How will dentistry look in 2020?

Gilbert Achermann, Chairman
Capital Markets Day
Amsterdam, 16 May 2012

Methodology

To complement existing research, we conducted more than 40 interviews with KOLs and dental experts....

...benchmarked against other industries...

...and researched the fundamentals of the dental industry
Patient & oral health trends

- Dental health will improve
- No substitute for dental implants will emerge in the next 10 years
- The number of dental patients with co-morbidities will increase
- Patients will want more and better information on dental health & treatment options

Dental practice trends (1/2)

<table>
<thead>
<tr>
<th>Single-owner practices</th>
<th>Today</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>80-85%</td>
<td>~75%</td>
</tr>
<tr>
<td>USA</td>
<td>70%</td>
<td>50-60%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Female dentists</th>
<th>Today</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>40%</td>
<td>45-50%</td>
</tr>
<tr>
<td>USA</td>
<td>22%</td>
<td>~30%</td>
</tr>
</tbody>
</table>

- Group practices (including dental chains) will increase while single-owner practices decline
- More women are entering dentistry
- Women graduates less likely to specialize further in surgery
- A growing proportion of female dentists will work part-time

Dental practice trends (2/2)

<table>
<thead>
<tr>
<th>Dentists by age (in %)¹</th>
<th>&lt;35</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>&gt;65</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>15</td>
<td>24</td>
<td>33</td>
<td>23</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>US</td>
<td>14</td>
<td>22</td>
<td>26</td>
<td>14</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

~25% of dentists today are aged 55–64 and are expected to retire by 2020

 Majority of young dentists replacing retiring dentists will be female

¹ 2010 data. DE projection refers to practitioners. US projection refers to professionally active dentists. This may explain the higher percentage of dentists >65 in the US

Source: Bundeszahnärztekammer 2010; 2010 ADA Dental workforce model: 2008-2030

Dental professional trends

- Productivity will be higher, chair time will be shorter
- Implant procedures will be driven by prosthetics
- Investments in new technology will raise the barrier for opening new dental practices
- Implants are an increasingly attractive economic option for dentists
Dental lab & dental technician trends

- Reduction of independent labs; fewer dental technicians
- Many labs integrated in dental practices
- Dental technicians will be computer savvy
- Simple restorations will be generally produced chair-side
- Complex restorations will be milled centrally
- Monolithic restorations will be commonly used for crowns

Digital technology trends

- Digitalization will further change value chain & workflows for dentists and labs
- Dental and medical patient dossiers will be digital and integrated
- Digital scanning will provide a complete 3D-view of the oral situation
- Surgical and prosthetic design software will converge
Industry & economic trends

- Further industry consolidation expected
- Increased competition for talent
- Dental implant market growth correlates with consumer behaviour and macroeconomic environment
- Economic pressure in developed countries fosters ‘good-enough’ mentality among patients and dentists

General assumptions implant dentistry 2020

We assumed…

- Implant penetration will increase
- More GPs will restore and place implants in simple cases
- Implants will be in place for long periods; need for maintenance will increase
- Customized abutments will reach market share of ~30% by 2020

We did NOT assume…

- Implants will become the standard in restorative dentistry
- All GPs will place implants themselves
- High incidence of periimplantitis
- Customized abutments will fully replace standard abutments

Source: Straumann estimates
Implant market assumed to grow in high single digits

<table>
<thead>
<tr>
<th>Implant dentistry market value (in CHF bn)</th>
<th>2011</th>
<th>2020</th>
<th>CAGR 2011-20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>~3.5</td>
<td>6-8</td>
<td>6-10%</td>
</tr>
</tbody>
</table>

- Main threat to long-term market growth in implant dentistry is the possibility of another global recession between now and 2020 (lower range estimate).
- High single-digit growth of implant dentistry market is considered most likely.

Share of APAC & LATAM/ROW will increase significantly

The global dental implant market by region

<table>
<thead>
<tr>
<th>Region</th>
<th>2011</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATAM and ROW</td>
<td>5-10%</td>
<td>10-15%</td>
</tr>
<tr>
<td>APAC</td>
<td>~25%</td>
<td>~25%</td>
</tr>
<tr>
<td>North America</td>
<td>25-30%</td>
<td>25-30%</td>
</tr>
<tr>
<td>Europe</td>
<td>45-50%</td>
<td>35-40%</td>
</tr>
</tbody>
</table>

1 Includes implants, abutments, tools. These data only include inflation element. Source: MRG 2011, Straumann data.
2 Europe (DE, IT, ES, FR, SE, UK, CH, NL, BE, LU, CZ, RU, PO, RO, IL), NAM (US, CA), APAC (AU, JP, HK, CN, IN), ROW (BR)
3 Source: MRG 2010, Straumann data and estimates.
Strong growth in BRIC; US a significant driver

Dental implant market size (value)


Key drivers for implant volume growth

**ACCEPTANCE**
- What will the projected market growth imply for the implant penetration rate?
- Is there a natural ceiling for the implant penetration rate?

**AFFORDABILITY**
- Will patients have the money available for implant treatment?
- Will dentists shift to non-premium or will premium remain strong?

**ACCESS**
- Will patients have access to trained dentists for implant treatment?
- Will the productivity of trained dentists be sufficient?

1 Acceptance of implants by customers and patients
## US example: implant penetration rising to 25-30%

### Tooth loss and treatment courses (US)

<table>
<thead>
<tr>
<th>Adult population</th>
</tr>
</thead>
<tbody>
<tr>
<td>People affected by tooth loss: 45-55%</td>
</tr>
<tr>
<td>Annual tooth loss cases seeking treatment: 5-10%</td>
</tr>
<tr>
<td>People actually treated: 45-55%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Implant treatment</th>
<th>Conventional treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011: 15-20%</td>
<td>2011: 80-85%</td>
</tr>
<tr>
<td>2020: 25-30%</td>
<td>2020: 70-75%</td>
</tr>
</tbody>
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1. Straumann definition for dental implant penetration: Number of people treated with dental implants/number of people treated for tooth loss
2. Source: Straumann proprietary study based on ~5000 respondents conducted by AFG Research 2011; Straumann estimates

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## Implant penetration: long-term growth driver

- Implant penetration is a long-term growth driver
- Today, in most countries, the number of implants placed annually per 10K population is >50% lower than the average of the three highest-penetrated countries

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### Dental implants per 10,000 population in 2011

- **Top 3**
  - KR
  - IT
  - ES
- **Others**
  - CH
  - DE
  - SE
  - BR
  - FR
  - US
  - JP
  - UK
  - CN

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Source: Straumann estimates, MRG 2011.
Key drivers for implant volume growth

**AFFORDABILITY**
- Will patients have the money available for implant treatment?
- Will dentists shift to non-premium or will premium remain strong?

**ACCESS**
- Will patients have access to dentists trained in implant treatment?
- Will the productivity of trained dentists be sufficient?

**ACCEPTANCE**
- What will the projected market growth imply for the implant penetration rate?
- Is there a "natural ceiling" for the implant penetration rate?

US example: dentist population growing slower than implant market

Development of number of dental implants and dentists in the US 2010-2020

- 1-2 million dental implants
- 185,000 dentists
- CAGR 10-20%
- 2-4 million dental implants
- 195,000 dentists
- >8%

- Approx. 18-20% dentists in the US place implants
- 55-60 dental implants on average are placed per dentist per year
- Increase of treatment provider pool (GPs, females) and efficiency gains of the treatment workflow needed to drive penetration

Source: Straumann estimates; IHS Global Insight; American Dental Association, Health Policy Resources Center; 2010 ADA Dental Workforce Model 2008-2030

Estimate based on iData 2010
Treatment access crucial for growth in India & China

Implant penetration and dentist density\(^1\) 2011\(^2\) by country

- Number of implants per 10,000 population per year (2010)
- Dentists per 100,000 population (2007 or latest available data)

1. China, India dentist density represent estimates by STMN based on V2020 since not included in OECD
2. Implants: 2010 data; Dentists: 2007 or latest available data; Source: Health at a glance 2009, OECD indicators; Straumann estimates; IHS Global Insight

Efficiency and education

- In developed countries, efficiency must improve to cope with future patient flow (fewer technicians/dentists per patient)
- Simpler and more standardized treatment protocols will be important to reduce chair time and this in turn means that efficiency will increase
- Education remains key to support growth in emerging markets
Key drivers for implant volume growth

Acceptance
- What will the projected market growth imply for the implant penetration rate?
- Is there a natural ceiling for the implant penetration rate?

Affordability
- Will patients be able to pay for implant treatment?
- Will dentists shift to non-premium or will premium remain strong?

Access
- Will patients have access to trained dentists for implant treatment?
- Will productivity of trained dentists be sufficient?

‘Affordability’ in developed and emerging countries

- Change in public reimbursement for implant treatment is not foreseen
- Price difference between implant and conventional bridge solutions for single-tooth replacement remains relatively small in developed markets
- In emerging markets affordability is the key to unlocking full market potential; increasing wealth in emerging markets will strengthen premium segment over time
- Workflow efficiency gains should reduce overall treatment costs
Premium expected to be largest segment in 2020, despite slower growth than overall market

<table>
<thead>
<tr>
<th>Implant market segment</th>
<th>Premium</th>
<th>Value</th>
<th>Discount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence</td>
<td>Global</td>
<td>Regional, local</td>
<td>Local</td>
</tr>
<tr>
<td>Examples for countries with predominant segment today</td>
<td>US</td>
<td>Japan, Germany</td>
<td>Brazil, South Korea</td>
</tr>
<tr>
<td>Expected development 2020</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationale</td>
<td>Price discipline of players</td>
<td>Volume growth in BRIC</td>
<td>Volume growth in BRIC</td>
</tr>
<tr>
<td></td>
<td>Differentiation through innovation &amp; services</td>
<td>Price decline due to increased competition, challenges to differentiate</td>
<td>Prices stable since many players already struggle with profitability today</td>
</tr>
<tr>
<td>Segment ranking within total market¹</td>
<td>#1</td>
<td>#2</td>
<td>#3</td>
</tr>
</tbody>
</table>

¹ Based on segment size in value
² Some attempting to become global; Source: Straumann estimates

Key trends

**Patients**
- Better informed
- More co-morbidities
- Customer base more diverse
- More female dentists
- Shortage of dentists placing implants
- Prosthetics determine treatment

**Dental profession**
- Digitalization changing workflows + value chain
- Innovation expanding patient pool
- Growth driven by penetration + demographics
- Geographic shifts (emerging markets)
- Brand + differentiation essential in maturing markets
- Need for implant maintenance

**Technology**
- Continued weak economy in Europe
- US and emerging markets drive growth
- Increased competition for talent
The dental practice of the future – a glimpse