Asia-Pacific Product & Distribution WATCH

Dental Insurance in Korea – fad or fashion?

SCOR Global Life

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Foreword

SCOR has a proud track record of actively supporting product innovation by our clients in Asia and in particular the South Korean market. The pace of product development remains high given its strategic importance to maintaining sales growth in a highly competitive and developed market. This Product Watch edition describes the recent launch of individual dental products in Korea. From our perspective, thoughtful product design, implementing a tailored underwriting and claims management approach, and following a rigorous approach to pricing are all important ingredients in ensuring a competitive and profitable product. With the next generation of dental products already under development, we are pleased to have contributed to the development of this latest product innovation in the Korean market. To learn more about how we can support your company's product development agenda, please contact your SCOR representative.

David O'Brien
Deputy Managing Director, Asia-Pacific

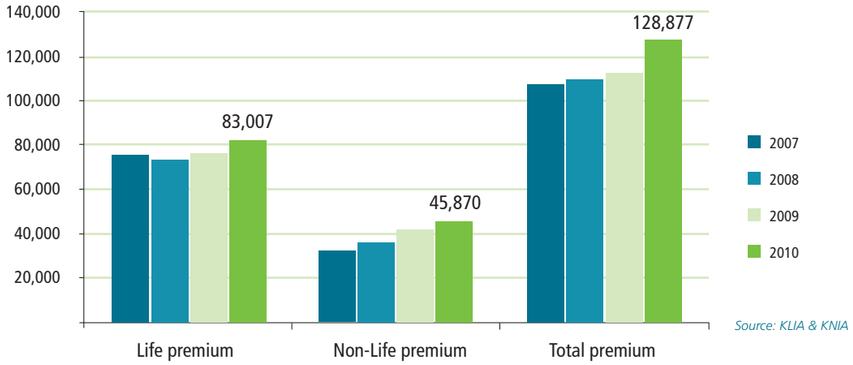
Introduction of Korea Market

Korea Insurance Industry

With a history of over 116 years, the Korean insurance industry has developed into a large and sophisticated market. According to KLIA (Korea Life Insurance Association) and KNIA (Korea Non-life Insurance Association), Korea is the tenth largest insurance market globally in 2010 as measured by premium income. In terms of its life insurance market, Korea is the eighth largest in the world and third largest in Asia with Life premium income of approximately USD 74 billion (KRW 83 trillion) in fiscal year 2010.

Korean life insurance companies are generally segmented into three categories: the "Top 3" insurers, small-to-medium size domestic insurers and foreign insurers. The Top 3, Samsung Life, Korea Life and Kyobo Life have dominated the industry with a combined market share of more than 50% over the past 20 years. While the Top 3 market share has gradually reduced, small-to-medium size companies increased their market share over last five years, growing from 16% in fiscal year 2004 to around 25% in fiscal year 2009. They achieved this growth by actively utilizing alternative distribution channels such as bancassurance, brokers and direct marketing channels.

Chart 1: Premium income in Korea Insurance, KRW billion

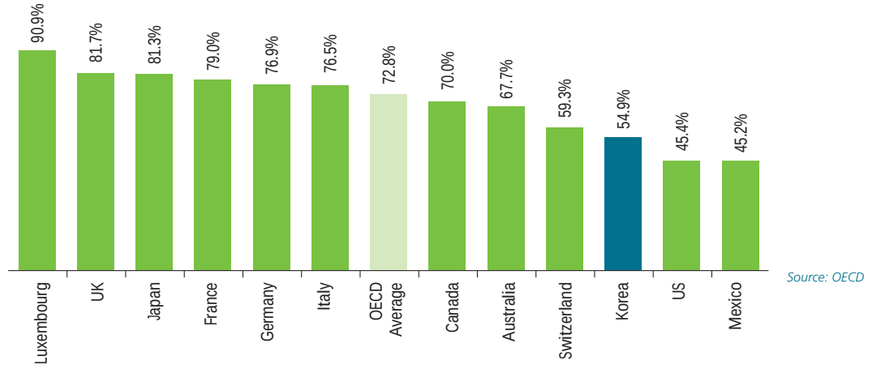


Source: KLIA & KNIA

Foreign life insurers have also been successful in capturing market share, growing to around 20% of market share in fiscal year 2009. In addition to the competition between the life insurance companies, the amendments to the Insurance Business Act in 2003 enabled non-life insurance companies to also expand into the traditionally life segments of insurance covering personal injury, illness or medical expenses. Current estimates put non-life insurance companies share at around 23% of the total life market.

It is clear from the above how highly competitive the life insurance market in Korea can be. As such, players are continuously seeking to be more innovative in their product offerings. In recent years, one area of focus of the Korean life insurance market has been expanding the range of living benefits insurance products. This is understandable as Korea is currently one of the fastest aging countries in the world (according to Korea National Statics Office, Korea is expected to have 38% of its population aged over 65 by 2050). This coupled with increasing longevity has made the demand for living insurance benefits to become ever stronger. Concerns about sustainability of public health provision (one of the highest in the world as seen from Chart 2) have also driven up private demand. It is under this context that we introduce to our readers, Dental insurance, a recent and quite successful innovation in the Korean market.

Chart 2: Public health expenditure as % of total health expenditure



Source: OECD

Reasons for the slow start to the introduction of Dental insurance

Anti-selection

As most readers will expect, there is a strong element of anti-selection risk inherent in Dental insurance. Unlike other forms of medical care, Dental care can be said to have a strong element of being elective and discretionary in nature. Many procedures may not be immediately needed and can be postponed or treatment process adjusted.

Anti-selection may come from both the provider side as well as from the insureds. For example, dentists have been known to prescribe more procedures if the patient has insurance coverage.

In addition, there have been well documented cases of fraud where dentists have provided patients with false certification of procedures that were never carried out. On the patient end, many may opt for more expensive treatment if they are insured or may over-insure themselves such that they are financially better off after a claim.

It is worthy to note that even in the USA where Dental insurance has been around for many years, the market is still concerned about anti-selection risk. Most insurance is still arranged via Group Dental plan which by nature is less prone to anti-selection due to a better spread of risks.

Significant investment

The high frequency nature of dental claims and relatively low claims amount necessitates significant investment in an efficient administration system to process the claims and also provide a responsive and quality reporting platform to assist in risk monitoring and help highlight correction actions/adjustments when needed.

Political risks

Given that in Korea, the National Health System (NHS) plays a major role in the financing and delivery of health care services, any changes in NHS policy will have a significant impact in many aspects of the private Dental insurance market, including but not limited to the available scope/size of the private insurance market and on the coverage design.

Pricing risks

There is currently very limited insurance experience data available for pricing purposes and while some population data exist, they are not in a form or detailed enough that can be used directly in pricing. Foreign data may be used as reference but as Dental insurance like any form of Medical insurance, is very location-specific, numerous adjustments may be needed before the data could be used for pricing purposes.

The development of Dental insurance and the present market situation

Korea's first Dental insurance product was developed and introduced in September 2008. Since then the cover has become increasingly popular.

The main driver from the development has been in the shortfall in the financial support for dental treatment. In spite of the comprehensive services provided under the Korean National Health System (NHS), the out-of-pocket expenditure for dental treatment under NHS averages around 60% (please see Chart 3).

In fact, a 2007 household income and expenditure survey showed that out-of-pocket payment from dental service accounts for 18% of total out-of-pocket payment on total health expenditure.

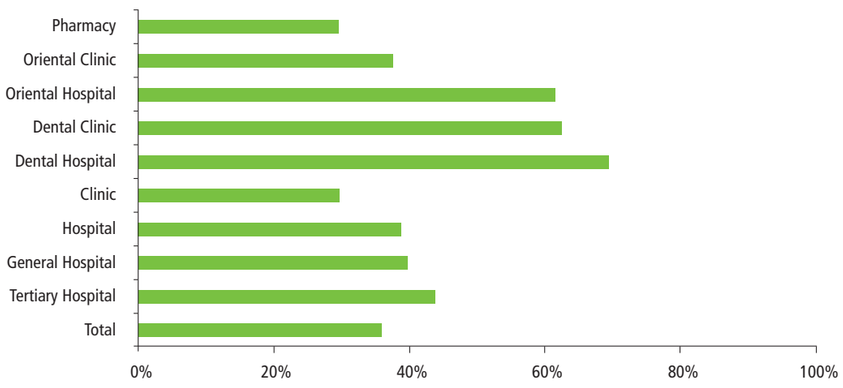
This gap in financial support is further aggravated by the fact that the prevalence of dental problems in Korea is on par with any of the developed western nations including the USA (see Appendix 2).

Despite an initial slow start (see box insert previous page), more companies have introduced dental protection products. Within a short span of 2 years, more than 5 Korean insurance companies among 22 life companies and 12 non-life companies, have already included dental policies in their product range.

In 2011, there were about 1.5 million active policies in the dental portfolio in Korea market.

Market penetration is however still low; about 3% of the total population or 5% of the working population have private dental insurance. There is thus ample room for expansion.

Chart 3: Out-of-pocket expenditure per facility type (2009)



Source: Research on the medical expense of National Health Insurance Patient 2009

Dental insurance product features

There are many different dental insurance products in Korea although broadly speaking, this may encompass some or all of the following group of treatments*:

- Diagnostic, hygienic and emergency service
- Conservative treatments
- Extractions
- Periodontal treatments
- Endodontic treatments
- Prosthetic benefits

* All these treatments are partially covered under NHS, with the exception of tooth filling (inlay, onlay and light cured composite resin), cleaning for prophylaxis, and prosthetic benefits.

Issue ages are usually from 15 to 50 years with coverage until age 60.

Due to the inherent risks associated with the product, numerous design features have been added to help mitigate the risks.

Special design to limit the risk exposure arising from anti-selection

- **Co-payment to encourage responsible behaviour:** This helps ensure the insured chooses and uses care appropriately. There are different out-of-pocket rates to encourage good utilization level of diagnostic and basic preventative treatments thereby reducing the future need for major treatments, and at the same discourage more expensive and elective services by requiring higher co-payments for these services.
- **No cherry picking of services allowed:** This helps prevent insureds from only choosing the service/treatment which they feel they need. Insureds will have to accept the full range of services offered.
- **Exclusions:** This helps limit plan cost and overall anti-selection
  - Elective or not essential for good dental care: for example, cosmetic procedures or experimental treatment.
  - Pre-existing conditions: this would not only include treatment started before the effective date, but would also include coverage begun after the effective date for conditions diagnosed before the effective date.
- **Some occupations are excluded:** The product is not offered to occupations with potential moral risk from high awareness of benefits, including hospital staff, insurance company employees and dental related workers.
- **Fixed dollar pre-defined benefits:** This prevents medical inflation creep although has its downsides as care is needed to ensure the schedule of benefits is consistent with actual treatment costs.
- **Waiting period/tiered benefit structure/annual maximum limits:** This helps reduce the significant anti-selection in the first year or second year (see table next page).
- **Limited guaranteed period:** The premium rates are typically subject to review every three years given the limited claims experience arising in Korea.

A typical example of waiting period / tiered benefit structure / maximim limits is as follows:

Dental service	Waiting period	Tiered benefit	Annual limit
Diagnosis / emergency	3 months on sickness only		Once per year and only for medical purpose
Hygiene (cleaning and scaling)	3 months on sickness only		Once per year and only for medical purpose
Restorative (amalgam, inlay, onlay, composite resin)	3 months on sickness only		
Extraction	3 months on sickness only		
Radiology	3 months on sickness only		
Periodontal	3 months on sickness only		
Endodontic	3 months on sickness only		
Prosthetic	6 months on all claims	50% reduced benefit for the remainder of 1st policy year	• Implant/bridge: max 3 teeth per annum • Denture: max 1 claim per annum

Distribution, underwriting & pricing aspects unique to Dental insurance plans

The first insurers have relied on direct marketing channels to distribute Dental insurance plans. Due to the inherent risky nature of such products and relatively low average premium, the ability of the direct marketing channel to carefully select less risky customers (those who have lower chance of anti-selecting) using data mining techniques as well as its relatively lower operating/distribution costs have made direct marketing channel the natural choice of distribution.

However during 2011, companies have begun to allow selected agents to distribute Dental insurance plans. Given the well documented risks of agents approaching prospects which has a higher chance of anti-selecting against the insurer, insurers experimenting with the agency channel have chosen to "bundle" dental benefits as part of a basic life or accident plan rather than as a standalone benefit offered through a direct marketing channel.

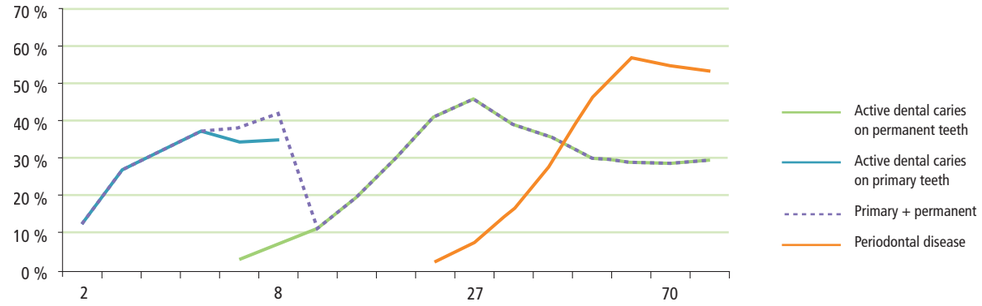
On the underwriting side, it is logical to assume that existing medical questionnaire used for life/medical insurance plans would not be suitable for dental products.

Special questions would have to be asked and these relate to the current condition, past teeth treatment history. In addition, question on existing dental insurance coverage is included. Some companies have adopted a simplified underwriting process asking fewer questions while others have adopted stricter guidelines. Unsurprisingly, there is a clear trade-off between volume of business accepted and strictness of underwriting. Our experience has shown that actual placement ratio can be less than 20% if strict guidelines are imposed. This is much lower than what is seen in other types of medical plans but it is understandable given that many of the dental benefits can be "elective" in nature.

There has been some recent discussion on whether a dentist opinion/examination would be a useful underwriting tool. However due to the high cost and the relatively low average premium, it may in practice be difficult to implement.

In the area of pricing, Dental insurance presents its own unique set of challenges. There is currently few reliable data on utilisation rate of dental services for pricing purposes. Nonetheless, original prevalence rate of dental conditions do exist and may be used as a basis to derive utilisation rates. Chart 4 shows the prevalence rate of active dental caries on primary/permanent teeth and periodontal disease by age in Korea.

Chart 4: Prevalence rates for active dental caries and periodontal disease



Source: 2010 Korean National Oral Health Survey

But before one could start to price a Dental insurance product, it is important to take note of the peculiar shape of the prevalence curve. Not only will it give the age denominated incidence rates a shape not commonly seen in other Health insurance products, but it makes it crucial for pricing Actuaries to fully understand the reasons behind the peculiar shape of the prevalence curve especially the "turning points/spikes" and to track possible changes over time.

SCOR has undertaken a great deal of research into this area and we will be pleased to share this with our co-operation partners who are keen to develop Dental insurance products.

Further development in the future

It is still early to discuss about overall claim experience as we only have 2 or 3 years of experience since the first product was launched. Moreover, due to the relatively long waiting period and benefit reduction period inherent in the product design, any early experience may not be credible.

However, there is already some early indication that claims from the most restorative treatment such as inlay, onlay, implant and bridge having the most impact on total claim experience and showing higher incidence than original pricing expectation. Other benefit groups are however experiencing lower incidence than expectation.

In the meantime while claims experience are still being gathered and monitored, the highly competitive Korean market has already seen insurers introducing richer benefit range not dissimilar to more developed markets in the West (see Appendix 3) and higher benefit amounts. Beyond targeting persons aged 15 or above, Juvenile Dental coverage is now being developed. Group dental plans are also in the pipeline.

Thankfully, while expansion plans are continuing, insurers are also looking at ways to further mitigate their risks. There are discussions on setting up Dental Networks like in the US which provide incentives to the insured to receive dental service from in-network providers which offers discount on services provided.

In addition, to combat possible over-insurance which is inherent in fixed defined benefit designs as in existing dental insurance plans, there are discussions on introducing reimbursement type of Dental insurance which aims to fill the gaps in the out of pocket expenses and at the same time limit over-insurance as insureds are not allowed to be reimbursed more than the actual cost of treatment.

Dental insurance plans are still considered as a niche product in Korea. Many insurers are still worried about the risks in such products. However, we believe that the risks can be managed successfully if the insurer works closely together with a reinsurance partner experienced in such products. Not only will the product create a good return for both the insurer and reinsurer, but it should at the same time meet a real insurance need.

Glossary

Amalgam	An alloy used in direct dental restorations. Typically composed of mercury, silver, tin and copper along with other metallic elements added to improve physical and mechanical properties.
Bridge (fixed partial denture)	A prosthetic replacement of one or more missing teeth cemented or otherwise attached to the abutment teeth or implant replacements.
Caries	Commonly used term for tooth decay.
Complete denture	A prosthetic for the edentulous maxillary or mandibular arch, replacing the full dentition. Usually includes six anterior teeth and eight posterior teeth.
Endodontics	Endodontics is the branch of dentistry which is concerned with the morphology, physiology and pathology of the human dental pulp and periradicular tissues. Its study and practice encompass the basic and clinical sciences including biology of the normal pulp, the etiology, diagnosis, prevention and treatment of diseases and injuries of the pulp and associated periradicular conditions.
Extraction	The process or act of removing a tooth or tooth parts.
Filling	A lay term used for the restoring of lost tooth structure by using materials such as metal, alloy, plastic or porcelain.
Fixed partial denture	A prosthetic replacement of one or more missing teeth cemented or otherwise attached to the abutment teeth or implant replacements.
Glass ionomer	Polyelectrolyte cement in which the solid powder phase is a fluoride-containing aluminosilicate glass powder to be mixed with polymeric carboxylic acid. The cement can be used to restore teeth, fill pits and fissures, lute and line cavities. It is also known as glass polyalkenoate cement, ionic polymer cement, polyelectrolyte cement.
Implant	A device specially designed to be placed surgically within or on the mandibular or maxillary bone as a means of providing for dental replacement.
Inlay	An intracoronal dental restoration, made outside the oral cavity to conform to the prepared cavity, which restores some of the occlusal surface of a tooth, but does not restore any cusp tips. It is retained by luting cement.
Onlay	A dental restoration made outside the oral cavity that covers one or more cusp tips and adjoining occlusal surfaces, but not the entire external surface. It is retained by luting cement.
Othodontics and dentofacial orthopedics	The dental specialty that includes the diagnosis, prevention, interception, dentofacial and correction of malocclusion, as well as neuromuscular and skeletal abnormalities of the developing or mature orthopedics orofacial structures.
Panoramic radiograph	An extraoral projection whereby the entire mandible, maxilla, teeth and other nearby structures are portrayed on a single image, as if the jaws were flattened out.
Periodontal disease	Inflammatory process of the gingival tissues and/or periodontal membrane of the teeth, resulting in an abnormally deep gingival sulcus, possibly producing periodontal pockets and loss of supporting alveolar bone.
Prophylaxis	Removal of plaque, calculus and stains from the tooth structures. It is intended to control local irritational factors.

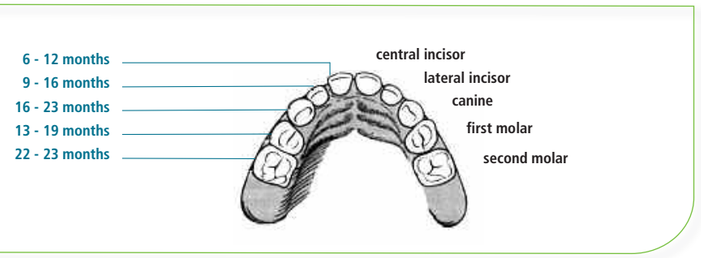
Prosthesis	Any device or appliance replacing one or more missing teeth and/or, if required, associated structures (this is a broad term which includes abutment crowns and abutment inlays/onlays, bridges, dentures, obturators, gingival prostheses).
Radiograph	An image or picture produced on a radiation sensitive film, phosphorous plate, emulsion or digital sensor by exposure to ionizing radiation.
Removable partial denture	A removable partial denture is a prosthetic replacement of one or more missing teeth that can be removed by the patient.
Resin, acrylic	Resinous material of the various esters of acrylic acid, used as a denture base material, for trays or for ther restorations.
Resin-based composite	A dental restorative material made up of disparate or separate parts (e.g. resin and quartz particles).
Root canal	The portion of the pulp cavity inside the root of a tooth; the chamber within the root of the tooth that contains the pulp.
Scaling	Removal of plaque, calculus, and stain from teeth (calculus: hard deposit of mineralized substance adhering to crowns and/or roots of teeth or prosthetic devices).
TMJ	TMJ dysfunction is a popular term to describe a disorder of the jaw joints or the muscles that control the joints.TMJ stands for Temporomandibular Joints. These are the two joints that connect your jaw to your skull.

Source: http://www.ada.org/glossaryforprofessionals.aspx#composite

[Appendix 1] Primary dentition and Permanent dentition

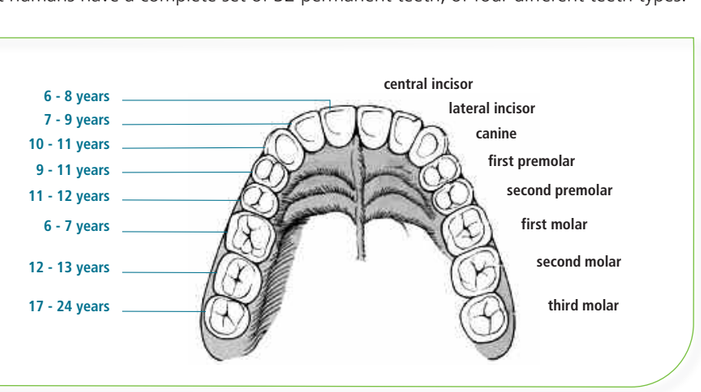
Primary dentition

The first baby teeth to erupt are usually the two lower front teeth. The order of primary teeth eruption (teething age) is as shown in the following baby teeth chart:



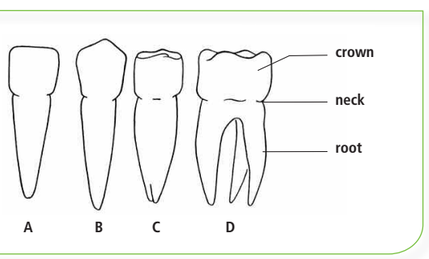
Permanent dentition

Adult humans have a complete set of 32 permanent teeth, of four different teeth types.



Sixteen permanent teeth at the top and sixteen at the bottom jaw:

- 8 incisors (A)
- 4 canines (B)
- 8 premolars (C)
- and 12 molars (D)



[Appendix 2] Product design used in the standard form in advanced market (US, UK and Germany)

Dental benefits are usually divided into three classes of benefit, by type of service:

Type 1: Diagnostic, preventive and accident/emergency service

- **Diagnostic procedure:** routine oral exams, x-rays, emergency treatment
- **Preventive procedure:** cleaning, fluoride, sealants, space maintainers

Type 2: Basic service

- **Fillings:** amalgam, composite resin
- **General anaesthesia:** limited at a dental-care provider's office when dentally necessary
- **Oral surgery:** simple and surgical extractions
- **Periodontal maintenance**

Type 3: Major service

- **Fillings:** inlay, onlay and crown
- **Endodontic treatment:** root canal treatment
- **Periodontics surgery**
- **Repair to prosthodontics**
- **Prosthodontics:** implants, dentures, partial and complete bridges

If there are any feedback/comments you wish to share with us or if you wish to know more of the products & distribution trends highlighted in this edition, please do not hesitate to contact the local SCOR Global Life offices listed below.

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