National Strategy for Oral Health
And
National Oral Health Action Plan
2015-2020

Ministry of Health, Timor-Leste

Acronyms

AFT	Affordable Fluoride Toothpaste
ART	Atraumatic Treatment Technique
Aus AID	Australian Agency for International Development
BPOC	Basic Package of Oral Care
CHC	Community Health Centre
DTT	District Training Team
HC	Health Centre
ICS	Institute of Health Sciences
MoE	Ministry of Education, Republic of Timor-Leste
MoH	Ministry of Health, Republic of Timor-Leste
MTT	Master Training Team
NCD	Non-Communicable Diseases
NGO	Non Government Organisation
OUT	Oral Urgent Treatment
PSF	Promotor Saude Familia
SAMES	Autonom Service For Health Medicaments and Equipment
SISCa	Servisu Integradu da Saúde Communitária (Integrated Community Health Services)
UNICEF	United Nations International Children's Fund
WHO	World Health Organisation

Preface

It is with great pleasure that I write this foreword to introduce The Ministry of Health's National Strategic Plan for Oral Health 2015-2020.

The implementation of this five year national strategic plan for oral health will benefit individuals and communities. The overarching aim is to improve the oral health status of the population of Timor-Leste. This will be done in a number of ways including improving the accessibility, effectiveness and sustainability of the oral health services.

Oral diseases such as dental caries, periodontal diseases, tooth loss and oral cancer have emerged as a major public health problem in many developing countries. These problems are recognised by World Health Organization as having a growing impact on the health and wellbeing of people and in particular on vulnerable and marginalized groups of population.

Controlling oral disease depends on the availability and accessibility of oral health systems but reduction of risks to disease is only possible if services are oriented towards primary health care and prevention.

The Oral Health Unit was established in the Ministry of Health to provide primary oral health care in the National Hospital; Community Health Centres; schools and in the community via SISCA. The vision of the Department is to provide quality oral health care to the people of Timor-Leste through a united dental profession. Their mission is to provide affordable, accessible and comprehensive quality oral health services to communities.

I would like to thank our partners for their support and co-operation in the production of this important strategic document. The Ministry of Health recognises that oral health is an integral part of general health and is committed to improving the oral health of the nation.

Dr. Sérgio G.C. Lobo, SpB
Minister of Health
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Message from the General Director of the Ministry of Health

Oral health is an integral part of general health and poor oral health not only affects the teeth and the oral structures but can have an impact of Timorese people's quality of life, personal finances and heath budgets. Oral diseases can be prevented through such simple measures as brushing twice a day with fluoride toothpaste, but this oral health behaviour needs to be promoted to all sectors of society. A blend of basic oral health care with appropriate advanced and specialised dental services accessible for all Timorese is a vision of the National Health Sector Strategic Plan 2011-2030. This National Strategy for Oral Health 2015-2020 of coordinated strategies emphasising oral health promotion, primary prevention and accessible quality oral health care will advance this vision and benefit all Timorese citizens for years to come.

The Ministry of Health gratefully acknowledges the assistance received in developing this National Strategy for Oral Health and particularly extends appreciation to WHO and the technical adviser who supported the Department of Non-Communicable Diseases and the Oral Health Unit in identifying appropriate strategies from international sources and working with local stakeholders to adapt these principles and strategies to improve oral health and the delivery of oral health services in Timor-Leste. Special thanks is extended to all those who participated in the planning process since 2010.

Jose dos Reis Magno, lic, Sp, MM
General Director of the Ministry of Health

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1. The Strategy Planning Process

Strategic planning for oral health was initiated by the Timor-Leste Ministry of Health Department of Oral Health and supported by WHO Timor-Leste. The planning process was conducted in two phases.

In Phase I, the WHO consultant visited Timor-Leste between September 18 and 25, 2010 with the following objectives:

- Gather information on the oral health care system;
- Meet the stakeholders of oral health;
- Identify strategies to improve oral health and oral health care delivery in Timor-Leste from 2011 to 2015.

The activities of Phase I included:

- A review of the National Oral Health Strategy 2003;
- A review of Draft Oral Health Strategy 2030;
- Meetings with Timor-Leste WHO Representative, Dr. Paramita Sudharto;
- Meetings with Department of Education Focal Point;
- Meetings with dentists and dental therapists working in the Department of Oral Health, hospitals, Community Health Clinics (CHC), Integrated Community Health Services (SISCA);
- Meetings with school teachers;
- Assessment of the availability and affordability of fluoridated toothpaste and toothbrushes.

The facilities visited in Phase I included the following:

- Ministry of Health Oral Health Department
- Primary School Number 7 Comoro
- CHC Formosa
- CHC Becora
- Bidau National Hospital Guido Valadares
- Ministry of Education Focal Point
- CHC Aileu
- Referral Hospital Maubise
- Referral Hospital Suai
- Primary School Nikir
- Referral Hospital Maliana
- SISCA programme in Maliana

On Friday, September 24, 2010, based on the findings of the visitations and meetings, the WHO consultant met with the dentists and dental therapists to:

- Discuss the findings of the visitations and meetings;
- Identify the strengths, challenges and opportunities for oral health in Timor-Leste ;
- Identify the strategies to improve the oral health of the Timor-Leste people;

- Form four committees (Human Capacity Building Committee, Oral Health Promotion Committee, Quality Care Committee, Fluorides and Advocacy Committee) to develop the action plans for the main strategies in Phase II.

In Phase II (October 18 to 23, 2010) the WHO consultant worked with the committees to:

- Review and prioritise the strategic objectives identified during Phase I;
- Develop the action plans for the strategic objectives.

On the final day, October 23, 2010 a workshop was conducted to present the strategic objectives and the action plans to the stakeholders of oral health and the Minister of Health; and to obtain feedback and recommendations.

The strategies for oral health were revised at a workshop held at the Ministry of Health on Monday, June 17, 2014 with further input at another workshop held on August 11, 2014.

2. Prevention and Control of Oral Diseases and Conditions

Oral health is essential to general health and quality of life. It is a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing. The most common oral diseases are dental cavities, periodontal (gum) disease, oral cancer, oral infectious diseases, trauma from injuries, and hereditary lesions (cranio-facial birth defects).

Key facts on global oral health (WHO, 2012):

- Worldwide, 60–90% of school children and nearly 100% of adults have dental cavities.
- Dental cavities can be prevented by maintaining a constant low level of fluoride in the oral cavity.
- Severe periodontal (gum) disease, which may result in tooth loss, is found in 15–20% of middle-aged (35-44 years) adults.
- Globally, about 30% of people aged 65–74 have no natural teeth.
- Oral disease in children and adults is higher among poor and disadvantaged population groups.
- Risk factors for oral diseases include an unhealthy diet, tobacco use, harmful alcohol use and poor oral hygiene, and social determinants.

One of the highlights of the Global Burden of Disease Study 2010, is the ubiquitous and debilitating nature of dental caries (Vos et al., 2013). Oral disorders combined (dental cavities, gum diseases, edentulism) caused 15·0 million Years Lived with Disability (YLD). Of the 289 diseases and injuries which cause disability, dental caries of the permanent dentition was the most prevalent global disease, estimated to affect 35.29% of the global population, and dental caries of the deciduous dentition was the 10th most prevalent disease. When the prevalence of dental caries in 2010 was compared to estimates in 1990, a 34.5% increase was noted. Although human mortality associated with dental caries may be uncommon, when both prevalence and disability (sequelae) were considered in the statistical modelling, dental caries measured in Years Lived with Disability (YLD) ranked 34 and edentulism 35; notably ahead of HIV/AIDS, Cerebral Vascular Disease, and Malaria.

High relative risk of oral disease relates to socio-cultural determinants such as poor living conditions; low education; lack of traditions, beliefs and culture in support of oral health. The risk factors for oral diseases and conditions are also the same risk factors for the four leading chronic diseases – cardiovascular diseases, cancer, chronic respiratory diseases and diabetes – and include an unhealthy diet, tobacco use and harmful alcohol use. Poor oral hygiene is also a risk factor for oral disease. The burden of oral diseases and other chronic diseases can be decreased simultaneously by addressing common risk factors (WHO, 2012). These include:

- Decreasing sugar intake and maintaining a well-balanced nutritional intake to prevent tooth decay and premature tooth loss;
- Consuming fruit and vegetables that can protect against oral cancer;
- Stopping tobacco use and decreasing alcohol consumption to reduce the risk of oral cancers, periodontal disease and tooth loss;
- Ensuring proper oral hygiene;
- Using protective sports and motor vehicle equipment to reduce the risk of facial injuries; and
- Safe physical environments.

Public health solutions for oral diseases are most effective when they are integrated with those for other chronic diseases and with national public health programmes.

Most of the evidence relates to dental caries prevention and control of periodontal diseases. Gingivitis can be prevented by good personal oral hygiene practices, including brushing and flossing which are important also to the control of advanced periodontal lesions. Community water fluoridation is effective in preventing dental caries in both children and adults. Water fluoridation benefits all residents served by community water supplies regardless of their social or economic status. Salt and milk fluoridation schemes are shown to have similar effects when used in community preventive programmes. Professional and individual measures, including the use of fluoride mouthrinses, gels, toothpastes and the application of dental sealants are additional means of preventing dental caries. In a number of developing countries the introduction of affordable fluoridated toothpaste has been shown to be a valuable strategy, ensuring that people are exposed appropriately to fluorides.

Individuals can take actions for themselves and for persons under their care, to prevent disease and maintain health. With appropriate diet and nutrition, primary prevention of many oral, dental and craniofacial diseases can be achieved. Lifestyle behaviour that affects general health such as tobacco use, excessive alcohol consumption and poor dietary choices affect oral and craniofacial health as well. These individual behaviours are associated with increased risk of craniofacial birth defects, oral and pharyngeal cancers, periodontal disease, dental caries, oral candidiasis and other oral conditions.

The control of oral diseases also depends on the availability and accessibility of oral health systems; however, the reduction of risks to disease is only possible if services are oriented towards primary health care and health promotion.

3. Situational Analysis

Timor-Leste (Democratic Republic of Timor-Leste) occupies the east half of the island of Timor in the Timor Sea approximately 640 kilometres from Darwin, Australia. It was colonized by Portugal in the 16th century and gained its independence in 1975 but later that year it was occupied by Indonesia. It wasn't until May 20, 2002 that Timor-Leste became a sovereign state. It has a land mass of 14,870 sq.km and a population of 1,080,739 of which 85% live in rural areas. The country has a high population growth rate of 3.9%, with more than 50% of the total population under 15 years of age. Based on income and the human development index (HDI), Timor-Leste is one of the world's least developed countries. Per capita GDP was estimated at US$ 469 (2008) and the HDI was estimated at 0.512, showing an improvement from the HDI value of 0.395 in 1999. More than 40% of the population live below the national poverty line on less than US$ 0.55 per day with 85% of the poor living in rural communities. Due to the mountainous terrain and poor roads, travel to many parts of Timor-Leste is difficult.

In 2006, the life expectancy at birth was 59.5 years; 58.6 years for males and 60.5 years for females. The net enrolment ratio in primary schools was reported to be 77% in 2005. Gender inequality in literacy exists with 75% of the females being illiterate compared to 45% of the males.

Administratively the country is divided into 13 Districts, 65 Sub-Districts, 442 Villages and 2.336 Aldeias. The public health care system comprises 1 National Hospital, 6 referral hospitals providing secondary and tertiary care, 67 Community Health Centres (CHC), 213 health posts, and primary health care services to communities through 162 mobile clinics implemented by the Integrated Community Health Services (SISCA).

Due to armed conflict and the withdrawal of Indonesian governance, Timor-Leste suffered a collapse in infrastructure and service delivery across all sectors. The current workforce has had little exposure to management role and lack essential management skills whilst under Indonesian governance. The delivery of oral health care was weakened by political instability and many Timor-Leste dental students and dental therapists were unable to complete their studies.

Effective governance and accountability systems are progressively being established throughout the Ministry of Health. The Ministry of Health is committed to improving the health of the population through the provision of essential and comprehensive Primary Health Care including oral health care. The Timor-Leste Primary Health Care System is composed of outreach services, mobile clinics, health posts, Sub District Health Centres, District Health Centres; Referral Hospitals (numbering 5) and the Guido Valadares National Hospital (GVNH) of Dili as the national referral hospital.

Integration of oral health services is to be achieved through:

1. Fostering a technically competent oral health workforce that is able to implement an oral health service based on Primary Health Care principles;
2. Integration of oral health education into general health education;
3. Training of teachers, midwives, and volunteers to deliver oral health education messages;
4. Provision of multi-disciplinary services delivered by integrated mobiles; and
5. The integration of MoH support systems; e.g. Planning, monitoring and evaluation systems.

The Department of Oral Health was established in the Ministry of Health to provide oral health care in the National Hospital, the CHCs, schools and in the community primarily through SISCA. The vision of the Department is: "Provision of quality oral health care to the people of Timor-Leste through a united dental profession." The mission is:

- Affordable comprehensive quality clinical service to communities;
- Accessible oral health services to communities;
- Involvement of the community, stakeholders and other sectors in oral health programmes;
- Continued development of oral health for communities;
- Coordination of education, promotion and communication.

In 2003 there were two dentists, 26 dental nurses with an average of one dental nurse per 33,400 people. In 2014 there are 20 government sponsored undergraduate dental students studying in Indonesia and 40 studying dental therapy in Indonesia. The target is to send 20 dentists a year for dental training for the next 3 years and 40 a year for dental therapy training for the next 2 years. Most oral health workers were employed by the government and work in hospitals and health centres spread across 13 districts. Of the 26 dental nurses employed by the MoH, 12 positions were donor funded. Only one dental clinic was rehabilitated in the 13 districts of Timor-Leste while Dili had 3 operational clinics. Mobile clinics were utilized to extend oral health services to sub-districts and below.

The current oral health care personnel in 2014 are composed of dentists who have been trained in Indonesia, Portugal and Fiji; as well as dental therapists, mostly trained in Indonesia. There are no dental specialists, although one dentist has a Masters degree in international development from Adelaide, Australia and another has participated in health promotion courses in Sydney, Australia. One government dentist is enrolled in post graduate training in orthodontics and another is enrolled in oral maxillo-facial surgery. A private dental therapy school was established two years ago in Dili. Total enrolment in the 3 year programme to date is 160 students and the first year enrolment for 2014-2015 was increased to 45 students. The number and distribution of the oral health workforce is presented in Table 2 below. Limited core funding for oral health care still comes from the Ministry of Health.

Table 2. Distribution of dentists and dental therapists in various health care settings

	Setting/Facility									
Personnel	MoH	District Coordinators	National Hospital	Referral Hospital Baucau	Referral Hospital Maubise	Referral Hospital Maliana	Referral Hospital Suai	Referral Hospital Oecusse	CHC	Total
Dentists	-	-	3	-	-	-	-	-	3	6
Dental Therapists	4	12	4	1	1	2	2	2	27	55
Lab Tech	1	-	-	-	-	-	-	-	-	1
Other	1	1								2
Total	6	13	7	1	1	2	2	2	30	64

Based on the National Health Sector Strategic Plan 2011-2030, all CHC and hospitals are to provide dental services. Currently only 31 health facilities provide dental services.

Some limited data on naturally occurring fluoride in drinking water is currently available. In May 2010 the Environmental Health Division of the Ministry of Health published a water quality study report of water samples collected in the districts of Laautem, Covalima, Alieu and Dili. A total of 9 reservoirs, 11 spring sources, 6 handpumps, 30 wells, 6 handpumps, 9 public tapstands and 23 household stored water were tested for physical, bacteriological and chemical parameters. The average fluoride content was 0.2 mg/L and only 2 wells had adequate fluoride (0.8 and 0.98 mg/L) to prevent dental caries. Water samples from the other districts will need to be sampled and tested in order to provide a more complete national fluoride map.

The Department of Nutrition in the Ministry of Health has indicated that there are plans to build a salt production plant and that the salt will be iodised and well as fluoridated. The Department of Nutrition is receiving assistance from an Indonesian expert in this area. Currently salt is imported mainly from Indonesia and Australia.

A National Oral Health Survey was conducted in 2002 by the Dental Epidemiology Advisers at the University of Adelaide in collaboration with Timor-Leste dentists. The main findings the oral health problems of the children of East Timor were summarized as:

1. Late commencement of tooth brushing in young children, so that a substantial percentage of 6-8 year old children did not brush or use a toothpaste;
2. A low level of oral hygiene;
3. A high level of primary teeth caries experience, and a moderate level of permanent teeth caries experience, both mostly presenting as untreated decayed teeth;
4. Few children had made a dental visit, but pain was the main reason for making a dental visit.

The key findings the oral health problems of the adults of East Timor were summarized as:

1. A high percentage of male adults who were current smokers, and over half of all female adults and nearly a quarter of male adults chewed betel quid.
2. Toothache was frequently experienced and a quarter of adults avoided eating sometimes or more often in the last year because of problems with their teeth or gums.
3. Despite a belief in the importance of visiting a dentist and tooth brushing for the prevention of dental caries and periodontal disease, the vast majority of adults never made a dental visit and nearly a quarter did not brush their teeth the day before. Little importance was placed on the well-established and important role of fluorides in the prevention of dental caries.
4. A moderate level of caries experience, with a substantial mean number of untreated decayed teeth and an increasing number of missing (extracted) teeth in older adult age groups.
5. A low level of oral hygiene and a low percentage of adults with good periodontal (gum) health. Most adults had calculus present, but approximately one quarter of adults had some destructive periodontal disease. The high prevalence of poor oral hygiene and calculus accumulation was age–related and associated with smoking. The prevalence of advanced periodontal disease was age-related, but was also associated with betel quid chewing.

Based on the findings of the 2002 National Oral Health Survey, the “2003 National Oral Health Program Strategy and Policy Guidelines” was developed with the assistance of AusAID (Australian Government AusAid, 2003). This document highlighted nine specific strategies along with action plans:

- National Oral Health Protection, Promotion and Prevention Programs (salt fluoridation, affordable fluoride toothpaste, school dental service);
- Oral Health Integrated with General Health Promotion;
- Support for Service Delivery;
- Personal Dental Care;
- Research Directions;
- Human Resource Development;
- Institutional Approach;
- Strategic Alliances; and
- Monitoring and Evaluation.

The aim of the “2003 National Oral Health Strategy and Policy Guidelines” was to provide sustainable, affordable oral health services to the people of Timor-Leste. The time frame of this strategic plan was from 2004 to 2009. During this period progress based of the strategic plan was made in the following areas:

- Increase in the number of oral health personnel;
- Minor investigations into salt fluoridation;
- Initial efforts to integrate oral health into the school curriculum;
- Limited implementation of oral health education, OUT and ART in school dental services;
- limited development of resources for oral health education;
- Rehabilitation and equipping of a limited number of dental clinics;
- Limited supervision of dental personnel in districts and sub-districts;
- Introduction of a monitoring system for oral care services;
- Multisectoral cooperation amongst oral health stakeholders.

Some of the strategic activities which have not been implemented include:

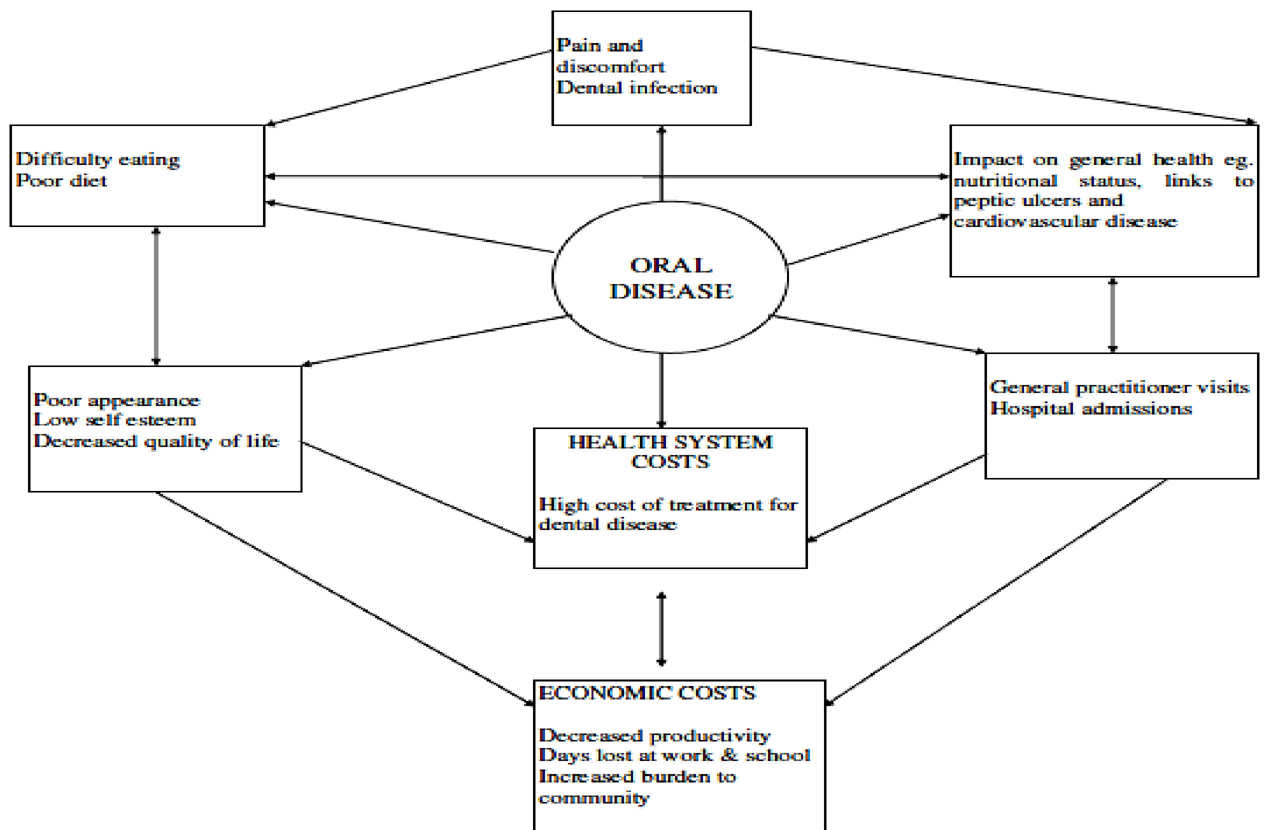
- Improving the availability of affordable fluoride toothpaste and the promotion of its use;
- Systematic and incremental development of school dental services;
- Integration of oral health into general health;
- High quality dental services based on models developed and evaluated in Timor-Leste;
- Design and implementation of guidelines and minimum standards for the delivery of oral health services;
- Well functioning referral system between primary, secondary and tertiary levels of care;
- Development of research which can influence oral health care and health policy;
- Capacity building to develop a multi-skill oral health workforce;
- Mentoring and motivation programmes for oral health workers, especially for those serving in remote areas;
- Formation of strategic alliances to facilitate the implementation of national oral health strategies;
- Collection of data to evaluate the effectiveness of strategies implemented.

4. Global Strategic Approaches for Better Oral Health

Dental diseases are global diseases with few populations untouched by their effects. Dental caries and periodontal diseases are ubiquitous and are still considered the more important global oral disease burdens. Even though great advances have been made in the control of these conditions, these oral problems still persist and are concentrated in both developed and developing nations, amongst communities of low socio-economic status and ethnic minorities where general health and living conditions are poor. As low-income nations transition to lower-middle income or middle-income status, there is a trend of increasing dental caries; and untreated dental caries in children has become a global epidemic (Edelstein, 2005). Due to limited financial resources, poor dental awareness, lack of access to basic oral care and the high cost of restorative treatment, children of low-income nations have their general health, growth and development, social well-being and education opportunities impacted by untreated dental caries (Baelum *et al.,* 2007). In many developing countries dental caries and its effects are aggravated by poor exposure to fluorides and increased consumption of sugar. Around the globe most children have signs of gingivitis and most adults have the early stages of periodontal disease (Petersen, 2003). Due to the consumption of alcohol and tobacco and tobacco-related products, oral cancer amongst adults in South-East Asia remains a public health problem.

Developing countries do not have the health care manpower to treat oral diseases and untreated oral disease often leads to pain and discomfort and eventual loss of teeth. Oral diseases of the cranio-facial complex affects the quality of life of individuals impacting on their ability to chew, smile, speak and socialise; and not only results in the loss of school hours but also in the loss of work hours (Figure 1;State of Victoria, 1999).

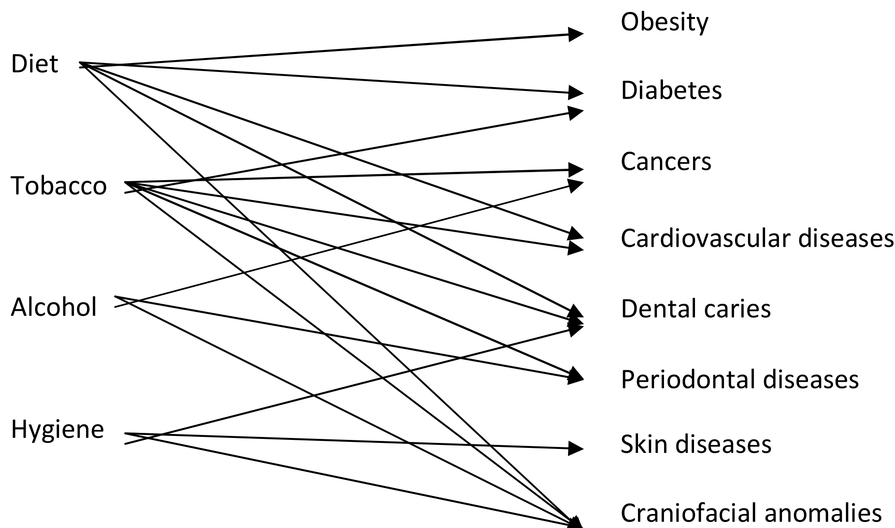
Figure 1
Impact of Oral Disease



Common Risk Factor Approach

Oral health is an integral part of general health. Many of the risk factors influencing oral health such as use of alcohol and tobacco; hygiene; diet; and stress are common to non-communicable chronic diseases (Figure 2; Sheiham and Watt, 2000). Studies have revealed an association between the presence of oral infections (especially periodontal disease) and systemic diseases, including cardiovascular and cerebrovascular diseases, adverse pregnancy outcomes, diabetes mellitus, pulmonary infections, and different forms of cancer (Williams *et al.,* 2008). It is more efficient for oral health organisations to work in partnership with other sectors to limit the population's exposure to the common risk factors.

Figure 2. Common Risk Factor Approach



Ottawa Charter for Health Promotion

Oral health problems and chronic diseases have shared solutions through health promotion. “The strategies to mitigate the above mentioned problems are incorporated in the Ottawa Charter for Health Promotion (WHO, 1986). Community action and support, environmental change, legislation, improving personal skills, and empowering people to become stakeholders in society and collectively challenge the structures which determine their health” (Sheiham and Watt, 2000).

The World Health Organisation defines health promotion as: The process of enabling individuals and communities to increase control over the determinants of health and thereby improve their health, representing a mediating strategy between people and their environment, combining personal choice and social responsibility for health to create a healthier future (WHO, 1984). The five broad actions of the health promotion are:

1. Creating supportive environments: recognizing the impact of the environment on health and identifying opportunities to make changes conducive to health.

2. Building healthy public policy: focusing attention on the impact on health of public policies from all sectors and not just the health sector.

3. Strengthening community action: empowering individuals and communities in the process of setting priorities, making decisions, and planning and implementing strategies to achieve better health.

4. Developing personal skills: moving beyond the transmission of information, to promote understanding, and supporting the development of personal, societal, and political skills that enable individuals to take action to promote health.

5. Reorienting health services: refocusing attention away from the responsibility to provide curative and clinical services towards the goal of health gain.

To augment the health promotion approach, the WHO has formulated four strategic directions for improved oral health (Petersen, 2003):

1. Reducing the burden of oral disease and disability, especially in poor and marginalised populations.

2. Promoting healthy lifestyles and reducing risk factors to oral health that arise from environmental, economic, social and behavioural causes.

3. Developing oral health systems that equitably improve oral health outcomes, respond to legitimate demands, and are fair.

4. Integration of oral health and care into national and community health programmes.

The WHO Global Oral Health Programme aligns its work with the strategy of chronic disease prevention and health promotion. Emphasis is put on developing global policies in oral health promotion and oral disease prevention, including (WHO, 2012):

- building oral health policies towards effective control of risks to oral health;
- stimulating development and implementation of community-based projects for oral health promotion and prevention of oral diseases, with a focus on disadvantaged and poor population groups;
- encouraging national health authorities to implement effective fluoride programmes for the prevention of dental caries;
- advocacy for a common risk factor approach to simultaneously prevent oral and other chronic diseases; and
- providing technical support to countries to strengthen their oral health systems and integrate oral health into public health.

Declaration of Alma Ata (Primary Health Care Approach)

Many governments have adopted the principles of the Declaration of Alma Ata (WHO, 1978) as the foundation for their national health care system. These principles of the Primary Health Care Approach are also relevant to oral health care:

1. Equitable distribution of health care: Government commitment to ensure that underserved groups such as women and children, ethnic minorities and migrants have access to health services; and also a commitment to remedy the urban bias in health services.

2. Community participation: Widespread participation in the political process and the decentralisation of government programmes to involve more of the community as opposed to targeted (or vertical) approaches dependent on international development assistance.

3. Health workforce development: Comprehensive health care relies on adequate number and distribution of trained physicians, nurses, allied health professions, community health workers and others working as a health team and supported at the local and referral levels.

4. Use of appropriate technology: Medical technology should be provided that is accessible, affordable, feasible and culturally acceptable to the community.

5. Multi-sectional approach: Recognition that health cannot be improved by intervention within just the formal health sector; other sectors are equally important in promoting the health and self-reliance of communities.

FDI Policy on Improving Access to Care

The FDI World Dental Federation, as the authoritative, professional worldwide organisation for dentistry, supports the principle that all communities and people should have access to the best possible oral health care to achieve optimum oral health (FDI World Dental Federation, 2009).

Barriers to improving oral health care may arise from individuals, society in general, governments, resistance to change and outdated professional philosophies. Lack of perceived need, inadequate resources, uneven distribution of manpower, low prioritisation and lack of political will also be barriers to care.

The FDI affirms that the barriers must be overcome with strategies based on the following principles:

1. Oral health is an integral part of general health and must be prioritised.

2. Most oral disease is preventable. Co-operation between individuals, the profession, government, non-governmental organisation and the media is essential in oral health education.

3. The adoption of positive attitudes by society and dissemination of accurate information will support initiatives to improve access.

4. A close collaboration between the profession, auxiliaries, allied health professions, appropriate non-dental personnel (e.g. Primary Health Care Workers) and health education personnel locally, regionally and at global levels will enhance access to appropriate and affordable oral health care.

5. Involvement of the community in all levels of planning and provision for their oral health care needs.

Given the importance of oral health as a part of general health, its impact on the quality of life of individuals and communities, its effect on school attendance and on a healthy workforce; the development of strategies to improve oral health based on the health promotion approach, primary health care approach, WHO strategies and FDI policies would be of benefit to the general health, social well being and economic health of all nations including the Republic of Timor-Leste.

5. National Strategy for Oral Health 2015-2020

In order to maintain the momentum in oral health development and in order to refocus efforts on some of the unfulfilled strategies of the "2003 National Oral Health Program Strategy and Policy Guidelines", a new 5 five year strategic plan is needed. Oral health is an integral part of general health and has an impact on education, finances, quality of life, educational attainment, and poverty alleviation through a healthy workforce. The implementation of a five year national strategic plan for oral health will benefit individuals and communities in the areas mentioned above.

Vision of the Strategy

The overall vision is "a standard of health of the oral and related tissues which enables all Timorese citizens to eat, speak and socialise without active disease, discomfort or embarrassment and which contributes to general well-being, with easy access to appropriate oral health care services anywhere in Timor-Leste."

Aims and Objectives of the Strategy

The overarching aims and objectives of the National Strategic Plan for Oral Health 2015-2020 continues to be as follows:

Aims:

To improve the oral health status of the population of Timor-Leste by:

1. Promoting oral health and primary prevention
2. Improving the quality, accessibility, effectiveness and sustainability of the oral health service

Objectives:

1. To enable individuals and communities to adopt healthy lifestyles
2. To create a more fluoridated oral environment
3. To provide accessible and equitable quality oral health care for the people of Timor-Leste;
4. To strengthen the capacity of Timor-Leste oral health care manpower to promote oral health and deliver quality oral health care.

Core Values

The core values and the proposed strategies are in harmony with the National Health Sector Strategic Plan 2011-2030 and the National Strategy for the Prevention and Control of NCDs, Injuries, Disabilities and Care of the Elderly 2014-2018:

- Equity - Government shall ensure equal access to quality care according to needs of individuals with same medical conditions.

- Community empowerment – The strategy will keep Timorese people at its centre and will strive to empower them to make healthy choices for a healthy life.

- Right to best possible health care – The strategy is being developed in the context that health is a fundamental human right. The public and private health care providers are obliged to ensure

good quality treatment. This has implications for treatment protocols, quality of medicine, medical equipment and supplies and infrastructure.

- Respect for cultural diversity – The strategy and its implementation will align itself with the cultures and traditions of the people of Timor-Leste that promote health. At the same time, efforts will be made to modify the harmful customs and traditions.

Strategic Areas

The above aims and objectives lead to five priority strategic areas for the National Strategy for Oral Health 2015-2020:

- ***Oral Health Promotion*** **and Primary Prevention** to reduce the population's exposure to high risk factors.
- ***Advocacy and Multi-Sectoral Approach*** to raise the awareness and importance of oral health, to control the risk factors contributing to poor oral health and to ensure a multi-sector response to oral diseases and conditions.
- ***Strengthen the Oral Health Care System*** for oral health promotion and the delivery affordable and equitable oral health care in the control and management of oral diseases and conditions.
- ***Human Capacity Development*** for the provision of appropriate quality manpower for the control and management of oral diseases and conditions.
- ***Monitoring, Surveillance, Evaluation and Research*** to measure the effectiveness and efficiency of oral health programmes and improve outcomes.

Oral Health Promotion and Primary Prevention

Oral health promotion embraces processes which empower individuals and communities to increase control over the determinants of oral health along with actions directed towards changing social, environmental and economic conditions that have an impact on oral health. Since the determinants of oral health or the risk factors contributing to poor oral health are common not only to oral health but to other NCDs, it is more cost-effective for the Oral Health Division to work with other departments within the Department Non-Communicable Disease Control and other ministries (e.g. Ministry of Education) to promote better oral health.

One of the cornerstones of dental caries control is the appropriate use of fluoride. A number of systematic reviews have highlighted the effectiveness and safety of self-applied fluorides: fluoride toothpaste, fluoride mouthrinses (Marinho et al.,2003a; 2003b); professionally applied fluorides: fluoride gels and varnishes (Marinho et al., 2003c); and community fluoridation programmes: water (McDonagh et al., 2000), salt (Yengopal et al. 2010), milk (Yeung et al., 2005) for the control of dental caries. Along with fluoridated toothpaste, at least one of the community fluoridation strategies are recommended by the World Health Organisation as public health measures to reduce the prevalence of dental caries (Peterson and Lennon, 2004).

The components of the Oral Health Promotion and Primary Prevention strategy are:

- Establishment of an Official for Health Promotion Unit within the Department Non-Communicable Disease Control;
- Network with other departments or development partners involved in health promotion;

- Development, coordination and dissemination of school oral health modules using the existing school curriculum;
- Development of oral health promotion materials for schools, clinics, community (SISCa), general hygiene, nutrition, anti-tobacco, alcohol, mother-child-health;
- Integration of oral health into in-service teacher training through child-to-child approach.
- Promote the use of fluoride toothpaste in the general population;
- Formation of alliances with toothpaste and toothbrush manufacturers;
- Promote the use of fluoride toothpaste through schools;
- Fluoridated salt available for the whole population;
- Integration of oral health promotion into other relevant departments in MoH and MoE, including relevant organizations working in oral health

Advocacy and Multi-Sectoral Approach

Despite a high social and economic burden from oral diseases they are considered a neglected area of international health. Advocacy at all levels for recognition and integration of oral health in general health policies and public health programmes, such as policies related to NCDs, and for increased political and financial commitment to oral health, is required. Advocacy is an important component of the South East Asian Oral Health Strategy 2013-2020 (WHO, 2013). In the context of oral health, advocacy may be defined as 'action taken on behalf of individuals and/or communities to address the causes of poor oral health or to promote oral health by influencing the decisions of government, companies, groups and individuals whose policies or actions affect the oral health of the people'. Oral health professionals, through their knowledge, possess the power of expertise. Knowledge can be used by oral health experts to educate and influence decision makers. The power of 'influence' relies on the use of persuasion, passionate and/or logical arguments.

In Nepal an advocacy project was successful in getting toothpaste manufacturers to fluoridate toothpaste using the following steps (Yee, McDonald, Walker, 2003):

Step 1 Project Proposal: The advocacy project is proposed in response to an identified priority issue of concern by the advocates.

Step 2 Project Situational Analysis: A focused situational analysis is undertaken to confirm the appropriateness of the proposed project. This will include identifying potential steps in implementation and potential barriers and resources for project implementation.

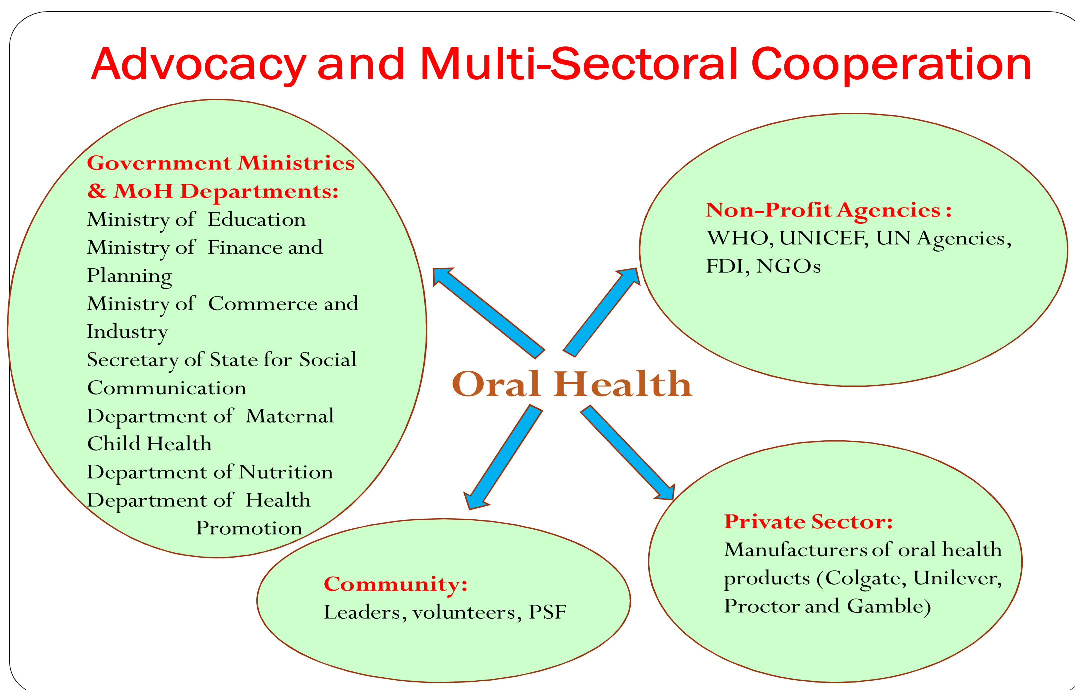
Step 3 Project Planning: Once a decision is made to engage in the advocacy project, a project plan is formulated which will include objectives, implementation activities, budgeting, timings, outcomes and evaluation protocol.

Step 4 Project Implementation: Implementation proceeds according to the activities identified in the action plan.

Step 5 Project Evaluation: Evaluation includes monitoring project activities and outcomes in order to determine the value of the project, what further action is appropriate and how advocacy can be improved.

Almost all the strategy components of the National Oral Health Strategy 2015-2020 require advocacy and **multi-sector cooperation** for successful implementation and integration into other government sectors (Figure 3). Multi-sectoral cooperation or partnerships is an important component of the South East Asian Oral Health Strategy 2013-2020 (WHO, 2013). It recognises the importance of functioning collaborations within and outside of the health sector being essential to facilitate the implementation of oral health policies and strategies, foster the mobilisation of resources and support the goal of addressing wider determinants of health.

Figure 3 Oral health advocacy and multi-sectoral cooperation with government, private, community and non-profit sectors for improving oral health



South East Asian Oral Health Strategy 2013-2020 (WHO, 2013) highlights four important reasons for multi-sector cooperation or partnering for better oral health through integration:

- *Integrated political prioritisation*
  Oral diseases, even though among the most prevalent NCDs worldwide, are not prioritised accordingly. Integrating them with NCDs and efforts in advocacy, new partnerships, as well strengthening of management and leadership will benefit awareness and recognition among decision makers and the public; resulting in increased resource allocation and better health outcomes.

- *Integrated health promotion and risk reduction*
  The main NCD risk factors, such as tobacco use, alcohol consumption, and unhealthy diets high in sugar are also key risks to oral health. Addressing them comprehensively in the context of NCDs benefits oral diseases, as much as addressing them through oral health promotion benefits other NCDs as well.

- *Integrated health system strengthening*
  Many interventions in oral health care and prevention require special skills and a specialised oral health workforce. It is important that the planning and development of the oral health workforce is integrated in overall health workforce planning so that the availability of services is strengthening the primary health care system at large toward the goal of universal coverage.

- *Integrated surveillance*
  Surveillance of oral diseases should be part of epidemiological surveillance of NCDs and risk factors. Existing NCD surveillance tools, such as the WHO STEPS survey are increasingly used and modules related to oral diseases are available and should be applied.

Some general strategies to advance multi-sectoral cooperation include:

- Engage the heath sector systematically across government and with other sectors to include oral health in their activities;
- Engage with the private sector (e.g. oral health product manufacturers) not affiliated with the tobacco industry, non-government organisations and partner with civil society;
- Develop national multi-sectoral plans;
- Establish cross-cluster action teams or working groups, in particular with Ministries of Education, Finance, Planning, Trade, and Transport;
- Provide the leadership mandate, incentives, budgetary commitment and sustainable mechanisms that support oral health professionals or organisations to work collaboratively on solutions to prevent and control NCDs.

The component of Advocacy, Multi-Sectoral Approach and Research is:

- The formation of a working group and inter-ministerial committee to discuss oral health issues.

Strengthen the Oral Health Care System

Orienting systems to deliver and improve quality oral health care, are fundamental to progress and to meeting the expectations of both the Timorese population and the oral health care workers. The lack of sufficient financial investment, the fragmentation of the delivery of health services, and poor quality are considered key obstacles to the successful implementation of oral health programmes. Both rich and poor people bypass local services perceived as having lower quality, and instead access geographically distant public or private services which may actually aggravate poverty. For both primary oral care and tertiary oral care, well trained appropriate personnel equipped with knowledge and specific skills, affordable technologies, reliable supplies of medicines, referral systems are necessary to provide quality oral care and empower the Timorese people for self-care.

The oral health care system should seek to make improvements in six areas or dimensions of quality, which are named and described below:

- Effective: delivering oral health care that is adherent to an evidence base and results in improved health outcomes for individuals and communities, based on need;
- Efficient: delivering oral health care in a manner which maximizes resource use and avoids waste;

- Accessible: delivering oral health care that is timely, geographically reasonable, and provided in a setting where skills and resources are appropriate to medical need;
- Acceptable/patient-centred: delivering oral health care which takes into account the preferences and aspirations of individual service users and the cultures of their communities;
- Equitable: delivering oral health care which does not vary in quality because of personal characteristics such as gender, race, ethnicity, geographical location, or socioeconomic status;
- Safe: delivering oral health care which minimizes risks and harm to service users.

The MoH document "Basic Services Package for Primary Health Care and Hospitals" (MoH, 2007) provides a detailed description of the minimum level of services to be provided at each service delivery level, including strategies for quality management and administration, training, referral, monitoring and supervision and health information. In every level of care from the health post upwards to the referral hospitals, dental services are to be delivered by dental therapists and dentists. Dental services are also to be provided to remote communities through outreach and mobile clinics. The minimum basic oral health services to be provided within the PHC System are listed in Table 1 (MoH, 2007).

Table 1. Package of services for the Timor-Leste primary and secondary oral health care system

Dental Service	**Mobile clinic**	**Health Post**	**Sub District HC**	**District HC**	**Referral and National Hospital**
Health promotion	Yes	Yes	Yes	Yes	Yes
Extractions	No	Yes	Yes	Yes	Yes
Restorative care	No	No	No	Yes	Yes
First Aid	No	Yes	Yes	Yes	Yes
Specialised services	No	No	No	No	Yes

Specialised dental services include maxilla-facial surgery, prosthodontics, endodontics, periodontics, pediatric dentistry, orthodontics and special needs dentistry.

To operationalise many of the principles of the Primary Health Care Approach for oral health, the Basic Package of Oral Care (BPOC), has been endorsed by WHO to ensure that even low-income countries have access to preventive and treatment approaches which are effective, acceptable, feasible and affordable (Frencken *et al*., 2002). The three components of the BPOC are:

1. Oral Urgent Treatment (OUT): This comprises emergency relief of oral pain, management of oral infection and dental trauma; and referral for more advance care.

2. Affordable Fluoride Toothpaste (AFT): Fluoride toothpaste is the most widespread and significant vehicle for fluoride used for the prevention of tooth decay. Its effectiveness has been confirmed in over one hundred clinical trials in children, adults and the elderly. Fluoride toothpaste should be made accessible and affordable to all people.

3. Atraumatic Restorative Treatment (ART): Atraumatic Restorative Treatment (ART) is a novel approach to the management of dental caries that involves no dental drill, plumbed water or electricity.

The approach consists of manually cleaning dental cavities using hand instruments. The cavities and adjacent fissures are filled with an adhesive, fluoride-releasing restorative material.

Basic oral care focused on prevention and affordable and sustainable services would benefit from the incorporation of the components of the Basic Package of Oral Care. Due to the scarcity of dentists in many developing countries the FDI World Dental Federation has recommended the use of dental auxiliaries and primary health care workers in the delivery of basic oral health care in order to enhance access to affordable and appropriate care.

The components of Strengthen the Oral Health Care System are:

- Improve the procurement and management of dental equipment, supplies and materials;
- Development of guidelines for oral health care services to be provided at each level of care;
- Development of a standardized equipment, instrument and materials list for the national hospital, referral hospitals, CHC, school; oral health and outreach;
- Development of standardized guidelines for clinic infrastructure;
- Development of health and safety guidelines and model and curriculum for in service training for oral health workers;
- Development of visitation, supervision and quality assessment guidelines;
- Systemised collection of epidemiological data for planning, monitoring, surveillance and evaluation;
- Logistic support for oral care service delivery (kindergarten programmes, school programmes, community outreach, SISCa).

Human Capacity Development

The most valuable resource within the health care system are the health care providers. Efficient utilization and retention of oral health care personnel ensures effective implementation of medium term and long term oral health programmes. To reach a higher proportion of the Timorese population with the messages of oral self care, non-oral health workers from other ministries and non-government sectors could be equipped with the knowledge and skills to promote oral health.

The components of the Human Capacity Development strategy are:

- Efficient utilization and retention of oral health personnel;
- Establishment of links between the dental therapy school and the Ministry of Education;
- Trained hospital biomedical engineers to repair and maintain dental equipment;
- Provision of oral health manpower for all levels of service;
- Dental therapist, dental technician, general dentist, dental public health and other specialist dentist training;
- Training of PSF- Promotor Saude Familia, local leaders, school teachers, children for oral health promotion;
- Integration of oral health into medical, nurse and midwife training;
- Support the Timor-Leste Dental Association in oral health campaigns.

6. Surveillance, Monitoring, Evaluation and Research

Surveillance provides a means of ongoing (i.e. continuous or periodic) collection, analysis and interpretation of population data, and the timely dissemination of such data to health authorities or planners of public health programmes. Oral health surveillance will be aligned with the three major components of the Timorese NCD surveillance plan, which are: a) monitoring exposures (risk factors); b) monitoring outcomes (morbidity and disease-specific mortality); and c) assessing health system capacity and response.

Monitoring the Implementation of the National Strategy for Oral Health 2015-2020

Monitoring the indicators of the action plan of the National Strategy for Oral Health 2015-2020 will provide timely evaluation of the progress of this strategic plan.

Monitoring Exposure (Risk Factors) and Outcomes (Morbidity and Disease Specific Mortality)

For the Timor-Leste context various options can be considered for the collection of data for monitoring exposure to risk factors and for outcomes:

1. National oral health survey: data can be obtained and analysed by conducting a Timor-Leste national oral health survey by adopting the methodology described in WHO *Oral Health Surveys Basic Methods 5th Edition* (WHO, 2013). For effective surveillance, WHO suggests that clinical oral health surveys should be conducted regularly every five to six years in the same community or setting.

2. Multi-Sectoral cooperation with other sectors such as, Division of School Health, Division of Nutrition or Department of Planning and Finance (Demographic Health Survey) to integrate collection of oral health risk factor or common risk factor data into their existing monitoring system.

3. Decentralised collection of risk factor and outcome data through the development of a manual, training curriculum and instruments to enable district dentists to collect data at the district level every 5-6 years. The survey methodology can be adopted from the WHO *Oral Health Surveys Basic Methods 5th Edition* (WHO, 2013).

4. Invite international partners to conduct research related to Timorese oral health risk factors or to conduct a national oral health survey.

Oral Health Surveys Basic Methods 5th Edition includes information on the following:

- Design of basic oral health surveys
- Guidelines on practical sample designs suitable for assessing oral diseases
- Organizing the oral health survey
- Implementing the oral health survey
- Assessment forms and description of diagnostic criteria and codes
- Recommendations to ensure reliability of data
- Guidelines on post-survey actions, including essential data to be reported and the appropriate reporting format

The oral health survey method applies the WHO global approach to chronic disease surveillance to an operational model for integration of oral health into chronic disease surveillance systems. Adoption of this approach will:

- Encourage systematic reporting of data on oral diseases and conditions;
- Ensure that the data collected are reliable and comparable within and between countries;
- Encourage collection of data on self-reported oral health and risk factors consistent with STEPS framework.

The STEPS framework encourages the collection of small amounts of useful information on a regular and continuing basis. STEPwise application of oral health principles has three steps:

Step 1: the acquisition of information on oral conditions, oral health practices, measurements of diet, tobacco use and alcohol consumption, quality of life, use of health services and social position. This may include data on general health factors that are of importance to oral health conditions, e.g. height, weight and waist circumference as indicators of nutritional status, underweight or obesity, experience of diabetes and markers of HIV infection.

Step 2: the clinical data collected in Step 2 add to those obtained in Step 1. Clinical data include dentition status, periodontal status, enamel fluorosis, dental erosion, orodental trauma, oral mucosa and exra-oral findings, presence and condition of removable and fixed prosthetics. Index age and age groups include: 5 years, 12 years, 15 years, 35-44 years (mean age 40 years), 65-74 (mean age 70 years).

Step 3: this comprises information obtained from biochemical analysis, e.g. collection of saliva to study its buffering capacity or for microbial assessment (e.g. Streptococcus mutans). However, WHO does not recommend advanced oral health measurements for countries such as Timor-Leste where financial and technical resources are limited.

Ministry of Health NCD surveillance and monitoring system will provide supplemental data for monitoring risk factors (tobacco, alcohol, sugar).

Monitoring Health System Capacity and Response

Reporting of oral health activities and treatment provided from the national hospital, referral hospitals, Community Health Centre, Health Posts, SISCa and schools will serve as monitors for health system capacity and response.

7. Oral Health Monitoring Framework with Indicators and Targets

Exposure and Outcome Indicators

As a part of the national monitoring framework, health indicators have been identified (Table 3). Rather than use disease indicators, health or positive indicators are utilised. The same indicators will be used for the age groups 5 years, 12 years, 15 years, 35-44 years, 65-74 years however some health indicators may not be applicable for the age groups 12 years and 15 years (e.g. consumption of alcohol). The actual baseline values for these targets in 5 years time (2020) will be estimated according to the baseline data. In addition to the data from the district or national surveys, monthly, quarterly, semi annual and annual data from the health facilities will be utilised for monitoring.

Table 3. Oral health indicators and targets

Age Group	**Indicator**	**Baseline value** Proportion (%)	**5 Year Target** Proportion (%)
5 years	Healthy oro-facial complex Free from pain Healthy oral mucosa Healthy gums No decayed teeth No missing teeth due to decay Proportion of decayed teeth restored Less than 2 sugar snacks daily Brushing twice daily with fluoride toothpaste	Not available	Not available
12 years, 15 years, 35-44 years, 65-74 years	Healthy oro-facial complex Free from pain Healthy oral mucosa Healthy gums No decayed teeth No missing teeth to decay Proportion of decayed teeth restored Less than 2 sugar snacks daily No intake of tobacco/tobacco related products Less than 8 ounces of alcohol daily Brushing twice daily with fluoride toothpaste Partially edentulous with replacement (partial dentures or bridge) Fully edentulous and wearing dentures		

Health System Capacity and Response Indicators

The Oral Health Division's Key Performance Input Indicators are:

- Availability (number) of Dental specialists
- Availability (number) of General dentists
- Availability (number) of Dental nurses
- Availability (number) of Dental clinics with equipment to national standards
- % finance disbursed for the planned program of dental health
- % development partner finance expended on Dental Health
- % facilities with stock out of essential medicines for dental
- % stock out of dental health essential medicines health services

The Key Performance Output Indicators currently in use are:

- % schools with health education activities on dental health
- Number of schools visited by dental team for preventive screening
- Number of health facilities with education/health promotion
- % health facilities supervised for oral health program
- % health facilities with trained dental staff
- % health facilities providing oral health services as per protocol

The Key Performance Outcome Indicators currently in use are:

- Number of cases of oral cancers during OPD or screenings
- Number of OPD for oral health at health facilities
- Number of referrals from school screenings
- Number of students screened for prevention in schools

The Key Impact Performance Indicators currently in use are:

- Prevalence of oral cancer
- Prevalence of dental caries
- Case fatalities from oral cancer

The currently used form for reporting health system capacity and response indicators, inputs, outputs and targets is available in the Annexure.

Targets set should be aligned with the two overall targets of the South East Asian Oral Health Strategy 2013-2020 (WHO, 2013):

Target 1: 25% relative reduction of premature mortality from oral cancer by 2025
Target 2: 25% relative reduction of prevalence of dental caries by 2025

For the Timor-Leste context these targets will be decreased to 20% by 2025.

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Annexure

National Oral Health Action Plan 2015-2020

Health System Capacity and Response Indicator Form

Oral Health Promotion Strategies

Target group: Policy / decision-makers – government ministries, private sector

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
1. Establishment of an Official Health Promotion within the Department Non-Communicable Disease Control	1. Develop Terms of Reference for the Official Oral Health Promotion 2. Gain permission from Department of Planning MoH to establish Official Oral Health Promotion and recruit an officer 3. Recruitment of personnel for the Official Oral Health Promotion 4. Train the recruited person 5. Provide office space and equipment	X X X X X					Terms of Reference developed Authorization received Personnel recruited and trained Office and equipment established	Department of Health Promotion, Department of NCD, Department of Human Resource Development and the Department of Planning and Finance
2. Network with other departments or development partners involved in health promotion	1. Establish an oral health promotion working group with ToR and seeking advice from the health promotion department if necessary. 2. This working group will meet quarterly to discuss relevant issues and share ideas.	X X	X X	X X	X X	X X	Oral health promotion working group established Quarterly meetings held	Department of Health Promotion, Department NCD, development partners

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
3. Development, coordination, dissemination and implementation of school oral health modules using the existing school curriculum	1. Develop and pilot the content of the oral health topics in the existing school health curriculum 2. Finalise the oral health module	X X					Finalised oral health curriculum	Department of Health Promotion, Department of NCD, Department of School Curriculum of MoE and relevant development partners
4. Development of oral health promotion materials for schools, clinics, community (SISCa), general hygiene, nutrition, anti-tobacco, alcohol, mother-child-health.	1. Identify target groups for the oral health messages 2. Develop content of the oral health messages for the different target groups 3. Determine which media form (radio, or TV, or newspaper, etc) will be used to best reach the target groups 4. Seek technical assistance for delivery of the messages to the different target groups 5. Pilot test the messages 6. Finalise the oral health message for delivery to the target groups 7. Evaluate the effectiveness of the oral health messages	X X X X X X X	X X X X X X X	X X X X X X X	X X X X X X X		Oral health messages developed and delivered to the target groups	Department of Health Promotion, Department of NCD

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
5. Integration of oral health into in-service teacher training through child-to-child approach	1. Training for Master Training Team (MTT) by the Department of Oral Health 2. Training to District Training Team (DTT) by the Department of Oral Health 3. Teacher training to teach oral health by MoE 4. Monitoring and evaluation of the training by the Department of Oral Health and MoE	X X X X					Training for MTT Training provided to DTT Teachers trained Training evaluated	Oral Health Unit, Ministry of Education and development partners
6. Promote the use of fluoride toothpaste in the general population	1. Determine target group or population – priority focus on school students, pregnant mother and children in SISCA, especially children age 2-3 years to 6 years of age. 2. Determine yearly target size for schools	X X	X X	X X	X X		Target group, target group size (number of schools, students and teachers) and frequency of toothpaste and toothbrush distribution established	Oral Health Unit, Department of Health Promotion, Department of Planning and Finance , relevant organisations Ministry of Commerce and Industry
	3. Establish and collaborate with related the organizations in order to stock and distributed the toothpaste and toothbrush	X	X	X	X		Established collaboration with related the organizations	
	4. Monitoring and evaluation system established	X	X	X	X		Monitoring and evaluation system established	
7. Formation of alliances with toothpaste and	1. Contact the major toothpaste and toothbrush manufacturers with programme or action plan- Unilever (Pepsodent), Colgate, Proctor and Gamble	X	X	X	X		Manufacturers contacted with programme plan	Ministry of Health,

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
toothbrush manufacturers	2. Memorandum of Understanding or Cooperation	X	X	X	X		Memorandum of Understanding or Cooperation signed	Ministry of Commerce and Industry, Ministry of Finance
	3. Advocate for reduced tax on fluoride toothpaste and toothbrushes	X	X	X	X		Advocacy for free tax fluoride toothpaste and toothbrush	
	4. Develop supervision, monitoring and evaluation	X	X	X	X		Monitoring and evaluation system established	
8. Promote the use of fluoride toothpaste through schools	1. Collaborate and link with providers of toothpaste and toothbrushes 2. Ensure that there is adequate water to carry out above activities.	X X	X X	X X	X X		Memorandum of Understanding of toothbrush and toothpaste providers and water providers signed.	Ministry of Health, Ministry of Commerce, related providers
	3. Collaborate with schools under Ministry of Education to carry out daily toothbrushing program and also provide training in oral health related issues	X	X	X	X		Number of schools involved in daily toothbrush and program, and number of teacher trained	
9. Fluoridated salt available for the whole population	1. Develop cooperation between Department of Oral Health and MoH Nutrition Department to integrate fluoridation with iodisation of salt, including feasibility study 2. Conduct epidemiological study	X X	X X	X X	X X		Epidemiological study completed and results reported	Oral Health Unit, Department of Nutrition, Department of Health Promotion,
	3. Develop monitoring, surveillance and evaluation	X	X	X	X		Monitoring,	

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
	programmes						surveillance and evaluation programmes established	Ministry of Tourism, Commerce and Industry (MTCI), WHO, UNICEF and other partners
	4. Develop promotion of iodised and fluoridated salt consumption	X	X	X	X		Promotion programmes established	
10. Integration of oral health promotion into other relevant departments in MoH and MoE, including relevant organizations working in oral health	1. Advocacy to introduce oral health to other relevant institutions and to seek their support (logistic, funding, expertise and other resources) for oral health programmes	X	X	X	X		Ongoing oral health advocacy and Memorandum of Understanding or cooperation signed	Oral Health Unit
	2. Develop list of target groups for advocacy	X	X	X	X			
	3. Implement advocacy directed to target group	X	X	X	X			
	4. Monitor and evaluate advocacy	X	X	X	X			

Advocacy, Multi-Sectoral Approach and Research

Target group: Policy / decision-makers – government ministries

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
Formation of a working group and inter-ministerial committee to discuss issues related to oral health	1. Formation of a working group and inter-ministerial committee 2. Meeting held	X X	X X	 X	 X	 X	Group and committee formed Meetings held	Department of NCD, and other relevant ministries and departments

Strengthen the Oral Health Care System
Target group: Policy / decision-makers – government ministries

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
1. Improve procurement of dental equipment supplies and materials	1. Recruit a dental therapist and place in SAMES	X					Person recruited	Oral Health Unit in cooperation with SAMES (Autonom Service For Health Medicaments and Equipment), Pharmacy Department and Dept. Of Medical Equipments, Department of Procurament.
	2. Train the person to order and manage dental supplies	X					Recruited person trained	
	3. Develop list of dental equipment, standard material and supplies each level of dental service (e.g. Hospitals, CHC, SISCa, HP, Schools)	X	X				List developed	
	4. Monitoring (feedback) and inventory system for materials, supplies and equipment	X	X	X	X		Monitoring and inventory system developed	
	5. Develop monthly control system for materials, supplies and equipment	X	X	X	X	X	Control system developed	
	6. Develop delivery system for dental equipment, materials and supplies	X	X				Delivery system developed	
	7. Form alliances with foreign NGOs and organizations for funding and sponsor of equipment and supplies	X	X	X	X	X	Alliances formed	
2. Guidelines for services to be provided at each level of care	1. Develop guidelines for oral health services for national hospital (National hospital will probably provide promotion, basic, advanced and specialized care).	X	X	X	X	X	Guidelines developed	Oral Health Unit MoH, Department of Quality Control, Department of Information System and Department of Planning and Finance
	2. Develop guidelines for oral health services for referral hospital (Referral hospitals will probably provide promotion, basic care and limited advanced and specialized care with referral system to national hospital).	X	X	X	X	X	Guidelines developed	
	3. Develop guidelines for oral health services for CHC, SISCa, school oral health, and outreach of CHC, SISCa (School oral	X	X	X	X	X	Guidelines developed	

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
	health and outreach will probably provide promotion, basic oral care and referral).							
	4. Define the procedures for specialized care, advanced care, and basic oral care.	X	X	X	X		Procedures defined	
	5. Disseminate all guidelines	X	X	X	X	X		
3. Standardised equipment, instrument and materials list for national hospital, referral hospitals, CHC, school oral health and outreach	1. Develop equipment, instrument and materials list for national hospital, referral hospitals, CHC, school oral health and outreach	X	X	X			List finalised	Oral Health Unit, SAMES, Department of Medical Equipment and Pharmacy Department, Directorate of Public Health: Cabinet of BSP, Dept. Of Procurement
	2. Inform oral personal of the lists, send lists to responsible person in each centre for feedback and then revise the lists	X	X	X			List sent	
4. Develop standardized infrastructure guidelines for national hospital, referral hospitals, CHC	1. For referral hospitals and national hospital define the number of dental chairs and then define the space required to accommodate the clinic equipment	X	X	X			Equipment and a defined	Department of Oral Health, Department of Procurement, Department of Medical Equipment, Department of Planning and Finance, Nasional Programme Development of Sucos
	2. Define the space and infrastructure for CHC based on the service guidelines and equipment required to deliver the services	X	X	X			Guidelines developed	

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
5. Development of health and safety guidelines and training for oral health workers	1. Invite expert to provide advice on infection control guidelines and training of oral health workers in infection control and assess facilities for infection control	X	X	X	X	X	Expert invited	MoH, UN Agencies
	2. Develop infection control guidelines and training programme for oral health care workers	X	X	X	X	X	Guidelines developed	
	3. Develop guidelines for reporting and care of oral health workers injured while on the job	X	X	X	X	X	Guidelines developed	
	4. Develop guidelines for reporting and care of patients injured while receiving oral care	X	X	X	X	X	Guidelines developed	
6. Development of visitation, supervision and quality assessment guidelines	1. Develop observation guidelines and checklist for visitations to oral health care workers for infection control, participation and activities in SISCa, school oral health, outreach, CHC, hospitals, treatment of patients, assessment of equipment, use of funds	X	X				Guidelines developed	Oral Health Unit, Department of Health Information Systems, Department of Quality Control, Department of Policy Development
	2. Patient data (information) collection and reporting – develop list of useful information to collect from each level of service	X	X				List developed	
	3. Develop patient satisfaction assessment tool	X	X					
	4. Define frequency of supervision visits	X	X				Recommendations developed	
	5. Quarterly meetings to discuss data and reports from each level of service			X	X	X	Quarterly meetings held	
7. Systemitised collection of epidemiological data for planning and surveillance	1. Explore other ways to collect national data: a) Multi-Sectoral cooperation with other sectors such as, School Health, Nutrition or Department of Planning and Finance (Demographic Health Survey) b) Development of manual, training and tools for district dentists to collect data at the district level c) Invite international partners to conduct research combined	X	X					Department of Planning and Finance MoH, NGOs, UN Agencies

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
	with a national survey 1. Invite expert to develop national survey and train oral health workers to plan and implement survey.	X					Expert invited	
	2. Implementation of national survey, results reported		X	X			Survey implemented Results reported	
8. Logistic support for oral care service delivery (school programmes, community outreach, SISCa)	1. Purchase motorcycles	X	X	X	X	X	5 motorcycles purchased annually	Oral Health Unit, Directorate of Planning and Finance, Department of Partnership and other development partners, Department of Logistics
	2. Purchase 4 wheel drive	X					Four wheel drive purchased	
	3. Purchase furniture for Districts and Community Health Centres	X	X	X	X	X	Monthly monitoring conducted	
9. Assist in developing standards for private dental clinics	1. Assistance provided	X	X	X			Assistance provided	Cabinet of Ethics and Quality Control, NCD Department

Human Capacity Development Strategies
Target group: Policy / decision-makers – government ministries

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
1. Efficient utilization and retention of oral health personnel	1. Development of guidelines for roles and responsibilities of all oral health workers 2. Develop relevant guidelines for monitoring and assessment of quality oral health care delivery -Recruitment of expertise for guideline development. 3. Allocate budget for expertise to develop the guidelines. Strengthen current guidelines for salary review, bonuses related to the performance of oral health care workers 4. Develop refresher training for dental therapists and integrate it to INS training requirements. - Allocate budget for training - Ensure appropriate job creation and replacements for stable workforce.	X X X X					Responsibilities developed Guidelines developed Budget allocated Refresher course developed	Department of NCD, Department of Human Resources and Finance, INS
2. Establishment of links between the dental therapy school and Ministry of Education	1. Define dental professional profile and competency	X					Professional profile established	Department of NCD, Institute of Health Science, Department of Finance, Department of Human Resource Development , Ministry of Education
	2. Allocate budget for pre-service training	X	X	X	X	X	Budget allocated	

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
3. Trained hospital biomedical engineers to repair and maintain dental equipment	1. Recruit dental equipment repair personnel and train or send for training, two candidates per year 2. Allocate budget for training	X X	X X	X X	X X	X X	2 recruited each year Budget allocated annually	Department of NCD, Department of Human Resource Development, Department of Finance and development partners
4. Provision of oral health manpower for all levels of service	1. Recruit personnel for undergraduate dental training overseas every year based on national health strategic plan 2. Recruit personnel for dental therapy training overseas or in Timor-Leste every year based on national health strategic plan 3. Selection of currently employed dental assistants (previously known in Indonesia as SPRG) dental therapy training overseas or in Timor-Leste every year	X X X	X X X	X X X	X X X	X X X	Personnel recruited and sent for training	Department of NCD, Department of Human Resource Development
5. Dental therapist, dental technician, general dentist, dental public health and other specialist dentist training	1. Prioritization of post graduate dental training 2. Utilisation of available scholarships for out of country specialist training with priority for training in: Maxillo-facial surgery, Periodontology, Prosthodontics, Pediatrics, Population Oral Health. 3. Network or create relationships with dental schools and dental therapy schools in other countries	X X X	X X X	X X X	X X X	X X X	Post graduate training prioritised Dentists sent for specialist training Networks created	Department of NCD, Department of Finance, development partners

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
	4. Invite specialists to conduct training and workshops in Timor-Leste 5. Seek funding for dental conferences and workshops 6. Send dentists and dental therapist to other countries for comparative studies	X X	X X	X X	X X	X X	Specialist workshops conducted in Timor-Leste annually Budget allocated and funding found annually to send 2 dentists/dental therapists to workshops	
6. Training of PSF- Promotor Saude Familia, local leaders, school teachers, children for oral health promotion	1. Train PSF- Promotor Saude Familia,Local leaders, School teachers to promote oral health to use materials developed for health promotion _Budget allocation for training	X	X	X	X	X	Volunteers trained	Department of NCD and Department of Health Promotion, Department of Finance
7. Integration of oral health into medical, nurse and midwife training	1. Accredited Universities in Timor-Leste and incorporate oral Health into Midwifery and Nursing Curriculum - Approach INS for refreshing training in Oral Health -Together with INS to prepare the module - Allocate budget for training	X	X				UNTL/FMCS approached and Oral Health integrated into Midwifery and Nursing Curriculum Developed oral health module Students trained Funds allocated	Department of NCD, UNTL and INS
	2. Evaluate the training by Department of Oral Health and INS		X				Training evaluated	
	3. Develop oral health modules for medical in service training by Department of Oral Health, Dental Association and other	X					Developed oral health module	Oral Health Unit, Dental

Components	Major activities	Time					Indicators	Players
		15	16	17	18	19		
	stakeholders 4. Pilot, revise and finalise modules 5. Pass modules to Ministry of Education for integration in medical training 6. Evaluate the training by Department of Oral Health and Ministry of Education	X	X X	X	X	X	Trainers trained to teach oral health Newly graduates doctors trained	Association, Ministry of Education
9. Support the Timor-Leste Dental Association in oral health campaigns	1. Training of dental personnel/TLDA to participate with MoH in oral health campaigns such as World Oral Health Day and World No Tobacco Day	X	X	X	X	X	Dental personnel trained Oral health activities implemented	Timor-Leste Dental Association, Department of NCD

Health System Capacity and Response Indicator Form

Outcome Indicators. Health Coverage: Are the population receiving the health care services they need?

Key Performance Indicator (KPI)	KEY PERFORMANCE INDICATOR (KPI) DEFINITION	Baseline 2015				Progress Report					5 Year Target
		Result	Year	Source		2016	2017	2018	2019	2020	
Number of cases of oral cancers during OPD or screenings	Number of cases of oral cancers during OPD or screenings		2015	HMIS	Number						
					Percentage						
Number of OPD for oral health at health facilities	Number of OPD for oral health at health facilities		2015	HMIS	Number						
					Percentage						
Number of referrals from school screenings	Number of referrals from school screenings		2015	HMIS	Number						
					Percentage						
Number of students screened for prevention in schools	Number of students screened for prevention in schools		2015	HMIS	Number						
					Percentage						

Output Indicators. Health System Results: Are quality services available and accessible are they being utilized?

Key Performance Indicator (KPI)	KPI Formula	Baseline 2015				Progress Report					5 Year Target
		Result	Year	Source		2016	2017	2018	2019	2020	
% schools with health education activities on dental health	68 Numero eskola nebe hetan asesu ba edukasaun no promosaun saude oral -- X 100 1370 (HMIS - ME)Total Number of Schools		2015	Supervision Monthly	Number						
					Percentage						
Number of schools visited by dental team for preventive screening	68 Total eskola nebe hetan visita husi pesoal saude oral -- X 100		2015	Supervision Monthly	Number						

	1370 (HMIS - ME) Total Number of Schools										
Number of health facilities with education/health promotion	29 Numero fasilidade saude nebe halao edukasaun no promosaun saude oral --- X 100 73 (67 CHC, 5 Referal hospital,1 Nacional hospital		2015	Supervision Monthly	Number						
					Percentage						
% health facilities suprevised for oral health program in the last year	Numero fasilidade saude nebe hetan monitorizasaun no supervisaun iha tinan kotuk --- X 100 73 (67 CHC, 5 Referal hospital,1 Nacional hospital		2015	Supervision Monthly	Number						
					Percentage						

% health facilities with trained dental staff	Numero fasilidade saude nebe ho pesoal saude oral treinado --- X 100 73 (67 CHC, 5 Referal hospital,1 Nacional hospital		2015	Dept.	Number						
					Percentage						
% health facilities providing oral health services as per protocoal	Numero fasilidade saude nebe fo repstasaun servisu iha saude oral tuir protokolu tratamento --- X 100 73 (67 CHC, 5 Referal hospital,1 Nacional hospital		2015	Supervision Monthly	Number						
					Percentage						
System Outputs					Percentage						

Input Indicators. Health System Resources/Activities - are facilities receiving the resources and implementing the activities they need to produce quality outputs

Key Performance Indicator (KPI)	KPI Formula	Baseline 2015				Progress Report					5 Year Target
		Result	**Year**	**Source**		**2016**	**2017**	**2018**	**2019**	**2020**	
Availability of Dental specialists	Numberof Dental specialists -------------------------------- X 100 Total number of required dental specialists required according to organizational structure/standards		**2015**	Dept.	Number						
					Percentage						
Availability of General dentists	6 Number of General Dentists -------------------------------- ----- X 100 19 Total number of required general dentists according to organizational structure/standards		2015	Dept.	Number						
					Percentage						

Availability of Dental nurses	54 Numberof Dental Nurses ------------------------------------- ----- X 100 139 Total number of required dental nurses according to organizational structure/standards		2015	Dept.	Number						
					Percentage						
Availability of Dental clinics with equipment to national standards	3 Number of Dental Clinics that meet national Standards ------------------------------------- ----- X 100 73 Total number of Dental Clinics Required according to organizational structure/standards		2015	Supervision	Number						
					Percentage						
% finance disbursed for the planned program of dental health	Total Finance Disbursed for Dental Health in the Annual Plan ------------------------------------- ----- X 100 Total Approved in the Annual Plan	**N/A**	2015	Dept.	Number						
					Percentage						
% development	Total development	**N/A**	2015	Finance	Number						

partner finance expended on Dental Health	partner investment in Dental Health -------------------------------------- X 100 Total Dental Health Planned program budget			Dept.	Percentage						
% facilities with stock out of essential medicines for dental health services	14 (EDL) Total number of facilities with Dental Clinics with reported stock of dental essential medicines in the last quarter-------------- X100 29 (Health fasilities)Total number of Health Facilities with Dental Clinics		2015	Pharmacy Dept.	Number						
					Percentage						
% stock out of dental health essential medicines	6 Total number of essential medicines for Dental Health Services with stock out in the last quarter------------------------------- X100 14 (EDL) Total number of Dental Essential medicines		2015	Pharmacy Dept.	Percentage						
					Percentage						