

South Australian Dental Service

Data Quality Statement



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Government of South Australia
SA Health

SA·NT



DataLink

Due for Review: December 2011

www.santdatalink.org.au

SOUTH AUSTRALIAN DENTAL SERVICE

Data Quality Statement

This Data Quality Statement is intended to assist Researchers with understanding the strengths, weaknesses and utility of this dataset for Statistical Linkage Projects. This dataset has been assessed against the seven dimensions of data quality, as set out in the Australian Bureau of Statistics [Data Quality Framework](#):

- [Institutional Environment](#)
- [Relevance](#)
- [Timeliness](#)
- [Accuracy](#)
- [Coherence](#)
- [Interpretability](#)
- [Accessibility](#)

The South Australian Dental Service data collection contains administrative and clinical electronic dental records and includes identification, demographic and medico-legal information. Its principle for the establishment of datasets is based on safeguarding, protecting and monitoring publicly funded dental provision for children and adults. The information is a means of generating internal and external population statistics for service planning; service improvements; business and financial reporting, forensic identification and dental service evaluations.

Dental records of children (aged between 0 and 17) and adults (≥ 18) are collated and are held secure in a protected environment. Records are collected, updated and managed by the School Dental Service (SDS), Community Dental Service (CDS) (for eligible adult cardholders) and the Adelaide Dental Hospital (ADH).

Institutional Environment

Organisation

A State-wide Services directorate of the Adelaide Health Service

Authority for Collection

Dental Practice Act 2001 and the Healthcare Act 2008

Relevance

Purpose of the Collection

It is a legal requirement to hold a register of administrative and clinical information for monitoring, auditing and investigational purposes. The SA Dental Service provides accountability and transparency of public funding and relies on patient records for the purpose of internal, national and state reporting, for example there are reporting agreements in place with the South Australian Department of Health (SA Health) and the Australian Institute of Health and Welfare (AIHW). It is necessary to undertake service evaluations and provide regular planning and management reports on the efficacy of the dental service. Stored records can also be used in criminal investigations particularly around the area of forensic dental identification.

Records include administrative information (*i.e.* registration/consent; copayment fees collection; waiting list or recall details; related documents and a complete log of communication and actions taken) and clinical datasets (*i.e.* dental procedures and assessments; dental service codes; dates; service providers; clinical notes of relevance and a medical history summary).

Population Covered

Included in the population datasets are a collection of personal and clinical records pertaining to users of the South Australian Dental Service; they include details of users eligible for publicly funded dental care in SA, had been reviewed in SA Dental Service clinics or had been outsourced for dental services in the private sector under authorised dental schemes.

Patients under the School Dental Service (SDS) range between 0 to 17 years of age. The types of education institutions attended by this patient group vary but generally fall into the following categories: preschool,

primary, secondary and some limited tertiary educational institutions. Specific levels and corresponding education institutions are listed in the following:

- Pre-school or infant education
- Public (government) schools
- Independent schools
- Catholic schools
- High Schools
- Colleges (may also include some clients meeting the age and eligibility criteria)
- Training and Vocational Education (TAFE)
- University
- Children not attending school are eligible for SDS care and are included on the dental service register

In response to the Rapid Response government initiative (please see <http://www.decs.sa.gov.au/speced2/files/links/RapidResponsePamphlet.pdf>), any child or young person under the Guardianship of the Minister (GOM) needs to be traced and the SDS system will do this by means of a GOM identifier indicated in the dental record demographics. This provides an appropriate level of information sharing and is designed to streamline multiple service pathways and administrative processes.

Adult dental services are either provided by the Community Dental Service (CDS) or the Adelaide Dental Hospital (ADH). The datasets held by CDS and ADH contains personal and clinical level data. There is data coverage on attending Centrelink card holders; primarily those with Pensioner Concession Card or Health Care Card entitlement and their adult dependants.

School Dental Service (SDS) records exclude private dental care by private dental practitioners.

Geographic Coverage

South Australia. There are approximately 65-70 SDS clinics and 35 CDS clinics across SA.

Reference Period

Electronic waiting list records preceding 1994 are available for patients aged 18 years and over. Subsequent datasets following 1994 include a series of fields; available electronically which include dental service activity, procedures and service codes for adult clients. The data reside with the CDS and the ADH. In the five months prior to the year 2000 the system was upgraded and translated to ExACT and in late 2005 was further upgraded and rebadged as Titanium. Both of these final two dental management information systems are derived from the same source and have undergone a series of system implementations and upgrades. In summary, dental records for adults have been generally well maintained by the CDS and the

ADH. A variety of data from 1994 to present is available these can be sourced and extracted, when necessary.

The electronic dental patient records for children attending the School Dental Service (SDS) commenced progressively between September 2000 and July 2001. The electronic Oral Health summary data, namely the decayed, missing and filled index (dmf/DMF¹) and Community Periodontal Index (CPI) functionality was introduced in a functional upgrade commencing from April to June 2001. As such a relatively comprehensive dental record for children attending the SDS clinics exists from July 2001 to the current time.

Timeliness

Frequency of Collection

Titanium clinical records from each dental clinic are collected and maintained independently at each SA Dental Service clinic site on a daily basis, and on a weekly or monthly basis. Relevant data are merged centrally for evaluation and for area, region and state-wide reporting purposes. Dental records of services outsourced to the private sector are available, but there may be a 5 month lag period in the reporting of data.

Frequency of Release

Information from each site will be provided to SA NT DataLink on an annual basis

Timeliness of Release

SA Dental Service – SA NT DataLink

Titanium demographic and address information from each site will be provided on an annual basis to SA NT DataLink to be included in the Master Linkage File for records created or updated to 30th of June each year, by the 31st of August (*i.e.* within 2 months).

SA Dental Service – SA NT DataLink – Researcher

With the necessary approvals and authorisations in place, clinical and oral health data can be made available to researchers on an ad-hoc basis.

Work priorities are identified by the data custodian, Director, Evaluation & Research Unit on a monthly basis. It is envisaged that research datasets can then be prepared usually within 2-3 weeks of the end of the month.

In special circumstances, high priority datasets can be prepared within 72 hours, using the most current (*i.e.* overnight-log-file data transfers from SA Dental Service clinics) information available.

¹ dmf = deciduous teeth: decayed, missing and filled';
DMF = permanent teeth: Decayed, Missing and Filled

Accuracy

Quality Assurance

The Titanium dental clinical record is created and maintained by dental professionals, at chair-side, as part of the medical/dental clinical record of each public dental patient, or administratively from transcribed dental claims authorisations from external dental providers under several publicly funded dental schemes. As such there is a high level of accuracy in the record of dental procedures.

The School Dental Service (internal staff dentists and dental therapists) collect electronically the summary oral health scores (DMF +/- CPI) at the time of dental examination and re-examination (check-ups and recalls) for a large sample of children. As such a time series of dmf/DMF data may be available for clients that regularly attend the same SDS clinic. The DMF electronic data collection function is a manual intervention by clinical users, after the dental examination (check-up) data are recoded graphically at each new course of general dental care. As such a small proportion of children will receive check-ups without staff having taken a dmf/DMF record. All dental treatments and interventions related to decay; extractions and fillings are cumulative and influence the overall components of dmf/DMF. The computer system manages this time sequence so that a tooth that is decayed, then subsequently restored (filling), but that at some future time may be extracted, or exfoliated (baby teeth drop out) are reported accurately at the next dental examination (with the DMF score also available). The adult sampling frame for DMF/CPI data is at a lower rate and this information is not collected for every client.

Missing data elements may be reviewed on a case-by-case basis when the patient next presents to a clinic as a dental patient.

There is a high chance that a large proportion of patients, over time will attend more than one SA Dental Service clinic. Each Titanium dental clinic database is run independently; however there is a central system that merges these single datasets into one large database. Patient records can be traced because the client identifiers are maintained on the central system. The system is somewhat limited however and there is no central linkage and merging of patient records within the SA Dental Service at this time. Therefore, a patient may have been seen at several SA Dental Service clinics and the Titanium system currently treats these as different patients.

The Data Linkage project should allow for the identification of individuals and can do this by merging the dental records from several SA Dental Service locations and UR codes outside of the Titanium record. This operation forms part of the linkage key process in preparing de-identified data for researchers and for administrative evaluation use.

Coverage

The Titanium data collections cover SA Dental Service clinics services and contacts, as well as sub-contracted private sector dental schemes services (such as School Dental Service remote areas Capitation, Aboriginal Country Schemes, Pensioner Denture Service, and services in Supported Residential Facilities (SRF) and Residential Aged Care facilities). Data may be incomplete or not available for General

Anaesthetic services in hospitals (Women’s and Children’s Hospital (WCH), Royal Adelaide Hospital (RAH) and private hospitals – non-SA Dental Service data collections), the dental clinics, Women’s and Children’s Hospital (WCH), Flinders Medical Centre (FMC) and The Queen Elizabeth Hospital (TQEH). At this time some Aboriginal Controlled Community Health Services (such as Yalata, Nunkuwarrin Yunti, Nganampa (APY lands)) are not part of the SA Dental Service data collection for dental services, but clients seen at Pika Wiya at Pt Augusta and Umoona (UTHS) at Coober Pedy are included.

Coherence

Internal Consistency

The same Titanium Oral Health Management dental patient information system and its pre-cursor system ExACT (which has the same originating software source; with vendor restructure necessitating the product name change) has been in place in SA Dental Service since 1999, see below for further details:

- Adelaide Dental Hospital August 1999
- Community Dental Service September 1999 to December 1999 (all complete before the year 2000)
- School Dental Service September 2000 to July 2001 (commenced e-records post year 2000)

The software has received regular upgrades and functional enhancements over the past decade, and not all features and functions are therefore retrospectively available. For example the oral health status (dmf/DMF/CPI) feature was introduced in April 2001 and further enhanced in September 2002 (added D1 differentiation), but has remained fundamentally unchanged since then.

New enhanced features are currently (May – December 2010, with upgrades for ADH expected in January 2011) being rolled-out across the state.

All SDS and CDS sites are maintained on a common build, and the ADH is working on a comparable version but with some additional site-specific features. By early 2011 all sites will be operating on the same version of the data collection software.

Data codes may vary from national standards in some cases. A data dictionary for researchers is available in different levels of granularity. Please seek advice from Evaluation & Research Unit in each case. Recode translations and mapping are possible in special circumstances.

Comparability

The Australian Bureau of Statistics (ABS) standard classification for Countries and Languages are used, but with local anomalies as the system currently permits additional local variance or additions to be made at every dental clinic. A data quality program is in place to identify these anomalies and can report back to the source for correction.

The questions on Aboriginality Status are in accordance with the Australian Bureau of Statistics' (ABS) classification, and the responses recorded are compliant, but the Titanium underlying dataset codes for Non-Aboriginal is '0' (zero) rather than code=4.

Dental Service codes use the Australian Dental Association (ADA) glossary (currently 9th schedule), and have been maintained since the ADA 6th schedule before the year 2000. Additional organisation level supplementary service activity codes are maintained by SA Dental Service, and comparable (with or without mapping) for interstate dental service comparison, including \$LDO notional value of service output.

Linkage Variables

Names (all including "aka's", aliases and nicknames)

Date of Birth

Sex

Country of Birth

Residential Address

Unique Record Identifier

Unique Person Identifier (where available)

Aboriginality and/or Torres Strait Islander indicator

Any of the above information provided for other family members and included in these records

Interpretability

Metadata

A document has been prepared specifically for Data Linkage researchers, and is awaiting finalisation of the privacy exemption approvals and will then be updated in accordance with the final agreed variables. This document will be made available for SA NT DataLink to place on their website. Researchers interested in specific additional collections/variables should contact the Data Custodian to discuss the project requirements, to explore potential for additional collected variables not listed in the Data Dictionary.

Accessibility

Data Custodian

SA Dental Service, Evaluation & Research Unit on 8222 9080 or e-mail

Andrew.Chartier@health.sa.gov.au

Research Inquiries

Contact [Metadata and Research Advisory Services, SA NT DataLink](#)

Method of Access

To gain access to this dataset Researchers must follow [SA NT DataLink's Application Process](#) for Statistical Linkage Projects.

Data Availability

Oral Health status (dmf/DMF/CPI) data are only available from April 2001 onwards.

Service activity since 1994 does not have associated Course of Care information prior to translation to ExACT in August – December 1999, but is reliable and has consistent business rules from July 2000.

System enhancement and functional upgrades are point in time noted. Any impacts will be discussed as required.

For further information please contact Metadata and Research Advisory Services, SA NT DataLink.

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