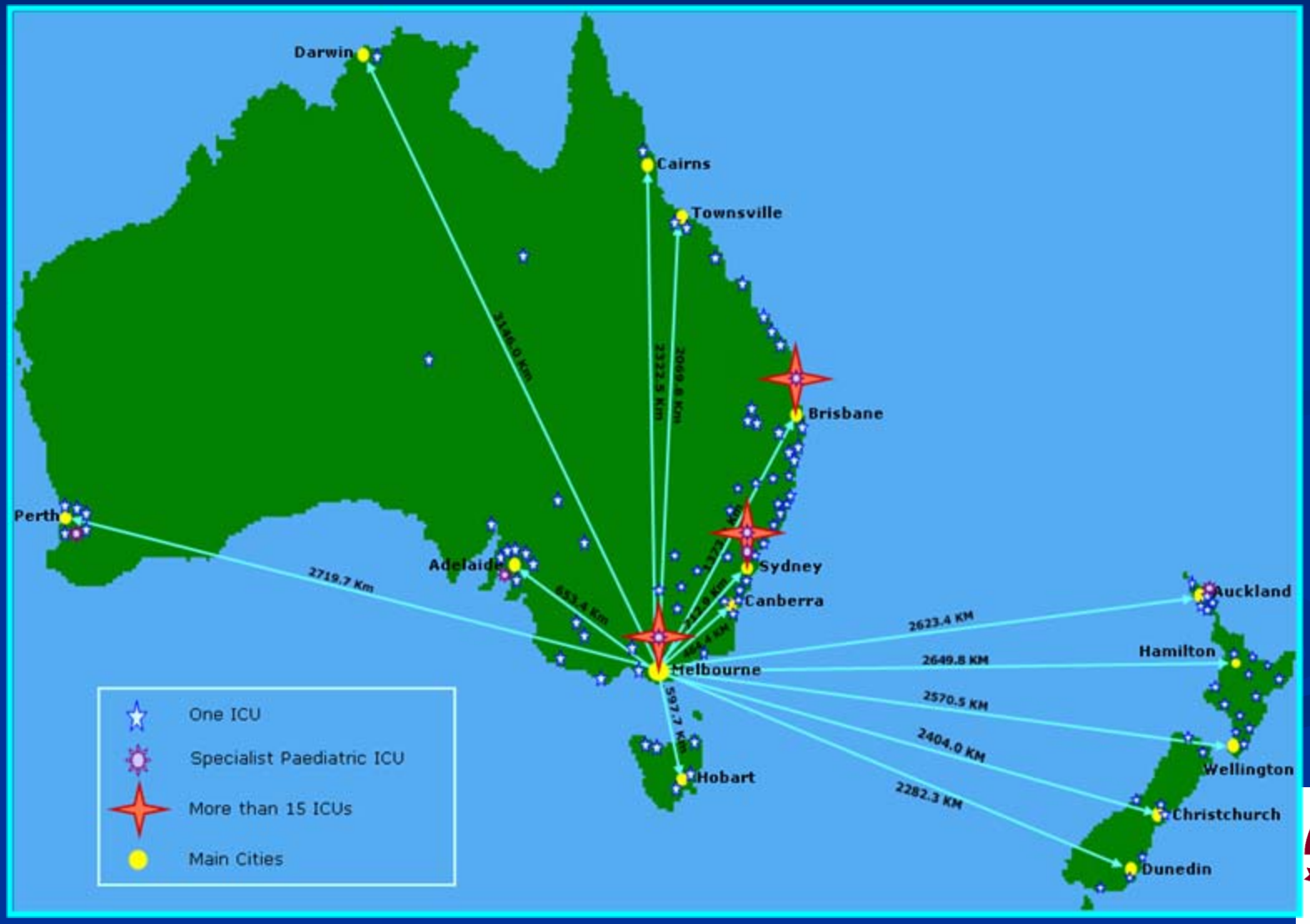
Data warehousing

- The data is held at ANZICS house on a secure server and is appended with new records after every submission round (quarterly submissions) from Adult Intensive Care Units
- This data is then used to create comparative reports for individual units
- Data is appended annually from ICUs surveyed by the ANZICS Research Centre For Critical Care
- In 07 / 08 data admission data collected by paediatric units will also be added and made available through the information portal

Why need for portal?

- Geographically vast area for coverage
- Time zone differences 4 – 6 hrs
- Increasing demand of medical data for research purpose
- Improved timely delivery of reports to contributors
- Increase utilisation of data by contributors and other stakeholders
- Improve data quality and stakeholder participation

ANZICS contributors : Geographical spread



Method

- Implementation of SAS BI Enterprise Server software
  - Acquisition of hardware in consultation with SAS vendor
  - Loading of the multi tier software [2]
    - Server tier including: Metadata server, Workspace server, Stored process server, OLAP server
    - Mid tier including: WebDAV server and the SAS Web Infrastructure Kit
    - Presentation Client Tier
  - Modification of existing the SAS (AF)application to allow delivery of electronic reports to publication channels within the portal software

Method

- Security
  - Planning and implementation of user and group hierarchy
  - Thin Client reporting tools - Web report Studio, Information portal
    - Security applied at the Information map level through the use of stored processes to subset data according to group and individual user permissions
    - Folder permissions defined within SAS Management console to limit navigation of users to appropriate reports
  - Full Windows clients – Enterprise Guide, Add in Tools for Microsoft
    - Security must be defined at the data source level
    - Implementation of security by creating a separate workspace server for these clients to occur in the near future to allow distribution and use by external users

Method

- Report development
  - Development of web reports in Web report studio – security provided through stored processes allowing one data source with one defined information map and one WRS report to deliver individual reports to multiple sites
  - Design of portal pages and publishing of web site (http://sas.anzics.com.au)
- Training
  - Internal employee training in SAS Management Console, Information Map, Enterprise Guide, Add in Tools for Microsoft
  - Establishment of online education (http://education.anzics.com.au) and training for end users through use of the web and face to face workshops

SAS Web Portal

Log On | Help

Portal for ANZICS Databases

Created from PUBLIC Sticky

- ADULT PATIENT DATABASE
- ------ Data submissions
- ------ Workshops
- ------- APD Discussion Mailing List
- ------ AORTIC software
- ------ Attention Software Developers
- ------ Data Audit Project
- ARCCCR
- ------ ARCCCR Discussion Mailing List
- ANZPIC
- ---- ANZPIC Discussion Mailing List
- WEB REPORT STUDIO
- ANZICS WEB EDUCATION
- SPECIAL INTEREST GROUPS
- LATEST ANNOUNCEMENT
- PUBLICATIONS

Australian Contributing sites - click on region for detail

Name of Province		
	Australian Capital Territory	New South Wales
	Northern Territory	Queensland
	South Australia	Tasmania
	Victoria	Western Australia

All Australian and New Zealand Intensive care units are invited to contribute to the Adult Patient Database.Free software is provided to units to assist in the collection of data.
The project is funded by all Australian states, territories and New Zealand.
For further information, please contact us.

Project Team

Director (Adult Patient Database)
Peter Stow
Ph: +61 (0)3 52267765
Email: peters@barwonhealth.org.au

Project Manager
Carol George
Ph: +61(0)3 93403423
Email: adult.data@anzics.com.au

Project Officer (Data quality and Education)
Shaila Chavan
Ph: +61 (0)3 9340 3426
Email: Shaila.Chavan@anzics.com.au

Project Officer (Health Information and systems management)
Marcela Forero Duarte
Ph: +61 (0)3 9340 3422
Email: marcela@anzics.com.au

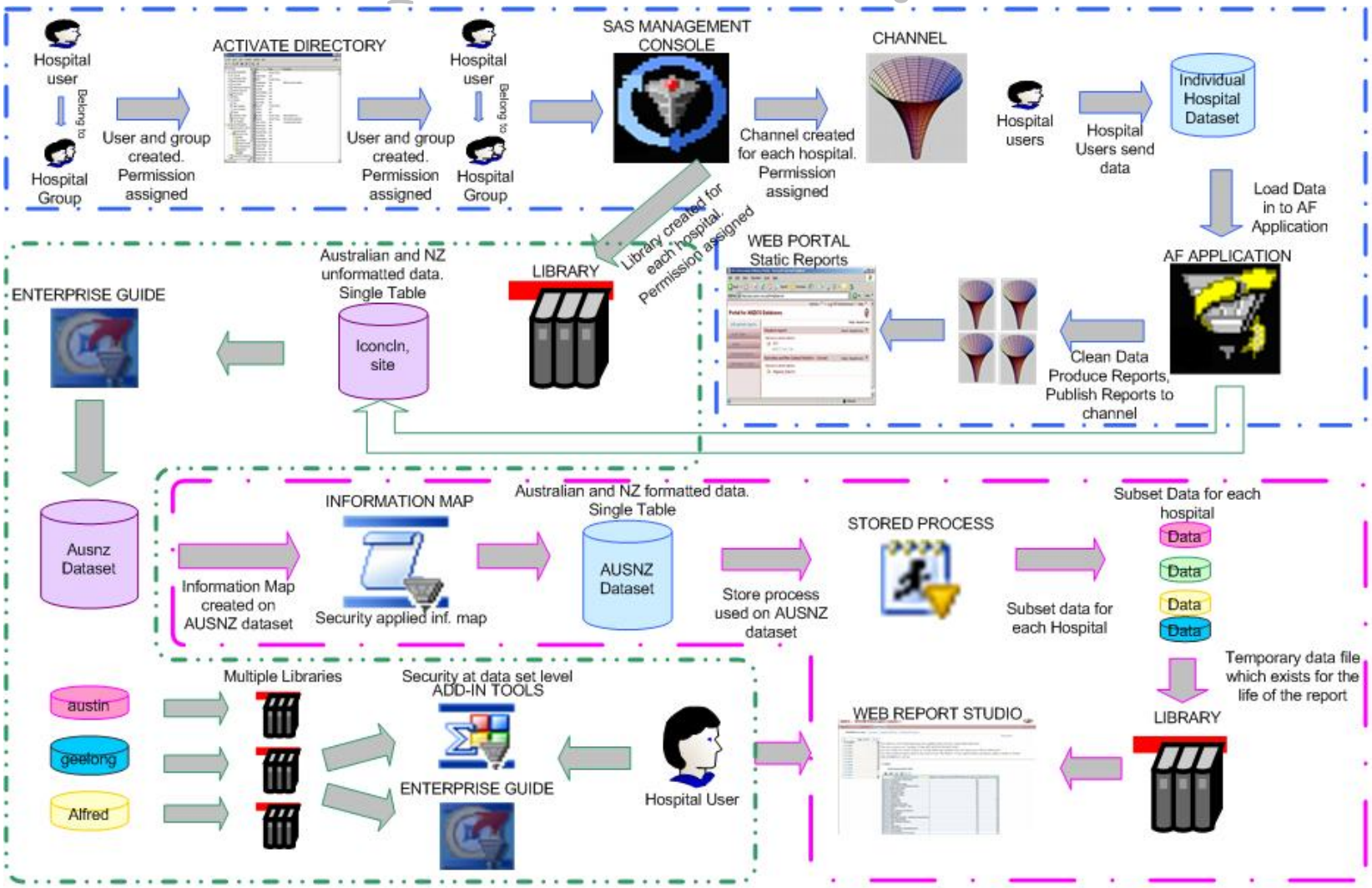
Project Officer (Computer Programmer)
Chris Jacobs
Ph: +61 (0)3 9340 3425
Email: chris.jacobs@anzics.com.au

Administrative Assistant
Louise Clark

■- Public Information access point
- Log in point for contributing sites

http://sas.anzics.com.au

Implemented system



Lessons learnt

- The SAS BI enterprise software should be regarded as a developmental tool and requires a high level of resource to implement, develop and maintain as an information portal and analytical application for multiple users
- Implementing SAS BI on a single server architecture resulted in the web portal performance not meeting response time expectation.
- Future architectures under consideration include:
  - Separation of the mid tier onto a second server
  - Upgrading the current two CPU server processor to multiple quad core Intel processors
- Security – unresolved issue
  - User and group security failed to work during training sessions utilising the Information portal and Web report studio at two hospital based computer laboratories – The problem is not replicated outside this environment

References

- 1. Turton, C., Norton L., Slater A. (2006) Report of the Australian and New Zealand paediatric intensive care registry, 2005, ANZICS, Melbourne
- 2. Using SAS® Management Console to Manage Your Environment Course Notes. 2005 SAS institute Inc., Cary NC 27513, USA