Draft prepared by Dr Julian Fisher, Associate Director of Education and Scientific Affairs, on behalf of FDI Standing committees and as directed in Council resolution, April 2010

The GCI business plan should have the flexibility to allow for perspectives of FDI governance structures (Council and standing committees) and its membership, external partners and new partners to be considered and included.

While the goal and objectives of the Global Caries Initiative will largely remain the same over time, priorities and timelines will need to be updated regularly in the light of progress in implementation and changing circumstances.

Review process Steps:

• Review of GCI Business Plan by Council and standing committees
• Council to nominate person/s to write executive summary
• Edits to be made to draft BP and for review at mid-year committee meeting
• Presentation to Council 2011 mid year meeting
• Formal distribution to membership and external partners prior to 2011 AWDC
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I. Draft of Executive Summary

Our organisation, the FDI World Dental Federation, is the authoritative, independent, worldwide voice of dentistry, representing over one million dentists in over 144 countries.

The FDI Global Caries Initiative was borne out of the need to address the continuing high burden of dental caries worldwide and the evidence that current restorative based caries management practices are not effective as they could be in adequately controlling caries at an individual and population level.

In addition developments in disease prevention, both within dentistry and in the wider health community now offer an opportunity to manage caries and promote health within a multi-professional health framework.

With the United Nations resolution on non-communicable diseases, we can put the ‘mouth back into the body’ and dentistry/oral health at the top of the global health agenda.

Governments and FDI understand the imperative to move to a preventive-based model for caries management. It is the role of the dental profession, as trusted health professionals, to lead the development of a new paradigm for caries management and to create a common vision of health.

Health System change

Health systems were very much in their infancy when G.V. Black proposed his caries management system in the early 1900’s. Today any health system change must be planned, co-ordinated and executed at global and national levels, which even to seasoned policy makers is bewildering in its complexity.

Given the enormous variety and diversity within the FDI’s membership it is paramount that the development of a new caries management paradigm be based on the best available science and evidence.

During extensive consultation and communication over the last eighteen months, FDI has received consistent feedback that it is the economic and health case of moving to a prevention-based model was the critical issue for governments, the dental profession and most importantly our patients.

The GCI Business Plan

In parallel to the technical development of a new international caries classification and management system, FDI undertook to write a GCI business plan that laid out the socio-economic and health advantages of ‘creating a new paradigm for caries management’.

The business plan has the dual aim of establishing a stable political (preventive policy) environment to facilitate stakeholders engaging and investing in the new paradigm, at the same time providing a strategic and business framework for implementation of the new paradigm at an international, regional and national level.

FDI and its membership will work together with strategic partners to build alliances and networks, which are fundamental in achieving the GCI vision. FDI standing committees will deliver action on the GCI through FDI’s core foci of practice, education, advocacy and global health promotion.

There is no doubt that the GCI is a hugely ambitious project. However as Bob Dylan reminds us in his 1960’s song Times they are a’changing, the FDI has a responsibility to act in the best interest of our patients.

Let us build on our collective experiences and knowledge, to move forward as one voice to Lead the World to Optimal Oral Health.
About FDI World Dental Federation

FDI is a member federation, with approximately 200 National Dental Associations and specialist groups. FDI's global membership represents more than one million dentists from 134 countries, who are pivotal in enabling the FDI vision of leading the world to optimal oral health.

FDI World Dental Federation was founded in 1900 as Fédération Dentaire Internationale in Paris, France and is one of the world's oldest existing health profession organisations.

The organisation is governed by a Council of delegates from member associations that are elected by a General Assembly during the FDI Annual World Dental Congress (AWDC).

Five standing committees carry out work in the key areas of communications and member support, dental practice, education, science, and world dental development and health promotion. FDI’s work priorities are determined in accordance with the Constitution, vision and mission statements as directed by Council.

Official relations with World Health Organisation and United Nations

The FDI is in official relations with the United Nations (UN) and World Health Organisation (WHO).

The Executive Board of the World Health Organization renewed FDI’s status as a “non-governmental organization (NGO) in official relations” during its 126th session in Geneva, Switzerland from January 18-23, 2010.

Dr. Poul Erik Petersen, Chief, WHO Oral Health Programme, represents WHO on the FDI Science Committee.

International Federation of Dental Educators and Associations (IFDEA)

The International Federation of Dental Educators and Associations (IFDEA) is a global community of dental educators who have joined together to improve oral health worldwide by sharing knowledge and raising standards.

IFDEA contributes to improving global health by improving oral health. IFDEA serves as an axis of information, best practices, exchange programmes, news and professional development for the many regional dental education associations, academic dental institutions and individual dental educators worldwide.

IFDEA has representation on the FDI Education Committee.

World Health Professions Alliance

The World Health Professions Alliance speaks for more than 26 million health care professionals worldwide, assembling essential knowledge and experience from the key health care professions in more than 130 countries.

WHPA was formed in 1999 and now brings together the global organizations representing the world's dentists, nurses, pharmacists, physical therapists and physicians. We work to facilitate collaboration among the health professions and major stakeholders such as governments and international organizations, including the World Health Organization. By working in collaboration, instead of along parallel tracks, patients and health care systems benefit.

World Economic Forum

The World Economic Forum is an independent international organization committed to improving the state of the world by engaging leaders in partnerships to shape the global, regional and industry agendas. WEF is a membership organization that represents the world’s 1000 leading companies, along with 200 smaller businesses, many from the developing world.
3. Global Caries Initiative (GCI)

3.1. Background
The origins of the Global Caries Initiative date to the FDI working group on caries (2000) under Professor Elmar Reich. The International Caries Detection and Assessment System (ICDAS) group was formed in 2002, with Prof Reich as the FDI representative and has been actively involved with the FDI in maintaining the momentum for a new caries classification system.

In 2008 the American Dental Association convened the Caries Diagnostic Classification Conference, which was attended by FDI. This meeting and the continued work with the ICDAS foundation reinforced the need for a new caries classification system.

The Global Caries Initiative, created conceptually in 2008 to address the global public health challenge of dental caries, was launched at a major conference in collaboration with FDI member, the Brazilian Dental Association (ABO), in Rio de Janeiro in July 2009. This conference was followed up with other meetings in Singapore, during the FDI Annual World Dental Congress; in New York, during the Greater New York Dental Meeting; and in 2010 it was introduced in Dubai during the AEDDC meeting. Additional regional meetings have been organised in Durban, South Africa (October 2010) and Brisbane, Australia (April 2011).

3.2. Why we need it; rationale for the GCI
Dental caries is a preventable disease and its disabling consequences affects the lives of billions of people around the world, posing an enormous public health challenge in its complexity, scale and impact, both at an individual and community-wide level.

Caries management should be consistent with best evidence and modern clinical practice. Yet much of the current knowledge about the control and prevention of caries has not been transferred into daily patient care.

Caries doesn’t just affect oral health - in many communities it also affects overall quality of life. Yet, oral health remains a “neglected area of international health” (Dr Margaret Chan, Director-General of the World Health Organization), with related programs often lacking the necessary government funding and support to achieve effective, widespread impact.

The Global Caries Initiative is a response to this gap, designed to generate awareness about the greater implications of neglected oral health and to create a new paradigm for caries management.

“...the Global Caries Initiative was developed with the recognition that despite the existence of the knowledge required to control this most common oral disease, in most parts of the world there is still a very high burden of disease. Since much of the knowledge about prevention of caries has not yet been transferred into dental practice, FDI World Dental Federation is making a concerted effort over the next ten years to make major advances in the control of caries worldwide.

One of the goals of the Global Caries Initiative is to harness the ability of dental practitioners to reduce the incidence of disease by incorporating current diagnostic and preventive knowledge into practice.”

Dr Burton Conrod, FDI Past-President

3.3. What is the GCI; paradigm shift in oral health care
The FDI’s vision of “leading the world to optimal oral health” acknowledges that oral health is an integral part of general health and well-being.

To address the issues around dental caries, it is important to recognize and integrate both the dental professions’ activities and those of the broader public health and development community.

Hence the Global Caries Initiative business plan is framed by:

Concern about
- the continuing global inequalities in health
- lack of adequate progress in achieving the Millennium Development Goals
- prevalence of dental caries globally, which despite significant efforts in many communities, remains a major burden due to its contribution to total morbidity and impact on health systems
- bridging the gap between current scientific knowledge of dental caries and caries management in clinical dental practice

Recalling
the WHA Resolution 60.17 on Oral health: action plan for promotion and integrated disease prevention
the WHA Resolution 62.12 on primary health care and health system strengthening
the WHA Resolution 62/R14 on the social determinants of health

Awareness of
the value of an effective synergistic approach
the importance of renewed primary health care in (addressing global health problems, addressing inequities)

Recognizing
the important role played by all professions in (strengthening health systems globally, improving health globally)
the role of (social determinants, climate change, other) in health
Acknowledging the need for (dialogue, explore opportunities, multi-disciplinary approach, inter-professional collaboration)

Determined to maximize the contribution of each (organization, health worker; profession) to improve (inequities, health system weaknesses) to move forward in achieving the MDGs

Sets out to define goals and objectives of a business plan, which will provide the framework to address the global public health challenge of dental caries

The diagram above presents the paradigm shift to both a prevention-based model within the context of general health and well-being.

3.4. Global Caries Initiative Vision 2020

It is the role of the dental profession, as trusted health professionals, to lead the development of a new paradigm for caries management and to create a common vision of health.

GCI vision “to improve oral health through the implementation of a new paradigm for managing dental caries and its consequences, one that is based on our current knowledge of the disease process and its prevention, so as to deliver optimal oral and thus general health and well being to all peoples”.

The GCI is a profession-led “call to action” to Stop6 Caries by 2020, and thus, improve the oral and general health of populations globally by the year 2020.

The GCI aims to establish a broad alliance of key influencers and decision-makers from research, education, clinical practice, public health, government, and industry; partnering in a common goal to effect fundamental change in health systems and individual behaviour to achieve the 2020 goal.

3.5. Addressing Inequalities (contribution from the IADR Grand Challenge Caries Group)

The GCI Vision was endorsed by the IADR Grand Challenge Caries Group and by those involved in working up and testing the ICDAS-Caries Management System© (ICDAS-CMS). The Task Group wishes to address both implementation gaps and a research agenda to address caries inequalities and caries prevention in a holistic way that a) speaks to the Global (Oral) Health Promotion Agenda already being pursued by WHO and others whilst, in parallel, b) also addressing the priorities for getting existing and new basic science cariology research successes into clinical caries prevention and public health practice.

The caries-related Health Inequalities in developing Countries and the caries-related Health Inequalities in developed Countries are markedly different in nature and both need to be addressed.

Whilst there are very significant differences in the Health Promotion, Dental Public Health and Dental Services elements between these two groups of Countries, the fundamental clinical options and the science supporting caries prevention and control are common across the Globe. There is also an increasingly fuzzy line, which separates this arbitrary division between developed and developing - as well as Countries in rapid transition. It is for this reason that the IADR Grand Challenge Caries Group has taken an international overview approach and made clear that all solutions have to be tailored for the particular characteristics, cultures and behaviours of the end user location.

The scale and enduring nature of the caries inequalities in both developing and developed Countries have been well demonstrated over many years. WHO Reports and the global policy for improvement of oral health adopted by the World Health Assembly in 2007 (Petersen PE. World Health Organization global policy for improvement of oral health - World Health Assembly 2007. International Dental Journal (2008) 58, 115-121.)

Surprisingly to many in this field and, despite recent efforts to make the most of available data (such as in the FDI Atlas), the quality, coverage and utility of much of the information available for caries status and inequalities in many Countries is poor. What data there is conforms to variable methodological and quality standards, covers only variable assessments of dentine cavitations to estimate the need for restorative care and in many cases, the findings are now out of date.

Recent, comparable clinical information that covers both ends of the disease severity continuum is absent in many countries and regions. The need for timely information now relates to BOTH the severe end of the spectrum (with information about pain, sepsis and urgent needs issues) AND to the other end of this spectrum where reliable information is also needed on the prevalence and pattern of initial caries amenable to preventive and non-surgical interventions. What is, however, clear from the...
available data are the profound inequalities in caries status seen both between and within many Countries.

Likely reasons to account for these Oral Health Inequalities.

These can be attributed to a number of factors, which are dominated by variations in the social determinants of health. A wide range of factors cause and promote caries initiation and progression. The “personal” and public health factors, particularly income, education and behaviours, have been shown to have profound effects. Other factors include access to and use of fluorides, diet, and access to preventive and restorative care services. It is, however, also important to understand the research evidence from basic science through clinical practice to public health and there is a suggestion that one of the major barriers to making progress in equitable improvements in caries prevention and control has been the lack of effective communication among various dental stakeholders about the cariology evidence which has developed over the last decades.

The WHO recommends the building of capacity in oral-health systems oriented to disease prevention and primary health care, with special emphasis on meeting the needs of disadvantaged and poor populations. Oral-health services should be set up, ranging from prevention, early diagnosis and intervention to provision of treatment and rehabilitation, and the management of oral health problems of the population according to needs and to resources available. In countries with critical shortages of oral-health personnel, essential care may be provided.

FDI would like to acknowledge the International Association for Dental Research (IADR) as a founding partner in the Global Caries Initiative and recognise its leadership through the IADR Grand Challenge Global Oral Health Inequalities Research Initiative.

Quote “Implementation and implementation research should be a priority and the Collaboration for Improving Dentistry model should be considered to build on best evidence and get research findings into policy and practice: IADR Global Oral Health Inequalities: The Research Agenda

In terms of delivering clinical prevention and caries control, the implementation gaps have meant that, despite good evidence in a number of cases, health systems have been slow to move away from the traditional restorative focus on caries management, which is linked directly to access to dentists.

The International Caries Detection and Assessment System Foundation (ICDAS) has developed a comprehensive Caries Management System (CMS), which includes four domains of caries management and provides a practicable CMS linked to cariology evidence.
4. Global Caries Initiative Business Plan

4.1. Aim of the business plan
The aim of the business plan is to provide:
  - a stable political (preventive policy) environment to facilitate stakeholders engaging and investing in shifting the paradigm of caries management
  - a strategic and business framework for implementation of the new paradigm at a international, regional and national level

4.2. Priorities - Membership
FDI is engaging in a global consultation process “temperature check”, to assess the potential challenges and impact of introducing a preventive model to existing systems for caries management. The results of the FDI’s 2009 and 2010 GCI events (Rio de Janeiro, Singapore, New York and Dubai) have provided value feedback from both member national dental associations and their individual members.

A key and universal issue raised at these GCI events was that oral health care system funding was the principle barrier to achieving the GCI paradigm shift.

The funding barrier defined the scope and focus of the GCI business plan. A mandate for the business plan was contained in the Council resolution, April 2010:

- **Adopts** the vision of the Global Caries Initiative to stop Caries in the 0-3 age group, which shall, with time involve higher age groups of the population.
- **Insists** that for this plan to succeed it should look for methodologies which can be implemented across cultures and continents.
- **Directs** FDI committees of Public Health, Education, Science, Dental Practice and Communication to complete some tasks on or before the FDI Congress in San Salvador which shall be communicated to them immediately.
- **Directs** the development of a Business Plan, which should to be circulated to the members of the Council by the end of July 2010

4.3. Priorities - Global Health Agenda
The GCI business plan has been developed and prepared taking into consideration several significant issues in the global health agenda. The most important are listed below.

- United Nations General Assembly Resolution A/RES/64/265 on the Prevention and Control of Non-communicable Diseases contained in document A/64/L.52 that calls for this high-level meeting in September 2011
- United Nations Environmental Programme (UNEP) Intergovernmental Negotiating Committee (INC) Process (7)
- WHO UNEP Expert Consultation meeting of October 2009
- World Economic Forum - the economic case for investing in Non-communicable diseases

4.4. Priorities - Synergies & Alliances
FDI as the worldwide, authoritative and independent voice of the dental profession is in a unique position to leverage its membership network and diverse range of partnerships.

The development a new caries classification and management system is a key element in achieving the paradigm shift as described in the GCI vision. Whilst the focus of the GCI is dental caries, it is important to link a new caries classification and management system to both other oral diseases and the social determinants of health.

By adopting this approach, one based on science and evidence, FDI will be in a position to establish the broadest possible range of alliances and synergies, particularly linking to non-communicable diseases, for example diabetes and cardiac disease, which have strong associations with oral disease.

As an organization, FDI can reap numerous benefits through the synergies developed with other health organizations focused on the prevention of non-communicable diseases. These benefits include:

(I) Increased funding: FDI will be able to leverage on the success, importance and funding of the other members in the non-communicable disease partnership, as well as through the premiums of stakeholders that want to participate solely in the GCI.

(II) Increase the visibility of the FDI: through association with other health organizations, FDI will increase its own visibility and consequently increase negotiating potential /importance with a range of stakeholders.

(III) Create important networks with new stakeholders: the
development of partnerships with other health organizations will enable the establishment of important networks with new stakeholders, possessing diverse and distinct core competencies.

In addition to the synergies that can be created between health organizations, the Global Caries Initiative represents an important opportunity for synergy and alliances between multiple categories of stakeholders.

Diagram showing a broad alliance of key influencers and decision-makers from research, education, clinical practice, public health, government, and business, partnering in a common goal: to effect fundamental change in health systems and individual behaviour to achieve the 2020 goal.

Fig: Graphical representation of the different stakeholders involved with the initiative
5. Preventive Value Chain (PVC) and Health Promotion

The Health Care Value Chain will give a greater understanding of how the health care supply chain works in order to enable health care stakeholders to form strategic alliances.

For organisations and companies engaged in complex partnering and trading relationships, a value chain is concerned with several theorized objectives:

• Optimizing the overall activities of organisations and companies working together to create bundles of goods, services and solutions
• Managing and coordinating the whole chain: from source material suppliers to end customers / member / patient, rather than focusing on maximizing the interests of one player
• Developing highly competitive chains and positive outcomes for all organisations and companies involved
• Establishing a portfolio approach to working with suppliers and customer / members / patients; that is, deciding which players to work with most closely and establishing the processes and information technology (IT) infrastructure to support the relationships.
• Value chains are supposed to be collaborative partnerships between adjacent players engaged in economic exchange. Such collaborative activity includes coordinated planning.

For the GCI business plan the Preventive (Health Care) Value Chain has been used.

In the following analysis, the Preventive Value Chain is divided according to two different approaches:

1) The Preventive Value Chain (PVC) - “Qualitative Value”
2) The Preventive Value Chain (PVC) - “Quantitative Value”

A PVC qualitative analysis aims at identifying the core aspects of the preventive approach (illustrated within the “Preventive Value Chain”), including its main stakeholders and its possible economic and health benefits in the medium to long term.

The objective of the PVC quantitative analysis is to highlight not only the so called “market gap” but also the “usage” and “dosage” gaps. This type of analysis will show the enormous advantages that a shift to a preventive model could generate, not only for the patients themselves, but also for dentists and the oral health industry as well.

5.1. PVC Qualitative Values - The 3 Theories

Knowledge management: The implementation of a knowledge management programme in an organisation/ company has the potential of improving member / customer services, reducing cost of business operations. Knowledge management (KM) is a collection of processes that govern the creation, dissemination, and utilization of knowledge in an organization (Newman, 1991).

It involves the management of explicit knowledge (i.e. knowledge that has been codified in documents, databases, web pages, etc.) and the provision of an enabling environment for the development, nurturing, utilization and sharing of tacit knowledge (i.e. know-how, skills, or expertise).

In the context of preventive health care the created value to be considered is health information that has an impact on the patient’s knowledge of health behaviour, which can lead to healthier choices in lifestyle related issues.

Small World & Social Network Theories: Each individual is an actor of a network with links or ties to other actors inside the organization and also outside the organization. The patient and his or her own social networks are linked to the health care organizations networks. Health care organizations are highly knowledge-based. The knowledge is embodied in the experts, encoded in patient records, databases and documents, embedded in routines and ways to function and also encompassed in the organizational culture and social and intellectual capital of the organization.

Value is created in the network by knowledge sharing and combining and creating new knowledge.

The PVC qualitative “Value Chain” is made by four different steps:

Research → Communication → Education → Health Promotion & Diseases Prevention (see section 6.1.1)

In this new PVC “Value Chain” Research is based on evidence, data collection and surveillance and represents the critical first step in preventive oral health care. It is mainly established through Research focused on:

- Causes of disease
- Management of disease

Accordingly, Dental Researchers, Scientists, Educators and Clinicians represent the main or primary influencers in the information (knowledge transfer) portion of the preventive value chain.
They can provide the oral health care provider and consequently patients (all actors and multi-professionals) a richer flow of information in order to improve knowledge and promote a healthier lifestyle.

Staying healthy or getting better depends on many factors, including a continuous flow of information and a good communication between the patient and the health care provider.

Communication is the critical link in every health care interaction, whether it’s making an appointment, describing symptoms, discussing risks and benefits of treatments, or understanding treatment instructions.

Effective communication will enable the patient to make good health decisions and follow the health professional’s advice. It’s also linked to better health outcomes and patient satisfaction.

The “Qualitative Value” of this approach lies in the sum of four different factors:
• Collective Information/Knowledge
• Effective Communication
• Creating Network
• Combining & Creating Networks

5.2. Quantitative Values - Gaps Analysis

The “Quantitative Value” approach is based on the following market/usage/dosage gap analysis in order to demonstrate that the adoption of a “Preventive” culture can potentially generate positive revenues for stakeholders involved in the GCI.

The scope of the quantitative analysis is to support the value of the “Preventive Value Chain” not only from a dental/social/health point of view, but also from an economic viewpoint, demonstrating the huge potential size of the market made up of people that have a poor oral health culture.

Let’s assume the following scheme as reference for the comparison between the Preventive Value Chain and the Restorative Value Chain:

Stakeholders Investments → Through stakeholders’ core competencies research, innovations, new services and solutions are shared to the benefit of global 

Research/Knowledge Value Proposition → Innovation, new services, products and solutions have to be made clear and easy in order to reach all the population implementing an effective Communication

Customers → Through the adoption of new “preventive standards” a healthier lifestyle can be implemented to the benefit of Oral Health at the same time increasing customers’ satisfaction thanks to less invasive and expensive treatments

Economics → A Market/Usage/Dosage gap analysis highlights how a Preventive approach can generate potential positive revenues for stakeholders without upsetting core activities.

This type of analysis aims at demonstrating that through the adoption of the PVC, not only potential economic benefits are higher than costs, but also private companies, dentists and other main stakeholders can easily obtain value from the untapped existing market left by the PVC.

5.3. Dental facilities as centres of oral health surveillance

It is important to understand that in the preventive value chain dentists will need to see both an expanded management radius around their practice facility and be cognoscent of community foci for health care provision (e.g. schools and health clinics).

This will require deployment of new products, services, solutions, technologies and programmes to enable the dentist / surgery to reach and communicate with an individuals or communities regarding their oral health status.
6. Business Strategy

6.1. The Economics of the Global Caries Initiative Model

As shown above, the application and implementation of the Preventive Value Chain (PVC) can generate qualitative, quantitative and satisfaction values at the benefit of all the main stakeholders involved in the preventive value chain process.

The objective of this section is to demonstrate how the PVC can be integrated into a general Business Model in order to extract and maximize the values. In particular the analysis will focus on the 3 main steps of the Business Model:

a.) Stakeholders Investments → Value Chain
b.) Value Proposition → Innovative Products, Service and Differentiation
c.) Customers → Consumer Satisfaction

Stakeholders that do not have necessary core competencies for an appropriate alignment with the preventive value chain will have to go through the channel of value creation and model alignment before passing through the preventive value chain.

The Value Chain is the KEY of this business model. There is need to ensure consistent interactions with the value chain to ensure that the aim of this business model which is the GCI is not lost in the process of value proposition. The second important step in the Business Model is the process of developing innovative products, services, solutions and differentiation in order to create more value.

Most societies face imbalances in their health (dental) systems. Demand for some health services, such as expensive new treatments, exceed the society’s ability to pay, while other services, such as prevention, are underutilized.

By value proposition, the author infers a business promise or quantified benefits and offerings a customer (patient) get from his / her relationship with a stakeholder / oral health care provider.

These quantified benefits are delivered and experienced through products and services. However, we deemed it necessary to elaborate the classification of these benefits in four (4) classes:

- Innovative products
- Innovative services
- Innovative solutions
- Differentiation

Differentiation: seeks to increase benefits and visibility through identity recognition for products, services, solutions and new markets. In this sense, diversification can be seen as a mix of the FDI / GCI Identity (logo) use strategies.

6.2. Key Success Factors; GCI Identity

Identity (logo) classification: The GCI identity is currently underutilized. However, the GCI can actually be an enhancer and promoter of the FDI visibility if properly managed. On this premise the benefits of the GCI identity value should be anchored on certain classifications for players or participation within the GCI. Establishing these classes of sub - identity within the GCI identity, will ensure that FDI encompasses existing stakeholders, new stakeholders and other potential stakeholders outside the GCI framework. Hence, there is need to classify the activities and participation of stakeholders as below:

Fig.: Matrix of GCI identity Classification vs. Core Competencies and Importance
Considering the general matrix above, below is a rough analysis of the mapping in terms of products, services and solutions.

Analyzing further in details, there is a need to extract more value from the participation of certain products or services with the highest level of identity classification and importance with adequate pricing and even sub-grouping as the case may be.

For instance, toothpaste seems to have the highest participation and importance within the matrix above. However, it is not expected that FDI to offer the same brand classification to Colgate, GSK P&G or Unilever and a local brand toothpaste in an Asian or African country for example. Hence, a sub-grouping within the classification; such as +++ (triple GCI) eg for Colgate and + (single GCI) for the local toothpaste should be created to accommodate this difference and allow for the widest participation in the GCI.

Also, the above example on toothpaste can have another dimension; sub-grouping the toothpaste business segment by the amount of fluoride (evidence for quantifiable prevention benefits in the toothpaste. This can as well be narrowed down to other classes within the matrix to extract more value available to the GCI.

Interestingly, FDI has a similar model of Proof of Concept and Recognition with Wrigley Company Ltd and Unilever Oral Care.

### 6.3. Key Success Factors; Continuing education (CE)

As a federation of national dental associations, FDI has the potential to develop a universal continuing education credit transfer system (FDI CTS), along with a web-based continuing professional development portfolio (CPDP) offering dedicated training and education around the GCI.

With FDI’s global reach and coverage, establishing a globally recognised standard of excellence for continuing education will constitute some potential added advantages and values for FDI, national associations and oral health practitioners.

However, there are existing structures on ground already for accreditation, services within the national associations’ jurisdiction; hence the need to avoid conflict of interests and promote an international framework.

The FDI has initiated (2009) a continuing education survey of its membership to establish a global overview of CE and its regulatory landscape.

a.) VISION: Offer accreditation, advisory services and education / training
b.) SCOPE: Leveraging on the membership strength and global reach - national associations and members.
c.) VALUE:
   - FDI - to lobby for more health related participation of its members in WHO and UN activities in the international, national and local in exchange for members’ participation in accreditations services. FDI will ensure dedicated efforts in creating benefits for the members on an international scope since these perceived benefits will drive members’ participation.
   - National Associations and FDI - to benefit from a 70% versus 30% revenue sharing respectively from the accreditation services and access to education in FDI continuing professional development portfolio.
   - Dentists - to benefit from a globally recognised standard of excellence of oral health practice in their career progression, assignments, recognition and status.
7. Global Caries Initiative Implementation and Execution

7.1. Project Organizational Chart
This PVC and a Value Creation approach in carrying out the business should create significant values and consequently strongly incentivize stakeholders to participate in the GCI.

As the political (policy) environment moves towards a prevention model, FDI and GCI stakeholders (existing and new) will be better placed to develop the GCI ad hoc structure, as described in the diagram above.

7.2. Process & System for Interactions with Stakeholders
A crucial element of extracting value is through a substantial level of differentiation, not only in terms of the products and services offered, but also in terms of FDI’s organizational structure itself.

Through an alignment of FDI’s organizational structure with the different segments of the Preventive Value Chain, the level of focus and effort will be maximized. In addition, due in part to the increased focus given by the compartmentalization of FDI, more effective and sustainable partnerships with stakeholders will be established. Each branch of FDI would therefore specialize in conducting division-specific research, obtaining funds and managing relationships with its relevant stakeholders.

A main organizational scheme of this nature could distinguish the following “sub-identities” in order to strongly link the FDI identity with the Global Caries Initiative:

- It is able to significantly reduce the distance between the objectives of the Global Caries Initiative and the core competencies of the main stakeholders.
- Another key advantage is the superior access to information that such a system provides.

According to this scheme, each area should leverage specific knowledge, information and networking in order to involve the highest number of possible partners and to maximize FDI efforts in funding activities for GCI.

A compartmentalized organizational structure also allows the added benefits of increased economies of scope: both intangible resources (the FDI identity, technology) as well as tangible resources (research labs, distribution systems) can be shared, maximizing efficiency and minimizing costs.

In particular a top-down versus a bottom-up relationship among stakeholders should be implemented in order to increase the level of coordination, accountability, transparency and involvement in the project and to improve the final customers’ satisfaction (patients) through a more direct and frequent relationship with Dentists, the primary influencers in the “preventive” activities.

It is important to address both structure, as well as process. Communication across all FDI structures is a paramount to enabling the co-ordination of the different elements of the GCI undertaken by FDI, their effective evaluation and management within a quality improvement process.

Hence it is suggested that FDI look to hold a joint meeting of Council and all standing committees over 3 days as outlined below.

FDI working groups would include one representative from each of the standing committees, as well as a councillor: These FDI working groups would act as the nucleus for GCI partnership working groups (GCI WPWG’s), which would include representatives of each of the seven strategic GCI alliance areas as appropriate.
For example an FDI Working Group could be identified to coordinate the review and adoption by FDI of an International Caries Classification and Management System working alongside research organisations such as IADR / ORCA and caries foundations like ICDAS.

The main activities of committee workplans are listed below:

1. Science (SciC)
   - Research agenda focus on translational research (see FDI mission statement: information transfer), including rapid reaction protocol:
     - Action proposed: establish cross-committee ‘research into practice’ working group
   - Development of Scientific statements, which will support FDI policy statements, best practice guidelines and underpin recognition programmes (see CMSC resource document)
   - Approve and adopt caries classification and caries management system
     - Action; to collaborate with ICDAS and PUPA index groups re. development and adoption Caries Classification and Management System
   - Action: Approve and adopt proposed consensus caries glossary of terms

2. Dental practice (DPC)
   - Establish ‘Voice of Dentistry’ Think Tank to transfer and deliver knowledge into daily dental practice
   - Co-ordination of Practice based surveillance and practice based research networks
   - Special projects:
     - Global Caries Initiative
     - Dental Ethics
     - Patient Safety
     - Mercury / dental amalgam issue
     - Non-communicable diseases (GCI)
     - World Health Profession Alliance and World Economic Forum projects & programmes
     - develop Best Practice Guidelines (see CMSC resource document)

3. Communications and member support (CMSC)
   - World Oral Health Day
     - Action proposed: establish cross-committee ‘World Oral Health Day’ working group
   - Resource document
     - Action proposed: establish cross-committee ‘project outcomes’ working group
   - Committee role and responsibility guidelines
     - Action proposed: use national liaison officer guidelines as template
     - FDI Communications plan (see section 8)
     - VOX membership tool - National Liaison Officer network
     - FDI website
     - Data Mirror
     - Continuing Professional Development Portfolio

3. Education (EduC)
   - Global CE programme, includes flagship event of AWDC

→ Increase the level of coordination, accountability and transparency
→ Increase the level of involvement in the GCI project
→ More direct and frequent relationship
Partnership with regional CE events
Action proposed: to establish relationships with regional conferences within FDI Global CE programme (eg IDEM)
- FDI CE accreditation
Action proposed: complete membership CE survey and publish results on data mirror
Action proposed: to develop FDI universal continuing education credit transfer system
Action proposed: to develop evaluation and quality improvement model and process for FDI CE activities
- Continuing Development Portfolio
- Web-broadcasting
- GCI web based learning management system to house educational modules
Action proposed: establish cross-committee ‘continuing education and web-based learning’ working group
- Special projects:
  - Global Caries Initiative
  - Dental Ethics
  - Patient Safety
  - Mercury / dental amalgam issue
  - Non-communicable diseases (GCI)
  - World Health Profession Alliance and World Economic Forum projects & programmes

4. World dental development and health promotion (WDDHPC)
- Oral Health Indicators
- EGOHID
- ICDAS
- PUFA index
Action proposed: establish cross-committee ‘FDI indicators’ working group
- Advocacy and advisory services
- Policy statements (see CMSC resource document)
- Toolkits (eg DMFT toolkit)
- Capacity building toolkits
- Surveillance and sentinel network
- Web-based Data Mirror - as focus for surveillance and sentinel network
- Logo recognition programmes
- Public Private partnerships
- Special projects:
  - Global Caries Initiative
  - Dental Ethics
  - Patient Safety
  - Mercury / dental amalgam issue
  - Non-communicable diseases (GCI)
  - World Health Profession Alliance and World Economic Forum projects & programmes
- Regional FDI oral health strategies

7.4. Timing Execution & Role Definitions
Ideally by starting in 2010, the Global Caries Initiative would achieve the significant changes in policy and research focus necessary for the transition from a restorative based oral health care system to a prevention based system.

In the best case scenario, using dental amalgam as a proxy of the prevalence for the restorative approach, this transition will be achieved in 2020.

![Fig.: A tentative time line illustrating the implementation of prevention-based model](image)
Effective communication is an essential element of any successful business – and the Global Caries Initiative is no different. It is important that FDI clearly communicates its stance on such issues such as the use of dental amalgam in dental restoration, the disparity of treatment between patients in different countries and the benefits that a Preventive Value Chain, implemented effectively within the context of the Global Caries Initiative, could give to a multitude of stakeholders.

In light of this, the development of an effective strategic communication plan would occur in a four step process:

**Step 1: Messaging Framework**

FDI must communicate a simple, clear message to all key stakeholders setting out what it wants and believes with respect to the GCI. The first step in developing a strategic communications plan would be to run a Messaging Workshop to identify and agree the key messages that need to be communicated worldwide. A winning argument is a simple one.

**Step 2: Stakeholder Mapping**

When the messaging framework has been agreed, it is vital to understand with whom FDI wants to communicate and how that is prioritised. The development of a Stakeholder Map should identify:

- key stakeholders
- supporters; critics; neutrals
- the headline message
- the method of communication
- the communications timeline

**Step 3: Core Communications Materials**

The next step is to develop the written materials needed for a FDI GCI Communications Pack that would typically comprise:

- Core script/position on the Preventive Value Chain, and benefits to key stakeholders
- Key Messages/Talking Points on associated issues
- Stakeholder Map and timeline: setting out process for communicating with key audiences and timescale

**Step 4: Spokesperson Coaching and Media Training**

The communication of FDI’s position will be heavily reliant on the ability of spokespeople to deliver a persuasive and compelling argument. They are the final few yards in the communications journey and they need to be able to manage difficult and challenging questions and criticisms: not just from the media, but also at conferences and other public fora. It is therefore recommend that all key spokespeople undergo intensive media training, to equip them with the skills and techniques required to handle such situations.
9. Financial Plan

This section will be to be reconciled with / integrated into the FDI business plan currently under development and discussion. However, many elements described and detailed below are mirrored in the FDI business plan that is under review (Council, Salvador AWDC 2010).

The financial plan is divided into six areas:

1. GCI Logo and recognition programmes
   It is envisaged that there would need to be a range of logo and recognition programmes to accommodate the diverse range of GCI partners.

   In principle revenue from the logo and recognition funding would fund the GCI secretariat (see below) and assist member national dental associations to implement GCI projects/activities at a national level.

2. GCI public private partnerships
   These would be global partnerships with implementation of projects at either both global and national elements or solely national level.

3. Continuing Education accreditation
   Within FDI universal continuing education credit transfer system to develop FDI (FDI GCI) continuing education logo.

   The shape, format and regulatory aspects of such a system will need dedicated discussions (see proposed international conference on continuing education and web-based learning).

4. GCI events
   These would take place within the existing FDI global continuing education programme, including the FDI’s flagship CE event, the annual world dental congress.

   Examples are the:
   - FDI GCI programme at the South African National Dental Association congress in Durban (2010)
   - Australian National Dental Association congress in Brisbane (2011)
   - Proposed International Conference on continuing education and web-based learning

5. FDI web-based continuing education
   5.1. Continuing Professional Development Portfolio
   The CPDP is currently under discussion in the Education Committee. It is proposed that the portfolio approach would allow FDI to establish educational material from its global CE programme and AWDC scientific programmes, stand alone projects (eg ethics and patient safety) as well as partner with its member national dental associations.

   The portfolio approach would also offer flexibility with regards the technical aspects of harmonizing a wide variety of learning management systems currently in use by FDI members and other partners.

   Council is considering (AWDC 2010) to pilot a learning management system to hold GCI educational material.

   5.2. Live web-broadcasting
   FDI is currently developing the capacity to undertake satellite web broadcasts from its 2011 AWDC. Education committee is undertaking evaluation of CE and has a university partner who could include the evaluation and quality improvements of learning management system pilot.

6. Advocacy and advisory services
   The GCI would look to develop partnerships to leverage its global role in ethics, patient safety, counterfeit medicines, data collection.

(12) to use Wrigley agreement as template, where there is a revenue split between FDI and participating NDA’s
(13) to use Unilever Live, Learn and Laugh as template
10. Risks, Challenges and Assumptions

Risks and Challenges: After analyzing previous Global Alliances/Initiatives there are some re-occurring risks and challenges that constituted huge barriers towards a successful initiative.

- Difficulties to **standardize**, to **rationalize** and to organize methods for the selection and recommendation of oral health indicators
- **Difficulties to mobilize networks** at the global level
- **Inadequate data and information** available for data planning, implementation, service management and oral health evaluation
- **Limited Member States cooperation and No system and capacity** to ensure social, economic, behavioural and political change in addressing the existing inequalities
- Dental systems and funding models typically emphasize on treatment and not prevention which is assigned a lower priority and receive comparatively fewer human and material resources
- **Lack of a common standards** in global dental practice, education, research and public health
- **Lack of consistent priorities, firm problem definition and impacts of preventive health initiatives.** This leads to considerable uncertainty not only for researchers, but also for donors who need to make decisions on where to invest
- **Little incentive** for various development partners/institutions to coordinate their activities
- **Lack of accountability, transparency and evaluation**, focusing on short-term results - thus raising a real question about future sustainability

Also, the oral health care industry practice, insurance and **Market Drivers are against the GCI.**

For instance:
- **High-end technologies dictate future growth**
- **The aging population factor**
- Introduction of dental implant, cosmetic dentistry and digital devices
- **Policy and regulatory reforms in Asia and reduced trade barriers for dental devices**
- **Growing number of general practitioners**
- **New innovations versus traditional equipments**

Interestingly, the aforementioned traits can easily be structured for the benefits of the GCI as discussed in the economics of the GCI model.

Assumptions: The success of the business model described above depends on the accuracy and reliance of certain assumptions that have been included in this analysis. It is assumed that the insurance companies will participate in the Global Caries Initiative by voluntarily formulating packages promoting preventive funding models It is also assumed that companies producing dental materials and equipment, who will have to devise new products and technology to remain profitable during the shift from a Restorative to a Preventive value chain, will not lobby for legislation against the initiative.

Perhaps most importantly, we assume that this initiative will cut across the different inequalities present in each country. Because of its global scope, the Global Caries Initiative depends on the successful implementation and coordination of players on a worldwide scale, each having different languages, cultures and customs. This business model relies on the assumption that the Global Caries Initiative will be able to smooth out those differences and bring together oral health stakeholders worldwide towards the common goal of stopping caries by 2020.
GCI Corporate Partners

FDI World Dental Federation would like to acknowledge the contribution and ongoing support of the Global Caries Initiative corporate partners.

Procter & Gamble (Gold Founding Partner)

Through the introduction and marketing of effective fluoridated dentifrices since the 1950s, Procter & Gamble has consistently contributed to the decline in caries prevalence in developed countries around the world. The company has continuously and significantly invested in research and development to improve the efficacy of its dentifrices, toothbrushes, rinses and other oral care products, to deliver the company’s vision of improving the lives of the world’s consumers, now and for generations to come.

Colgate (Silver Founding Partner)

Colgate congratulates the FDI World Dental Federation on the launch of the Global Caries Initiative at the Rio Caries Conference. Colgate has been committed to oral health improvement for more than a century. Through partnerships with the dental profession, government and communities around the world, Colgate has demonstrated a common mission with the FDI to help manage and prevent dental caries, while promoting optimal health care in the communities we serve.

Colgate is pleased to be a collaborative partner in the Global Caries Initiative with the opportunity to bring our preventive knowledge and scientific expertise in caries management through our oral health improvement programs; quality oral health preventive products and other resources that can help address this crucial issue. We passionately believe in the same goal of promoting healthier lives for all peoples, especially those in underserved regions of the world. Dr. Marsha Butler, Colgate Global Oral Care.

Unilever (Silver Founding Partner)

Unilever has been involved in the scientific research and development of effective fluoride toothpastes for over 40 years and has contributed significantly to the clinical evidence now available to researchers.

This has given us the necessary understanding of how to formulate fluoride toothpaste to control caries and how to deliver this effectiveness also in products designed to provide additional benefits, such as gum health and tooth whitening. As efforts continue to improve current products even more, in their ability to strengthen tooth enamel and enhance remineralisation of early lesions, Unilever also recognizes the critical importance of personal oral hygiene behavior.

GSK (Bronze Founding Partner)

GlaxoSmithKline is committed to improving the quality of human life, enabling people to do more, feel better and live longer. A core element of this ongoing mission is the company’s dedication to improving oral health. This commitment has been evident since the 1973 launch of the fluoride-containing Aquafresh toothpaste range. Today GSK continues to invest in dental research to ensure that its products and educational programmes are centered on patient dental health needs. GSK is proud to sponsor the Global Caries Initiative, which corresponds to the FDI vision of delivering optimal oral and general health to millions of people worldwide. Dr. Stuart Smith

Wrigley (Bronze Founding Partner)

The William Wrigley Jr. Company is a proud sponsor of the FDI Global Caries Initiative. Wrigley has been committed to oral care excellence for more than 25 years, supporting clinical research in areas such as saliva stimulation, plaque inhibition and tooth strengthening. Through its Wrigley Oral Healthcare Programs, which are active in 47 counties, Wrigley supports patient care and education worldwide and will continue the tradition of integrating science and everyday life through its partnership with the FDI. Dr. XX, division YY.
Leading the world to optimal oral health

THE VOICE OF DENTISTRY
To be the worldwide, authoritative & independent voice of the dental profession

OPTIMAL ORAL HEALTH
To promote optimal oral & general health for all people

MEMBER’S SUPPORT
To support the member associations in enhancing the ability of their members to provide oral health care to the public

INFORMATION TRANSFER
To advance & promote the ethics, art, science & practice of dentistry