Keeping Track of Health

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Department of Health, Western Australia

Government of Western Australia
Department of Health

Landgate

Curtin University
CURTIN HEALTH INNOVATION

Spatial Vision

crc•si

Delivering a **Healthy WA**

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WA Health Department

Western Australia's public health system aims:

- To ensure healthier, longer and better lives for all Western Australians

- To protect the health of our community by providing a safe, high quality, accountable and sustainable health care system

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Epidemiology Branch

Our Aim:

To monitor, assess and report on health profiles and service utilisation for the WA population.

We provide information to:
- Guide policy development
- Identify emerging issues
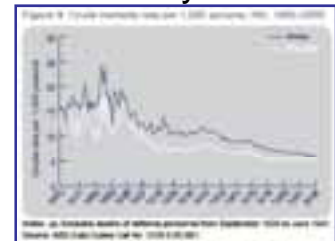- Prioritise service delivery
- Evaluate health system performance

GIS

Epidemiological Analysis

Surveys

For more info visit: http://www.public.health.wa.gov.au

Email: epi@health.wa.gov.au

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GIS in WA Health

- Epidemiology Branch within Public Health Division

- 3 FTE + 0.4 contractor position

- Historically MapInfo domain, changed to ESRI suite due to increased spatial analysis

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Overview

- Background

- System Architecture and Components

- Data Sources and Application Functionality

- Outcomes and Future Plans

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Background

- Effective public health relies on quality data

- Shift from Health cost to Health gain

- Health Demonstrator Project – Health Tracks
- Where is ?
- Boundary locations
- Demographic & Population
- Health thematic maps
- Mapping my own data
- Web-services via Landgate's SLIP

System Architecture 1

- Delivered through a web browser

- Use an **innovative**, **modern** display

- Interface must be **user friendly** and **intuitive**

- Application must be **fast** and **responsive**

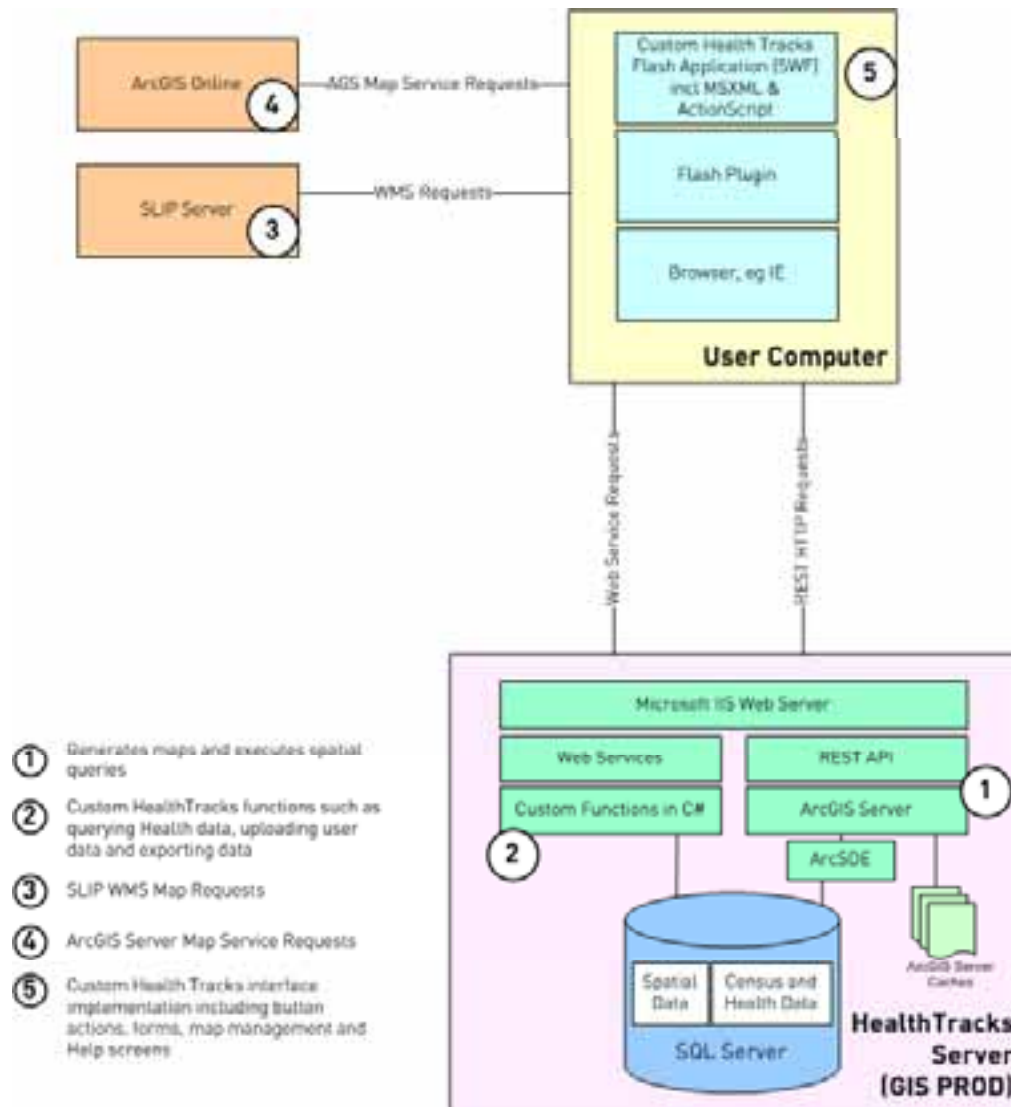Government of **Western Australia**
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System Architecture 2

- Existing infrastructure
    - Windows Server
    - IE 6 & 7
    - ArcSDE with SQl Server
    - ArcGIS Server Enterprise Edition

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System Architecture 3

HealthTracks Data Sources

Environment and Economic information
+
Social Determinant information
+

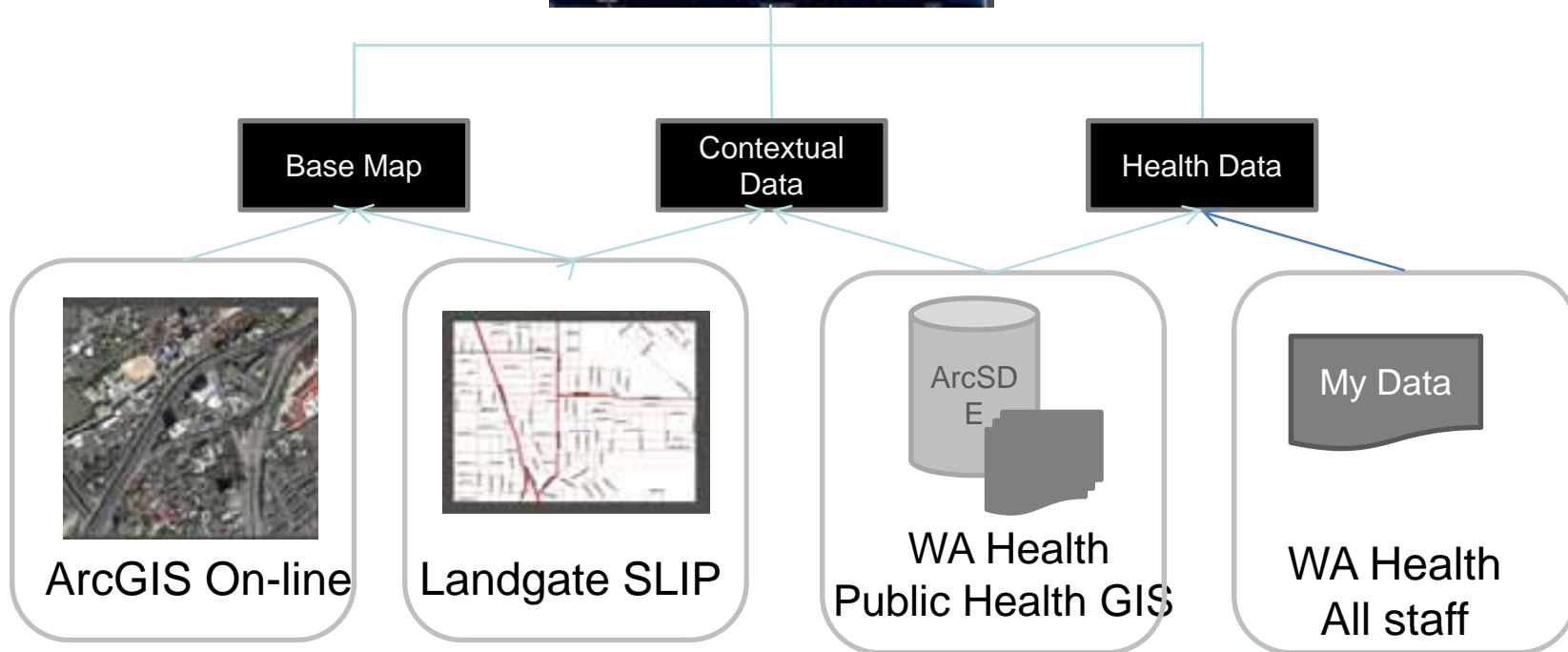| Birth Records	Health Surveys	Hospital Records	Cancer Registries	Death Records

HealthTracks End Users

**Public Health Managers,
Policy Developers and Planners**

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Data Storage and Access

Base Map

Contextual Data

Health Data

ArcGIS On-line

Landgate SLIP

ArcSDE

WA Health
Public Health GIS

My Data

WA Health
All staff

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Application Functionality

- Search and Identity tools
- Map:
  - Population
  - Demographics
  - Health Condition data
- Upload/Export data
- Print/Export maps
- Monitor Usage

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Video

Health Tracks Outcomes

- Staged release valuable

- Achieved wide exposure

- Added value to program planning

- Increased efficiency of GIS branch

- Executive support for future

Health Tracks Outcomes

- Winner of 2010 WA Spatial Excellence Award for Spatially Enabling Government, July 2010

- Winner of 2010 Asian Pacific Spatial Excellence Award for Spatially Enabling Government, October 2010

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Barriers and Limitations

- Patient and Hospital Confidentiality
- Reliable statistical measures for small areas
- Restrictive administrative boundaries
- Guidelines on release of spatial health information

- Future Research Focus

Where to next?

- First step of the journey

- Extend health statistics

- Merge into business systems

- Add more health relevant SLIP layers

- Extend to other jurisdictions

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Thankyou

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