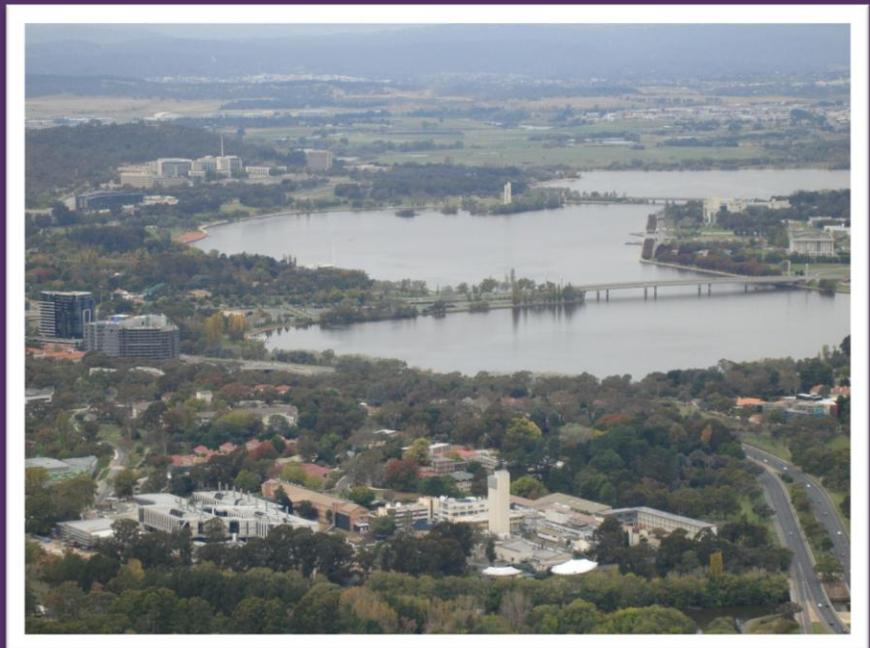
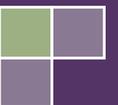


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Stewardship of the Oral Health System in the Australia Capital Territory (ACT)



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1. Introduction:

A health system encompasses many parts: patients; families; communities; Ministries of Health; health providers; health services organizations; pharmaceutical companies; and health financing bodies. Other organizations also play important roles. The interconnections of a health system can be viewed through the functions and roles played by these parts¹. Unfortunately, nearly all the information available about health systems refers only to the provision of, and investment in, health services (preventive, curative and palliative interventions) but, even by this more limited definition, health systems today represent one of the largest sectors in the world economy (almost 8% of world gross domestic product (GDP))². The WHO's World Health Report 2000 defined health systems by the boundary of activities they encompass. According to the WHO report, four basic functions contribute to determining the observed levels of goal attainment: financing; service provision; resource generation; and stewardship³;

- **Health system financing** is the process by which revenues are collected, accumulated in fund pools, and allocated to specific health actions. It includes revenue collection, fund pooling, and purchasing³. Financing has an extremely important impact on the performance of a health system. It determines how much money is available, who bears the financial burden, who controls the funds, how risks are pooled, and whether health-care costs can be controlled. These factors, in turn, help determine who has access to care, who is protected against impoverishment from catastrophic medical expenses, and the health status of the population⁴.
- **Service provision** refers to the way inputs are combined to allow the delivery of a series of interventions or health actions. These comprise personal health services—preventive, diagnostic, therapeutic, or rehabilitative—and non-personal services such as mass health education, legislation, and the provision of basic sanitation facilities.
- **Resource generation.** Health systems also include institutions that produce inputs—particularly human resources, physical resources such as facilities and equipment, and knowledge—to the functions of service provision and financing. Education and research centres, construction firms, and an array of organizations producing technologies such as pharmaceutical products, devices and equipment fulfil these roles. Strategies for resource generation, the third function, can be critical in allowing the health system to perform to its potential or, conversely, in restricting its ability to do so.
- **Stewardship** is a neglected function in many health systems, extending beyond the conventional notion of regulation. It involves setting, implementing and monitoring the rules of the game for the health system; assuring a level playing field among all actors in the system (particularly purchasers, providers and patients); and identifying strategic directions for the health system as a whole⁵.

The leadership and governance of health systems, also called stewardship, is possibly the most complex but critical meta-function of any health system. It is about the role of the government in health and its relation to other actors whose activities impact on health. This involves overseeing and guiding the whole health system, private as well as public, in order to protect the public interest [8]. WHO recognized stewardship as the function of the government responsible for the welfare of the population and concerned about the trust and legitimacy with which its activities are viewed by the citizenry^{6,7}.

Both political and technical actions are required for health stewardship to improve its performance, because it involves management of competing demands for limited resources⁵. The notion of stewardship also contributes to the notion of evidence-based health policy-making. On the other hand, a national health strategy based on stewardship can organize the available evidence about what works

well to support population-based measures to improve overall health status⁶. Even though it has an important role in improving the intermediate and ultimate proposed goals of health systems, stewardship is usually a neglected function in most health systems.

Sub- functions of stewardship

Stewardship, as a whole, consists of three main sub-functions: “setting, implementing and monitoring transparent rules for the health system; defining strategic directions for the health system and assuring a level playing field for all actors in the system”. To cover all of these functions, some subdivisions need to be considered, and constructed from prevailing notions of what, together, constitutes the function of stewardship.

- Generation of intelligence.
- Formulating strategic policy direction.
- Ensuring tools for implementation: powers, incentives and sanctions.
- Building coalitions / inter sectoral advocacy.
- Ensuring a fit between policy objectives and organizational structure and culture
- Ensuring accountability⁸

Evaluation of Health System Performance

Assessing the performance of a health system, identifying key factors and domains that give explanation about performance variation and implementing policies to achieve better results are needed for decision-makers at all levels especially those with key responsibilities and for governments. In other words, it is essential for the work of governments, development agencies and multilateral institutions to develop a realistic and operational framework for health system performance assessment

Health systems, including oral health systems, have roles to play. Systems are becoming more complex and people’s expectations of health care are rising dramatically. In many countries, the role of the state is changing rapidly, and the private sector and civil society are emerging as important players.

Often oral health care systems have been described on the basis of only one or two characteristics and are mostly descriptive^{9, 10}. They just describe the current oral health systems of countries by presenting the status of the workforce, costs, how they are provided and how specific oral health programs are implemented without discussion about how the systems work or how to use policy to improve their functions. Each system should be understood for all its characteristics since systems are not one-dimensional and most have adapted over the years. Changes such as increasing older population or higher prevalence of dental caries in adults draw attention to the non-responsiveness of existing systems.

2. General aim

The study had two main aims: firstly to use the standards developed as part of DrTahani's PhD in order to evaluate the stewardship of the oral health system in the ACT; and secondly, to see if the standards, initially developed for the task of evaluating oral health stewardship in a middle income nation (Iran), had face validity and use value in the evaluation of the oral health system in a high income province (the ACT). The present report mostly focusses on the first aim.

3. Materials and methods:

We used a three part mixed methodology comprised of a quantitative questionnaire, semi structured interviews and document review. In conducting the survey we used the finalized list of standards established in our previous work as the main instrument for evaluating the oral health systems¹¹. The evidence-based information and experts' consensus method was used for developing these standards. Based on a comprehensive review, policy instruments that related to stewardship components were extracted as candidate standards and were categorized according to the sub-functions of stewardship. Key informants then rated the appropriateness of standards and standards were ranked in order of importance and relevance. We then identified the 38 highest ranked standards as a set of proposed standards that includes at least 2 standards in each of the 6 sub-functions.

Selection of respondents:

Those stakeholders with key responsibility in managing and/or decision making of oral health system in ACT, working in public, private and statutory organizations were selected as main respondents. As the aim was to obtain insights into the phenomenon of stewardship, key stakeholders were selected purposefully. All the stakeholders were invited to attend a one-day workshop held at meeting Room, Moore Street, Canberra City.

They were:

- Executive Director and Clinical Director of Public Oral Health in ACT
- Representatives of ACT branch of AHPRA
- Senior Dental Officers, Senior Dental Therapists, Dental Health Program
- Representatives of Australian Dental Association
- Representatives of Salvation Army
- Representatives of Justice Health
- Representatives of Department of Health and aging
- Representatives of Cleft Palate Clinic

Questionnaire:

The questionnaire was self-completed by respondents. However, one of the research team members was available to help interpret the questions if requested. We asked respondents to read each standard critically and answer the level of their current attainments in accordance to a Likert-type scale upon their opinion. The scale ranged from point zero, which was “very low” through to point four, which stand for “very high”.

Since just 6 out of 31 invited persons attended the workshop, we mailed the questionnaire for those who were not able to attend.

Method of analysis of the scoring:

For each standard, the total mean score was calculated. Also, mean of opinions of stakeholders in governmental or public sector of those in the private sector were calculated. T-test was used to analyze the difference between these two scores. The means were between zero and four. We then categorized the mean scores as follows: mean between 0 to 1.33 as “Not Attained”; 1.34 to 2.67 as

“Partially Attained”; and 2.68 to 4.01 as “Fully attained”. Attainments in each sub-function of stewardship were reported separately.

Interviews:

According to main standards included in each sub-function of stewardship, some open-ended questions were also designed for using in the discussion meeting held as a one-day workshop. These questions were mostly designed to discover evidence about the status of implementation of the standards and the specific instances or programs in place related to each standard. Discussions were recorded. After the appointment, recorded discussions were transcribed.

Document review:

As part of evaluation, we implemented a literature review—including official documents, reports, statistics and gray literature. Using electronic databases such as PubMed and Google Scholar, relevant published articles and reports were found. Official websites of national organizations such as Australian Dental Council, Dental Board, ACT health were also reviewed. Furthermore, all the published or non-published documents or reports, either provided by respondents or founded by hand searching, were reviewed. In total about 80 article, report and documents were reviewed.

Ethical aspect: According to the document entitled “Australian National University Terms of Reference” established by Human Research Ethics Committee (HREC) of ANU this research can be exempted from review by this committee because it is:

- (a) Negligible risk research, which is defined as research where there is no foreseeable risk of harm or discomfort, and any foreseeable risk is no more than inconvenience; and
- (b) Involves the use of existing collections of data or records that contain only non-identifiable data about human beings.

Results:

The oral health system of Australia in context:

Australia is the world’s largest island and smallest continent with over 7 700 000 km² landmass and is home to an estimated 20.3 million people. The population represents a great diversity of ethnic backgrounds, resulting from migration from many countries.

There are six states, two major mainland territories, and other minor offshore territories. The states are New South Wales, Victoria, Queensland, South Australia, Western Australia, and Tasmania. The two mainland territories are the Northern Territory and the Australian Capital Territory. About 64% of the total populations live in the capital cities of the states and territories.

The Commonwealth of Australia is a constitutional monarchy with a federal system of government, within which there are four divisions: commonwealth (federal), state, territory, and local. The formal powers of the commonwealth Parliament are limited to national importance areas such as trade and commerce, taxation, foreign relations, defense, immigration, and quarantine. However, Constitutional amendments, commonwealth-state agreements and the use of grants to the states and territories have seen the commonwealth gain influence in regard to other areas including industrial relations, financial regulation, health, and education¹².

In 2004–05, health expenditure in Australia was AU\$87.3 billion, representing 9.8% of GDP, and average health services' expenditure was AU\$4319 per person. The majority of health spending was funded by governments (68%), with the federal government contributing 46%; state, territory, and local governments 23%; and the nongovernment sector funding 32%¹³.

Dental caries is the second most costly diet-related disease in Australia, comparable with that of heart disease and diabetes economic impacts¹⁴. In the year 2001-02, approximately \$3.7 billion was spent on dental services, representing 5.4 percent of total health expenditure¹⁵. In 2009–10 the total expenditure on dental services was \$7,690 million, a 13% increase from the previous year. The largest contribution to dental expenditure in 2009–10 was made by individuals, accounting for 61% of the total dental expenditure¹⁶.

Overall, in 2006 there were 50.3 dentists, 5.7 dental therapists, 3.3 dental hygienists, 1.8 oral health therapists and 4.4 prosthetists per 100,000 populations. The majority of practicing dentists (84%) were general dentists and 11% were specialists

The majority of dental services in Australia are funded on a private basis with or without the assistance of private dental insurance. While the Commonwealth continues to play a direct and indirect role in the provision and financing of dental services, responsibility for the delivery of the major public programs for children and disadvantaged adults is managed by the States and Territories. Demand from concession card holders for dental care far outstrips State and Territory dental services' capacity to supply treatment and waiting lists are five years and more in some areas, despite significant increases in expenditure¹⁷.

At the last national survey of oral health, over 38% of Australians had untreated dental decay¹⁸. More recent estimates suggest that 11 million people are suffering new decay each year¹⁹. Most Australian children and adolescents have good oral health, and Australia ranks second among all OECD countries for the oral health of its children. Children in low socioeconomic groups experience almost twice as much caries as those in high socio-economic groups²⁰. The number of teeth with caries experience among Indigenous children is about twice the number in non-Indigenous children, in relation to both deciduous and permanent teeth. Indigenous 6-year-olds have an average of 3.7 teeth with experience of caries compared with 1.5 teeth for other Australian children. Among 12-year-old children, the relative difference is somewhat less (1.3 compared with 0.8 teeth, respectively)²¹.

Australians' oral health status deteriorates rapidly in later adolescence and early adulthood, and the oral health status of Australian adults ranks second worst in the OECD. There is a four-fold increase in dental caries between 12 and 21 years of age, and almost half of all teenagers have some signs of periodontal disease²². In 2010, approximately 21% of adults aged 65 and over were edentulous (without natural teeth), females having slightly higher rates of edentulism (25%) than males (17%). Of those aged 65 and over with natural teeth (dentate), nearly half (47%) wore dentures.

The majority of oral health services in Australia are provided and funded on a private basis, with or without the assistance of private dental insurance. Disadvantaged groups have significant difficulty in access; they are not eligible for public dental services and have difficulty accessing regular private oral health services due to cost²³. Currently public dental services accept only concession card holders, people on pensions and people in special needs groups; however they face long waiting lists. For children fewer than 5 in the ACT, dental advice and check-ups are free of charge. Every child to the age of 14 is eligible for either free treatment or treatment at a payment of 50\$ for as an annual fee. In 2010, well over three-quarters (88.3%) of people reported that their last dental visit was to a private dental practice, compared to 6.0% at a public dental service and 4.8% to a SDS (School Dental Service). Just under one-quarter (22.8%) of children aged 5–14 attended a SDS for their last dental visit and over two-thirds (68.2%) attended a private practice¹⁶.

44% of the Australian populations are under the coverage of dental insurance in order to reduce the out-of-pocket cost of private dental treatment. The Commonwealth 30 percent tax rebate on expenditure for private health insurance premiums would be assisting many lower income earners to

maintain private dental insurance. Approximately 20% of people earning under \$20,000 pa have dental insurance and only 3.7% concession card holders who attend public dental clinics have private dental insurance²⁴.

Evaluation of current oral health system stewardship:

The opinions of the key stakeholders invited in this study are shown in figure 1. We now summarize their opinions along with information from other sources for each of the sub-functions.

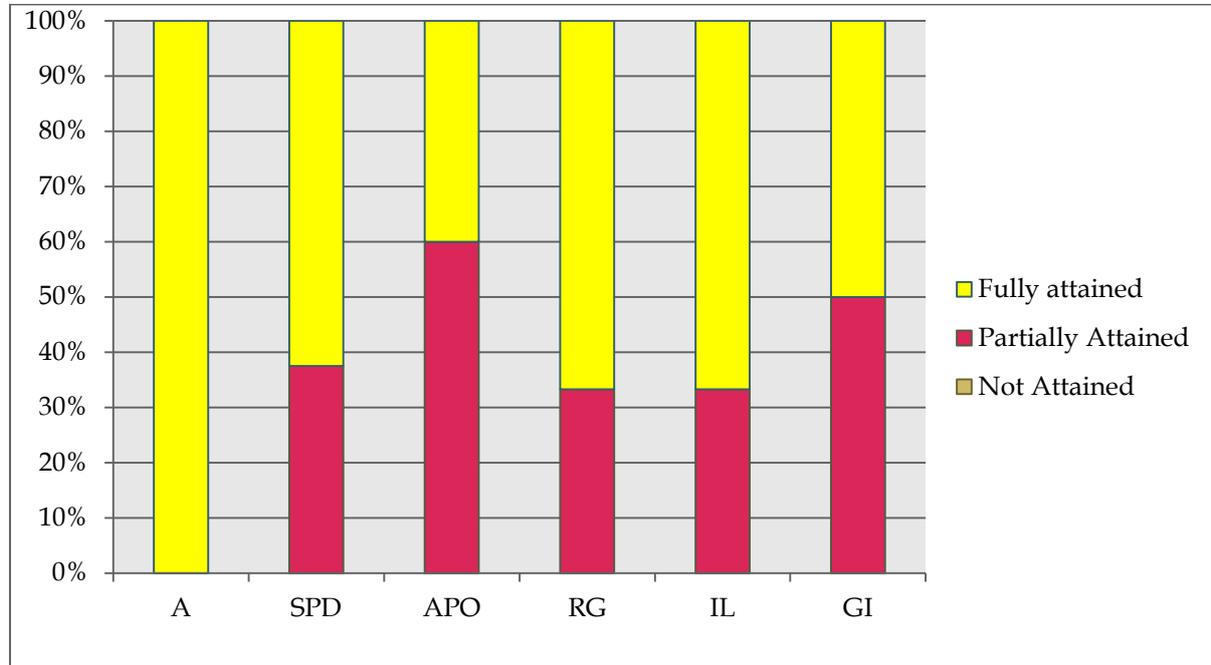


Figure 1- level of attainment of standards through opinions of stakeholders

Accountability:

Standards included under the sub-function of “Accountability” were fully attained (Figure1, Table 1). However, it seems there are no regular or national survey to evaluate the safety, efficiency and effectiveness of preventive and therapeutic programs conducted by this sector, or to evaluate the access and satisfaction of patients or the target population of the established programs.

The Australian Dental Council (ADC) as an independent not-for-profit company limited by guarantee formed in 1993 is the designated independent accreditation authority for the Australian dental professions. The Australian Dental Council (ADC) has been appointed by the Dental Board of Australia (DBA) under the *Health Practitioner Regulation National Law Act 2009* (National Law²⁵), as the accreditation authority responsible for accrediting education and training programs that lead to registration as a dentist, dental specialist, dental hygienist, dental therapist, oral health therapist or dental prosthetist²⁶. This council develops and reviews accreditation standards with wide public consultation²⁷.

Also, there are some protocols developed by the Australian Council for Safety and Quality in Health Care which intended to describe the steps that must be taken to ensure that planned treatment is provided on the correct patient. The clinical records must indicate that the steps taken to ensure correct patient, correct site, and correct procedure have been carried out for every treatment performed²⁸. This must be indicated by use of the Titanium service code CPSP at every visit. Currently there are protocols for work safety standards and infection control²⁹, removable dental prosthetic devices (dentures)³⁰, guidance to operational staff who are involved in the permanent recruitment of Dental Officers³¹, outlines the procedure for determining and enabling the scope of practice for Dental

and Oral Health Therapists employed in the Dental Health Program, guidelines for the methods to be employed in supervision and mentoring and outlines the duties and responsibilities of the supervising Dental Officers and of the Dental Health Program who are employed under the Public Sector Dental Workforce Scheme (Dental Officers employed under the Public Sector Dental Workforce Scheme have professional qualifications in their own countries that are not recognized in Australia. These mechanisms are supposed to obtain assurance about qualified care delivered to patients.

Besides, the ACT Dental Board has developed a number of Standards Statements (Standards) to direct dental care providers on medical, legal and ethical issues. The Board believes that the Standards ensure that the expected high level of care is delivered by dental care providers to the ACT community. The Board has issued the Standards in loose-leaf form and review them regularly and develop additional Standards to meet both professional and community needs. These standards are developed based on the belief that dental care providers have responsibilities and obligations to their patients and to the broader community to provide safe, beneficial, responsible and competent dental care. The treatment and care provided by a dental care provider should be responsive to individual, group and community needs, meet the professional situation and operate within a framework of integrity and respect for people's rights and dignity. Standards statements are in relation to: dental care provider's performance of their duties (scope and code of practice for dental care providers), registration of dental care providers, Advertising by dental care providers, patient information and records, specific clinical matters (Local anaesthetic agents administered by dental care providers, Methoxyflurane use by dental care providers, Nitrous oxide/oxygen sedation use by dental care providers, Oral sedative agents use by dental care providers, Practice of intravenous sedation techniques by dental care providers), Infection control measures in the practice of dentistry³².

According to the opinions of participants in the workshop, there are some shortcomings in accountability of the private sector.

Strategic Policy Direction:

Respondents in this study gave opinion that currently most of the proposed standards in this sub-function the MOH are achieved partially or fully (**Figure 1**). They believed that there are some limitations regarding the mechanisms and initiatives to ensure that the activities of various decision-making councils of an oral health system are consistent with the overall national priorities Ministry usually neglects the opinion of main stakeholders in the private sector when formulating oral health system priority settings. Also, they believed that in decision-making processes of situation analysis, systematic review of available evidence and consideration the potential of medical universities, research centers and even nongovernmental institutions are not fully incorporated. On the other hand, they were not sure about the degree of consultation and consideration of the opinions of the main stakeholders in formulating oral health system decisions and the process of priority setting.

According to the available documents, a comprehensive strategic plan has been formulated for improving the oral health status and reducing the burden of oral disease across the Australian population. The purpose of this plan entitled "Healthy Mouths Healthy Lives: Australia's National Oral Health Plan 2004–2013" is to help all Australians to retain as many of their teeth as possible throughout their lives, have good oral health as part of their general good health, and have access to affordable and quality oral health services³³. The public and private oral health sectors both have a role in implementing this Plan; the public sector through its predominant focus on population health and public health care for the disadvantaged and the private sector through its role in providing dental care for the majority of Australians. The contribution of the private sector also includes the treatment of needy patients through publicly funded schemes, lowering fees for vulnerable patients, and continued support for community prevention measures (e.g. water fluoridation, tobacco cessation programs, health promotion). The Plan thus presents a way to move forward, to promote oral health, prevent oral disease, provide equitable access to oral health care, and deliver effective and efficient

use of resources. It calls for oral health to be an integral part of health policy and funding, and for coordination and integration of oral and general health care.

Alignment of policy and organizational structure:

Within an overarching population health framework, the oral health strategic plan identifies seven interrelated areas for Action. Key performance indicators have been set to monitor the implementation and outcomes of **Healthy Mouths Healthy Lives**. These include process and outcome indicators specified for each Action Area, and some overall indicators such as the following:

Percentage of dentate population reporting a social impact because of problems with teeth, mouth or gums, Percentage of population with untreated decay by age group, living circumstance, card status,

Indigenous status and special needs, Number of dental practitioners per 100,000 populations by indices of remoteness, Number of curricula of undergraduate and continuing education programs for health workers that include a module on oral health and etc.

To evaluate the performance of oral health system actors, the ADC has considered Accreditation Standards for general dentistry programs, dental specialty programs, and dental hygienist, dental therapist and oral health therapist programs transitioned on 1 July 2010 under section 253(3) of the Health Practitioner Regulation National Law Act (National Law) as in force in each state and territory as approved accreditation standards. ADC has developed documents describing the professional attributes and competencies of newly qualified dental practitioners³⁴.

Registration of dental workforces (dentists, dental specialists, dental therapists, dental hygienists, oral health therapists and dental prosthetists); developing standards, codes and guidelines for the dental profession; handling notifications, complaints, investigations and disciplinary hearings; assessing overseas trained practitioners who wish to practice in Australia and finally, approving accreditation standards and accredited courses of study are responsibilities of Dental Board of Australia. The Dental Board of Australia is supported by State and Territory Registration and Notification Committees in each State and Territory³⁵. The Dental Board of Australia has formally delegated the necessary powers to the State and Territory Registration and Notification Committees. The Board is supported by Australian Health Practitioner Regulation Agency (AHPRA). AHPRA has a National office based in Melbourne and offices in every State and Territory to support local Boards and Committees.

AHPRA works with the Health Complaints Entities in each State and Territory to make sure the appropriate organization investigates community concerns about registered health practitioners. The Health Complaints Entity for ACT Territory is "ACT Human Rights Commission".

The professional conduct of health practitioners and students is guided by the 'Codes and Guidelines' and 'Registration Standards' of their relevant health profession. When a conduct-related notification is received by AHPRA, the health practitioner or student may be investigated by a relevant National Board, to ensure appropriate action is taken, if required, to protect the public. This may result in suspending or imposing conditions on the registration status of a student or practitioner³⁶.

The respondents expressed concerns about specifying the responsible executive bodies and cooperative institutions and allocation of operational budgets for implementing the designed policies relating to oral health system (table 1). They thought currently the allocated budget for implementing and monitoring the proposed plans are not sufficient as the amount is not sufficient and the payment through Commonwealth is usually made late to the States. Also, they thought although the strategic plan has been developed, there are much more rooms to enact the plan in the future. The respondents from the private sector were not even aware about the plan.

Table1- Mean scores and the level of attainments for each standard through the opinions of stakeholders

Sub-functions of Stewardship		Mean Scores	Level of Attainment
Accountability (A)	1. All oral health system actors in different management levels (public and private, providers, payers, producers of other resources and stewards) are held accountable for their actions.	3.00	fully attained
	2. Oral health system actors are accountable to the population, to stewards in upper levels of management and to auditory and accreditor organizations and institutions.	3.20	fully attained
Strategic Policy Direction (SPD)	1. In formulating processes for setting policy priorities, MOH must include international and regional commitments and goals.	3.13	fully attained
	2. MOH must have initiatives in place to ensure that the activities of various decision-making councils of an oral health system are consistent with the overall national priorities.	1.83	partially attained
	3. MOH must clarify definitions for the roles of public, private and voluntary sector actors in financing, provision, resource generation and stewardship functions.	3.43	fully attained
	4. In evaluating and approving the decision-making projects, MOH must emphasize the processes of situation analysis, systematic review of evidence and critical appraisal of the proposed programs.	2.83	fully attained
	5. MOH must contemplate the opinions of the main stakeholders in formulating the oral health system decisions.	2.29	partially attained
	6. In delegating the decision-making projects, MOH must have strategies in place to incorporate all the potential of medical universities, research centers and non-governmental institutions.	2.50	partially attained

	7. MOH must devote a particular proportion of an oral health system research budget to evaluating health system policies to strengthen the evidence-based policy making.	2.71	fully attained
	8. MOH must design clear strategic plans for oral health system education, delivery of care and hygiene	2.89	fully attained
Alignment of Policy and Organizational structure	1. MOH must specify the responsible executive bodies and cooperative institutions for each of the designed policies of an oral health system.	2.44	partially attained
	2. MOH must devise the operational or executive plans for each of the formulated policies of an oral health system.	2.56	partially attained
	3. MOH must set and allocate operational budgets for implementing the designed policies relating to an oral health system.	2.63	partially attained
	4. To implement the formulated policies effectively, MOH must have strategies in place to monitor and evaluate the performance of various sections and actors.	2.75	fully attained
	5. MOH must have special policies in place to support community evidence-based preventive programs.	3.14	fully attained
Regulation (RG)	1. MOH must set rules to establish basic conditions for market exchange, to correct any health market failure and to achieve the goals that a free market for dental care is not able to attain.	3.13	fully attained
	2. MOH must clarify the target group for each of the defined rules and regulations of an oral health system.	3.25	fully attained
	3. MOH must clarify what it means by violations for each of the defined regulations in oral health systems.	2.78	fully attained
	4. MOH must determine a surveillance institution or entity for monitoring and evaluating the performance of each of the defined regulations for an oral health system.	3.38	fully attained

5. MOH must introduce essential instruments and processes for monitoring and evaluating the performance of each of the defined regulatory initiatives for an oral health system.	3.00	fully attained
6. MOH must clarify methods and performance reporting targets for each of the defined regulatory initiatives for an oral health system.	2.71	fully attained
7. MOH must clarify the penalties and sanctions commensurate with malpractice at individual and institutional levels for each of the defined regulatory initiatives for an oral health system.	2.00	partially attained
8. MOH must devise regulations to govern property rights in an oral health system.	2.70	fully attained
9. MOH must enforce regulations to require producers to disclose the basic ingredients contained in a good on the packaging.	1.78	partially attained
10. MOH must devise and establish regulations assuring the safety and cost-effectiveness of drugs and dental materials.	2.50	partially attained
11. MOH must devise regulations for the licensing and accreditation of oral health care physicians and refresh them regularly in accordance with the goals and needs of the national oral health system.	3.44	fully attained
12. MOH must establish regulations and rules for the basic qualifications needed to enter dentistry, competencies necessary to qualify for dental schools and post-graduate residency, and to define the education and scope of generalists and specialists.	3.50	fully attained
13. MOH must devise and enforce regulations for instituting the care delivery organizations related to oral health	3.14	fully attained

	14.MOH must devise the regulatory initiatives for disciplinary proceedings for professional misconduct and malpractice by dental practitioners.	2.50	partially attained
	15.MOH must devise and establish regulations about getting "need certification" for delivery of oral care settings to manage the supply of dentists	2.63	partially attained
	16.MOH must have regulations in place to control the prices of interventions charged by physicians.	2.86	fully attained
	17.Based on the needs and requirements of various states, MOH must enforce and establish regulations for water fluoridation.	3.60	fully attained
	18.MOH should consider regional and local oral health planning to cover the special needs of disadvantaged populations.	2.14	Partially attained
Intersectoral Leadership (IL)	1. MOH must organize intersectoral initiatives to address and manage the common essential risk factors of public health.	2.44	partially attained
	2. To manage the broader social determinants of health, MOH must send representatives in a common committee – established with actors from other ministries – to build coalition.	2.78	Fully attained
	3. MOH's intersectoral leadership functions must incorporate: stakeholder analysis, advocating, resolving disputes, planning common programs and managing inter and cross sector processes.	3.13	fully attained
Generation of Intelligence	1. To strengthen its information infrastructure, MOH must develop the "national oral health information system".	2.14	partially attained
	2. Data and research evidence about the oral health status of the public, workforce structure and the distribution of financial information and information about the determinants of oral health must be registered in the "NOHIS".	3.71	fully attained

Regulation:

According to the respondents' opinions, most of the standards in this sub-function are achieved partially (about 70% of standards); standards such as those about clarifying the penalties and sanctions commensurate with malpractice at individual and institutional levels for each of the defined regulatory initiatives for an oral health system. Also, they thought there are some shortcomings in considering regional and local oral health planning to cover the special needs of disadvantaged populations. Other fields which were partially achieved were regulatory initiatives for disciplinary proceedings for professional misconduct and malpractice by dental practitioners and also devising and establishing regulations assuring the safety and cost-effectiveness of drugs and dental materials.

Currently, all notifications/complaints are received by AHPRA by online form, hardcopy form (295 KB, PDF), letter or telephone. A preliminary assessment determines if the matter will be handled by AHPRA or referred to another health complaints entity (ACT Human Rights Commission).

The outcome of the preliminary assessment may be for the Board to take immediate action on the practitioner's or student's registration, to investigate the notification or request a health assessment of the practitioner or student or a performance assessment of the practitioner, refer the matter to a health or performance panel hearing or refer the matter to a tribunal hearing. For complaints that might pass through a tribunal hearing, the appropriate course of action will be determined which may be to issue a caution or reprimand; to impose conditions, fine registrant, suspend registration and finally to cancel registration. Tribunal hearing outcomes are made available to the public.

The Health Practitioner Regulation (Administrative Arrangements) National Law Act 2008 provided powers for the Ministerial Council to appoint anybody undertaking existing accreditation functions in a health profession to exercise functions with respect to accreditation under the Scheme (section 9). In December 2008, the Ministerial Council appointed accreditation authorities for chiropractic, dental care, medicine, optometry, osteopathy, pharmacy, physiotherapy and psychology. The National Law came into force on 1 July 2010 in all States and Territories except Western Australia (18 October 2010) and empowers the relevant national board to decide whether the accreditation functions will be carried out by an external accreditation entity, or a committee established by the board (section 43). Currently accreditation authorities exercise accreditation functions under the National Law specified in an agreement with AHPRA on behalf of each national board. The accreditation authorities, national boards and AHPRA have agreed to a Quality Framework for the Accreditation Function to support quality assurance and continuous quality improvement of accreditation under the National Law. The object of this Law is to establish a national registration and accreditation scheme for the regulation of health practitioners^{37,38}.

Historically, the regulation of health professionals was undertaken by states and territories, without a consistent approach across Australia. In July 2006, the Council of Australian Governments (COAG) agreed to implement a National Registration and Accreditation Scheme for health professionals, beginning with those professions currently registered in all jurisdictions. In March 2008, COAG members signed the Intergovernmental Agreement for a National Registration and Accreditation Scheme for the Health Professions to implement the National Scheme by 1 July 2010.

The Australian Health Workforce Ministerial Council (the Ministerial Council) is made up of the health ministers of each state and territory and the Commonwealth. The functions of the Ministerial Council are set out in the National Law as appointing the National Board members and the Agency Management Committee and to give directions to the Australian Health Practitioner Regulation Agency (AHPRA) and the boards about the policy they must apply in exercising their functions. The National Boards are established under the National Law for each of the regulated health professions with members appointed by the Ministerial Council in August 2009. Under the National Scheme, the major regulatory policy role rests with the National Boards.

Functions are set out in the National Law and include: responsibility for registering health practitioners; investigation and management of concerns (notifications) about performance, conduct

or health of practitioners; development of standards, codes and guidelines and setting national fees. The National Boards can – and do – delegate functions to AHPRA and board committees³⁹.

Anyone (patients, concerned members of the public or colleagues of the practitioner) can make a notification/complaint about a registered health practitioner. A National Board also has the power to suspend a practitioner's registration pending other assessment or action, if it believes there is serious risk to the health and safety of the public from the practitioner's continued practice of the profession, and that suspension is necessary to protect the public. A National Board also has the power to suspend a practitioner's registration pending other assessment or action, if it believes there is serious risk to the health and safety of the public from the practitioner's continued practice of the profession, and that suspension is necessary to protect the public.

Also, under the Health Practitioner Regulation National Law Act 2009 (National Law) as in force in each state and territory there is a mandatory requirement for registrants to participate in continuing professional development (CPD) and the Board has therefore developed a Registration Standard in relation to CPD. With the introduction of the National Law all dental practitioners in Australia have to meet the CPD requirements set by the Dental Board of Australia's (Board) Registration Standard (approved by Ministerial Council)= 60 hours CPD over three years. A minimum of 80% of the total of a practitioner's CPD activities must be clinically or scientifically based⁴⁰.

Although there are good regulatory framework for registering and accrediting dental practitioners, there are some other problems in dental work force; in 2000, dentists made up just less than 80% of oral health practitioners. There were 8,991 dentists working in the public and private sectors in Australia, at an overall rate of 49.2 dentists per 100,000 populations. Distribution is very uneven across the States and Territories, ranging from 25.3 dentists per 100,000 in Tasmania to 59.3 in the Australian Capital Territory. The workforce shortage is acute in the public sector. However, it is expected that the Commonwealth Learning Scholarships Program introduced under the higher education reform package will provide an incentive for rural and regional, low socioeconomic and indigenous students to enter oral health professions⁴¹.

Barrier to attracting and retaining oral health providers in the public sector are the limited range of dental services funded by public dental programs, low remuneration, together with salary differences between jurisdictions, and between the public and private sector; job satisfaction; career structure; lack of recognition of excellence; lack of continuing professional education opportunities; stresses associated with workload pressures; the high proportion of emergencies and limited range of treatments offered; the nature of the patient base, and long waiting lists.

Also, according to the comments posted by respondents auditing of practitioners in the private sector is not performed for assuring the quality of care. There are just random inspection about the required radiation and sedation license and following infection control protocols. Besides, they were not satisfied with the current enforcement of regulatory framework especially in the private sector.

In the sub-function of APO and GI, On the other hand, as a part of this strengthening strategy, and to improve the relationship between information systems and better overall stewardship and better health outcomes, some kind of plans must exist to more systematically explore which sorts of intelligence really seem to influence and help decision-makers and to improve decisions made. There is increasing evidence from the private and public sector that a strong intelligence generation function (and capacities to use this information systematically for decision-making) is a key determinant of performance^[17] Policy-makers are most likely to perform evidence-based decision-making if scientifically credible evidence is available and accessible at the time of decision-making and the evidence contributes to the proposed political vision of the Government and feed into decision-making such as "health technology assessments" and "policy briefs" [88, 89]. An impetus for using these techniques is that it is more likely that resources and infrastructure will be made available^[90].

Inter-sector Leadership:

Currently the public dental sector has arrived at some agreements with other organization and institutes to provide dental services to the eligible patients. These agreements include: agreement between Dental Health Program (DHP) and TED NOFFS FOUNDATION (TNF) for the provision of dental services to clients of Ted Noffs Foundation (TNF). The agreement is for period July 1 2010 to June 30 2013, and will be reviewed at the conclusion of this period. All eligible TNF clients who are 18 years old, or who are part of the Residential Program, will be screened through the DHP SNCWL Screening Tool, and will be placed on the Special Needs client waitlist for 3 months. 14 to 17 year old clients who are not part of the Residential Program must also fill out the Screening Tool, but may contact the DHP Interagency Coordinator directly to arrange an appointment⁴².

Also, agreement is between Companion House and the Dental Health Program for the provision of dental services to eligible clients of Companion House (those who are newly arrived humanitarian entrants). Clients will receive free treatment for the first 12 months⁴³.

Another one is between DIRECTIONS ACT and the Dental Health Program for the provision of dental services to eligible ACT residents who are clients of DIRECTIONS ACT (those who are the primary holders of a current ACT Centrelink Health Care Card or Pension concession card)⁴⁴. DIRECTIONS ACT will pay a part or full portion of the fee as discussed with the client and this fee will be paid as a once only payment at the beginning of treatment to DHP of eligible DIRECTIONS clients, subject to the DHP fee schedule. After the initial payment has been paid DIRECTIONS ACT is not responsible for any other fees incurred. This is between DHP and the client.

Other agreements are those between MENTAL ILLNESS FELLOWSHIP VICTORIA trading as STEP UP STEP DOWN PROGRAM (ACT) and the Dental Health Program (DHP) which describes the provision of dental services to clients referred by MENTAL ILLNESS FELLOWSHIP VICTORIA trading and No Fees are applicable for treatment to restore oral health⁴⁵; between The Salvation Army (NSW) Property Trust trading as The Salvation Army¹ (ACT) and the Dental Health Program (DHP) which describes the provision of dental services to clients referred by The Salvation Army⁴⁶.

According to the opinions of participants, there are some limitations in inter-sector relationship between dental programs and cleft lip clinic in order to multi-disciplinary team for early identification, prevention and management. Also they were not satisfied with the current relationship between the public and private sectors.

¹A client of The Salvation Army must have had an assessment with a financial counsellor to entitle them in financial hardship for the special provisions contained in this MOU.

Generation of Intelligence:

Throughout the National Oral Health Plan reference is made to the need to foster research relevant to the seven identified priority areas. During the last 30 years there has been impressive scientific achievement in understanding and controlling or preventing diseases and disorders affecting oral tissues. The significant progress made in the control of dental caries with the appropriate use of fluorides is an example of a combination of basic biological, clinical, and population health research.

Surveillance activity has become an integral part of oral health in Australia (Child Dental Health Survey, Adult Dental Programs Survey, National Dental Labor Force Data Collection). There is a need to strengthen existing activities and extend into new areas and to provide timely, useful information down to a regional level.

Some research areas have been identified under each of the Action Areas of the oral health strategic plan including: Promoting oral health across the population, Children and adolescents, Older people, Low income and social disadvantage, People with special needs, Aboriginal and Torres Strait Islander peoples, Workforce.

Currently, Dental Statistics and Research Unit (DSRU) at the AIHW (Australian Institute of Health and Welfare) collects and reports dental statistics, managing several large dental data collections. DSRU also studies dental health status, dental practices, the use of dental services, and the dental labor force. DSRU is a collaborating unit of the AIHW. It is located in the Australian Research Centre for Population Oral Health (ARCPOH) at the University of Adelaide. DSRU maintains information about the dental workforce in Australia, including dentists, dental hygienists, dental therapists and dental prosthetists.

In 2004–2006, the AIHW conducted the **National Survey of Adult Oral Health (NSAOH)**. The NSAOH was Australia's second nation-wide oral health examination survey, 17 years after the 1987–88 **National Oral Health Survey of Australia**. ARCPOH designed and directed the NSAOH in collaboration with health departments in each state/territory. The survey included interviews and dental examinations. The first report from the NSAOH, *Australia's dental generations: The National Survey of Adult Oral Health 2004–06*, was released on 17 March 2007. State and Territory reports were released on 7 August 2008. AIHW also published analyses on other research questions about oral health in Australia's adult population⁴⁷.

The **National Dental Telephone Interview Survey (NDTIS)** reports on dental health and access to dental services, and is part of the Commonwealth Department of Health and Aged Care's work program on 'adult access to dental care'. DSRU conducts the NDTIS every two and a half years. The latest survey was run in July 2010.

The **Child Dental Health Survey (CDHS)** provides national information on the dental health of children attending school dental services in Australia. DSRU runs the CDHS annually.

Participants in the workshop argued that although there are good sources of data, translation and formulation of these data to policy documents are not performed well and usually feedbacks to providers are not provided sufficiently.

Discussion:

Piloting of the instrument, developed recently in Iran, revealed that it has the potential to be used as a benchmark for evaluating the oral health system of a developed country like Australia. Although respondents were satisfied with the structure of standards, they suggest modifying some of them to become more appropriate for lower levels of policy making of oral health system in ACT.

The assessment was based on a comprehensive review of documents and gathering the viewpoints of key policymakers and stakeholders from the public and private sectors. The composition of the respondents provided us with the opportunity to evaluate the current oral health system both internally and externally.

This assessment has identified some aspects of oral health system stewardship in ACT; currently there is a comprehensive five-year national strategic plan and some indicators have been considered to assess the effectiveness of its implementation. Considering these measures are key aspects of performance improvement efforts, and can result in increased value in health systems, understanding these linkages will improve the accountability of the health system and could give the main policy makers to define and communicate goals, hold partners accountable for these goals and establish policies for the health system⁴⁸. Another important point in assessing this sub-function is to ask a range of key players for their understanding of current goals and directions; and from observing how these concerns and intentions are being linked to action⁷. It seems that other sectors like the private sector are not aware of these strategic programs which might indicate the weak relationship of policy makers and other stakeholders. However, for developing such relationships, effective communication with the general public and with health sector organizations is very critical⁷.

In making coalitions with other sectors and organizations, some valuable programs and agreements have been considered for ACT oral health system; these are mostly to cover the dental needs of disadvantaged peoples under the coverage of other organizations rather than public dental programs (e.g. agreement between Dental Health Program (DHP) and TED NOFFS FOUNDATION (TNF) for the provision of dental services to clients of Ted Noffs Foundation)

Oral health problems have risk factors in common with some of the other important chronic conditions such as smoking, diets high in sugar, stress, alcohol consumption, injuries and a sedentary lifestyle⁴⁹. Having policies and strategies in place for strengthening inter-organizational and intersectoral partnerships are critical in formulating and implementing policy towards improving common social determinants of health⁵⁰. Although in the Australia's National Oral Health Plan 2004 – 2013 Link with and build on existing health promotion and common risk factor approaches within sport and recreational settings (eg mouthguards, SunSmart, alcohol initiatives, nutrition) has been considered, according to the available documents we did not find evidence of development of such partnerships for other common risk factors such as diet and tobacco in the oral health strategic plan of ACT.

However, the National Public Health Partnership (NPHP), established in 1996 and involving Commonwealth and State and Territory Governments, is responsible for identifying the strategic direction of public health priorities in Australia, including nutrition, maternal and child health, healthy ageing, injury prevention, Aboriginal and Torres Strait Islander health, and the public health workforce. The NPHP Task Group on Health Promotion for Oral Health reported in August 2000, identifying a range of health promotion initiatives aimed at a fundamental change in culture and values.

More than twenty national public health strategies are at different stages of development in Australia (including the Healthy Mouths Healthy Lives). The NPHP is currently identifying the basis for clustering strategies concerned with major chronic diseases under the umbrella of a National Chronic Disease Prevention Strategy.

Different ways have been suggested to evaluate the effectiveness of regulatory frameworks; one is to assess whether there are effective regulations in place against the common forms of market failure to which health systems are prone, the other one is assuring the existence of capacity to enforce incentives and sanctions⁷.

It seems for most of the areas where the health market is not functioning properly because of undesirable characteristics (such as asymmetric information, questionable moral behavior and externality) some regulations have been considered in the regulatory framework of oral health system but there are some limitations in considering mechanisms for detection or effective sanctions against evaders.

Key regulatory functions of governments in the health system include standard-setting, monitoring and enforcement. These functions are usually exercised through different regulatory bodies at national or regional level, including the Ministry of Health, third party payers, agencies for quality of care and patient safety, and professional associations⁵¹.

Regarding the sub-functions of APO and GI, it seems there is a strength information system to gather basic data about oral health system but to improve the relationship between information systems and better overall stewardship and better health outcomes, some kind of plans must exit to more systematically explore which sorts of intelligence really seem to influence and help decision-makers and to improve decisions made. Policy-makers are most likely to perform evidence-based decision-making if scientifically credible evidence is available and accessible at the time of decision-making and the evidence contributes to the proposed political vision of the Government and feed into decision-making such as “health technology assessments” and “policy briefs”⁵².

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