Report on institutional background and current situation of evidence based dentistry in each partner country:

1. Turkish Dental Association & Gazi University
   Taner Yücel, Nermin Yamalik & Cansu Alpaslan

2. Steinbeis Transfer Institut Biotechnology in Interdisciplinary Dentistry
   Slavicek Gregor

3. Katholieke Universiteit Leuven
   Naert Ignace & Katleen Vandamme

4. Helsingin Yliopisto
   Heikki Murtomaa & Jorma Virtanen
Current situation of evidence based dentistry

Turkish Dental Association
Gazi University

Taner Yücel
Nermin Yamalik
Cansu Alpaslan
11.12.2011

Report of Turkish Dental Association (TDA) regarding Evidence-Based Dentistry (EBD) Survey

E-vident kick-off meeting 17-18.November.2011, Ankara

Taner Yücel
Nermin Yamalik

Although EBD is widely promoted and supported, still it is not implemented into daily practice to the desired extent. To improve its acceptance by the dental practitioners it is important to understand the perceptions and attitudes of dental practitioners regarding EBD.

In order to analyze the current perceptions and attitudes of dental practitioners (members of TDA), regarding EBD, a short questionnaire was prepared. The questionnaire basically aimed at analyzing the familiarity of the dental practitioners with the concept of EBD and if and how they benefited from it. The survey was placed in the web-site of TDA (13. October.2011 - 2. November, 2011) and a total of 123 responses were received.

**Figure 1** demonstrates the practice modes of the participants. Most of the participants were private practitioners (94 %) and they were either having their own practices (75%) or were working in private hospitals (19%). This is in line with the general figures in Turkey as approximately 85% of dental services in the country are provided by private practitioners.

![Figure 1. Practice modes of the participants.](image-url)
Responses were received from a wide range of dentists starting from 1-5 years of practice to 31-44 years of practice. However, the majority were practicing dentistry for 11-15 years (Figure 2).

Figure 2. Distribution based on the years in practice

In a similar manner participants were from various different age groups, 35-40 years being the highest in number. Figure 3 presents the distribution based on age.

Figure 3. Distribution based on age
When the responses to the question ‘Are you familiar with the concept of evidence-based dentistry’ was concerned, it was noticed that the majority of the participants (61%) were in fact familiar with the concept of EBD. However, still a significant portion of the participants either did not have any idea of EBD or did not respond (39%).

![Figure 4. Familiarity of the participants with the concept of EBD](image)

When the participants were asked if they benefited from EBD for their treatments? responses the majority of the participants (64%) were felt that they benefited from EBD, while 25% did not benefit from EBD. A total of 36% did not respond in a positive manner.

![Figure 5. Familiarity of the participants with the concept of EBD](image)
The participants were also asked to share their additional and personal comments regarding the issue of EBD and its implementation into daily dental practice.

The individual comments of the participants included:

- I sometimes use my internet search, seminar-workshops and the research articles I read in the professional publications which I am subscribed in, by combining with my experiences in the clinical practice.
- I follow the trends by doing literature survey.
- I benefit from ebd in orthodontics practices.
- I have always benefited from ebd. Moreover when ada.org web page has started a section on ebd, I had wondered why tda web page lacked a similar one. Thank you.
- I try my best to follow and make use of new technologies and tools.
- I benefit from the written sources I have, internet facilities, I attend scientific meeting, congresses, I read scientific publications, I discuss with professors for the professional cases that I am confused with, the moments I doubt my own success, the cases that I find appropriate for my patient but have never applied before or I rarely apply.
- I benefit from congresses, scientific publications and academics.
- I try to apply the knowledge and the trends I learn in the seminar and congresses in my clinic.
- By showing the patient from internet, by showing the patient from previous models.
- I try to reach and read as many scientific research and experiment results, case reports as possible so that I can figure out if I will be able to apply the treatment or not.
- I certainly request required screenings and exams after the clinical informations and systematical amnesia which are essential for the diagnosis. I analyse (via essential researches) pluses and minus of the alternatives’ success rates, usages and expenses.
- I make use of refined treatment techniques, material and tools in all of my applications.
- I try to follow the literature. I benefit from ulakbim, tubitak web page.
- I apply the best ebd treatment option by reading the studies and metaanalysis.
- I plan and necessity of proper treatment.
- I apply the knowledge that I learned in the seminars and symposium on my patients.
- Inspecting international and local dental publications, attending seminars sponsored by dental industry
Although it is limited (few questions, limited number of participants, short duration), still this brief survey provides us with an understanding of the perceptions and attitudes of dentists regarding EBD. It is clear that much needs to be done to increase the awareness of dental practitioners in the field of EBD and for a more efficient implementation of EBD into daily dental practice. Many institutions (e.g. dental associations, dental faculties, dental industry, specialization organizations, etc..) all may play significant roles for this purpose.
Current situation of evidence based dentistry

Steinbeis Transfer Institut Biotechnology in Interdisciplinary Dentistry

Slavicek Gregor
Ferdinand von Steinbeis

- Technical Advisor (1848-1880) Königreich Württemberg (Stuttgart)
- Technology Transfer
- Founder of Schools for Industrial Workers
- Father of the Dual Education

Development of Steinbeis University

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>Gründung der Steinbeis-Stiftung als Stiftung bürgerlichen Rechts, Stiftungskapital: 34.768 EUR</td>
</tr>
<tr>
<td>1983</td>
<td>Überregional: Gründung von Steinbeis-Transferzentren in anderen Bundesländern, Statt: Bayern</td>
</tr>
<tr>
<td>1990</td>
<td>Einweiterung des Transferpotenzials durch Gründung von Steinbeis-Transferzentren an Universitäten in Baden-Württemberg</td>
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<td>1994</td>
<td>Erweiterung des Transferpotenzials durch Gründung von Steinbeis-Transferzentren an Universitäten in Baden-Württemberg</td>
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<td>1995</td>
<td>Gründer der Steinbeis GmbH &amp; Co. KG für Technologietransfer, Operative Einheit für die erweiterten wirtschaftlichen Aktivitäten</td>
</tr>
<tr>
<td>1998</td>
<td>Gründung der Steinbeis-Hochschule Berlin, Gründungspresident: Prof. Dr. Johann Löhn</td>
</tr>
</tbody>
</table>
Steinbeis Organisation and Structure

Steinbeis GmbH & Co. KG für Technologietransfer (STC)
Geschäftsführung

Steinbeis-Unternehmen (SU)

- Steinbeis-Transferzentren (STZ)
- Steinbeis-Forschungs- und Entwicklungszentren (SFZ)
- Steinbeis-Beratungszenren (SBZ)
- Steinbeis-Transfer-Institute (STI) der Steinbeis-Hochschule Berlin - SHB
- Steinbeis-Beteiligungen (SBT)

496 STZ
42 SFZ
58 SBZ
102 STI
46 SBT

Weitere den Transfer unterstützende zentrale Instrumente:
- Steinbeis-Immobilien (SMI)
- Steinbeis-Edition (STE)
- Ferdinand-Steinbeis-Institut (FSTI)

Steinbeis Worldwide

Kooperations / Projektpartner
Australien
Belgien
Brasilien
Bulgarien
Burundi
China
Dänemark
Deutschland
Estland
Frankreich
Georgien
Großbritannien
Indien
Irland
Israel
Italien
Japan
Kanada
Lettland
Ukraine
Luxemburg
Marokko
Mexiko
Niederlande
Nordkorea
Norwegen
Österreich
Polen
Portugal
Rumänien
Russland
Schwedien
Schweiz
Serbien
Singapur
Slovenien
Spanien
Südkorea
Taiwan
Thailand
Tschechien
Türkei
Ukraine
USA
Vereinigte Arab. Emirate
Zypern

Steinbeis-Unternehmen
Brasilien
Bulgarien
China
Dänemark
Deutschland
Iran
Japan
Moldawien
Österreich
Polen
Rumänien
Russland
Schweiz
Türkei
Ungarn
USA

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Evidence Based Dentistry in Germany

- **Academic**: communication, used for supporting own point of view
- **Government / Social Insurance**: decision making
- **Dentists / Dental Associations**: general directives, only limited use in daily decision making processes
- **Dental Technicians**: - (no access, no information, lack of knowledge)
- **Industry**: - - - (setting their own standards, no interest)
German Cochrane Centre

Das Deutsche Cochrane Zentrum

Zugang zur Cochrane Library

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Prof. Dr. Gregor Slavicek, MD, DDS, MSc

Arbeitsgemeinschaft Wissenschaftliche Medizinische Fachgesellschaft AWMF (1962)

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Prof. Dr. Gregor Slavicek, MD, DDS, MSc
Guidelines DELBI (2005)

Leitlinien, die mit dem Suchbegriff verschlagwortet sind (18)

- Infektiöse Mundschleimhauterkrankungen
  herausgegeben von der DGMKG; Status: Achtung! Das Gültigkeitsdatum dieser Leitlinie ist laut Dokument abgelaufen. Laut AWMF gültig bis 01.02.2013.
  Veröffentlicht: März 1997

- Odontogene Infektionen und Abszesse
  herausgegeben von der DGMKG; Status: Achtung! Das Gültigkeitsdatum dieser Leitlinie ist laut Dokument abgelaufen. Laut AWMF gültig bis 31.12.2011
  Veröffentlicht: März 1997

- Operative Entfernung von Weisheitszähnen
  herausgegeben von der DGMKG; Status: Achtung! Das Gültigkeitsdatum dieser Leitlinie ist überschritten. Leitlinie befindet sich in Überarbeitung.
  Veröffentlicht: November 2005

- Operative Entfernung von Weisheitszähnen
  herausgegeben von der DGMKG; Status: Achtung! Das Gültigkeitsdatum dieser Leitlinie ist überschritten.
  Veröffentlicht: November 2005

Leitlinien-Thema: Zahnkrankheiten; Fachgebiet: Mund-Kiefer-Gesichtschirurgie, Zahnmedizin

- Implantat-Versorgung zur oralen Rehabilitation im Zusammenhang mit Kopf-Hals-Bestrahlung
  herausgegeben von der DGZMK; Status: überarbeitete Version
  Veröffentlicht: Oktober 2005

Leitlinien-Thema: Zahnkrankheiten; Fachgebiet: Zahnmedizin, Kinder- und Jugendmedizin

- Infektiöse Mundschleimhauterkrankungen
  Veröffentlicht: Januar 2003

Leitlinien-Thema: Zahnkrankheiten; Fachgebiet: Hals-, Nasen-, Ohrenheilkunde (HNO), Mund-Kiefer-Gesichtschirurgie, Radioonkologie, Zahnmedizin

- Odontogene Infektionen und Abszesse
  herausgegeben von der DGMKG; Status: Achtung! Das Gültigkeitsdatum dieser Leitlinie ist laut Dokument abgelaufen. Laut AWMF gültig bis 31.12.2011
  Veröffentlicht: November 2005

Leitlinien-Thema: Zahnkrankheiten; Fachgebiet: Mund-Kiefer-Gesichtschirurgie

- Operative Entfernung von Weisheitszähnen
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  Veröffentlicht: Oktober 2005

Leitlinien-Thema: Zahnkrankheiten; Fachgebiet: Mund-Kiefer-Gesichtschirurgie
DGZMK

Guideline PDF File
EBD in Germany
EBD in Germany

- Guidelines
- Cochrane Reviews
- General Information to a known problem

- **What is missing:**
- **Tools to use EBD**
  - Within the daily work
  - To be applied for individual patients and problems
  - Clear statements on EBD solutions
  - Clear statements in case no EBD solutions are available

---

Interdisciplinary Dentistry

Research Questions

- What is the proportion of IDD in daily work?
- What are the aims of IDD?
- What are frequently recognized drawbacks in IDD?
- How frequent are disciplines collaborating?
- How dentists perceive IDD?
Demographical Analysis

Age Distribution Male and Female

Demographical Analysis

Distribution Nationality

Occupation

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Prof. Dr. Gregor Slavicek, MD, DDS, MSc
Work Experience

Research Questions

- What is the proportion of IDD in daily work?
- What are the aims of IDD?
- What are frequently recognized drawbacks in IDD?
- How frequent are disciplines collaborating?
- How dentists perceive IDD?
Actual vs. Wanted Level of IDD

Work Experience vs. Wanted Level of IDD

Actual Level of IDD vs. Age
Research Questions

- What is the proportion of IDD in daily work?
- What are the purposes (aims) of IDD?
- What are frequently recognized drawbacks in IDD?
- How frequent are disciplines collaborating?
- How dentists perceive IDD?

- Expanding the own discipline
- Creating a new discipline
- Modification the own conceptual frame
- Modification of other disciplines
- Interdisciplinarity is trendy
- Overlapping disciplines are required
- Solving unsolved problems
- Interdisciplinarity is case based
- Changing my own perspective
- Developing links to other disciplines
Research Questions

- What is the proportion of IDD in daily work?
- What are the purposes (aims) of IDD?
- **What are frequently recognized drawbacks in IDD?**
- How frequent are disciplines collaborating?
- How dentists perceive IDD?
Costs and Recourses
Compliance with the Treatment Plan
Team Composition
Rejection from Patients
Timing and Scheduling

Geographic Problem
Team Conflicts
Imbalance between Workload and Fees
Personal Effort
Difficult and Unclear Communication

Difficult and unclear communication (55.3%)
Conflicts within the team (53.0%)
Difficult timing and scheduling (47.7%)
Increased Costs and Recources (47.0%)
Modification of the own conceptual framework (43.2%)
Imbalance between workload and fees (38.6%)
Rejection of ID from the patient (37.1%)
Geographic problem (35.6%)
Compliance with the treatment plan (39.5%)
Personal effort (21.2%)
Research Questions

- What is the proportion of IDD in daily work?
- What are the purposes (aims) of IDD?
- What are frequently recognized drawbacks in IDD?
- How frequent are disciplines collaborating?
- How dentists perceive IDD?

Distance between involved Disciplines?

Discrimination based on constitutional pattern of disciplines

Close

- Prosthodontics
- Restorative D.
- Orthodontics
- Endodontics
- Periodontics
- Implantology
- Oral Surgery
- CMD Specialist

Intermediate

- Dental Technician
- Speech Therapist
- Max.Fac.Surgery
- Physiotherapist
- Orthopedic
- ENT
- Esthetic Surgery
- Radiology

Remote

- Internal Medicine
- Pediatric
- Gynecology & Obstetrics
- Psychiatry
- Psychology
- Oncology
- Gerontology
- Microbiology
- Dermatology
- Allergology
- Genetics

n= 8

n= 8

n= 11
Collaboration with the specified disciplines (range from 0 to 8; 11)
Research Questions

- What is the proportion of IDD in daily work?
- What are the purposes (aims) of IDD?
- What are frequently recognized drawbacks in IDD?
- How frequent are disciplines collaborating?
- How dentists perceive IDD?

3 Questions

ID based on Cooperation
ID based on Mixed Disciplines
ID based Strong Disciplines

Score 0 = disagree
Score 3 = agree
Score 5 = strongly agree

-3.47 (95% CI -7.102 – .498) p = .729
-t = -1.146 (95% CI -1.019 – .156) p = .148
-t = -1.169 (95% CI -1.168 – .927) p = .094

ns

ns

ns
IDD = Overlapping Disciplines?
IDD = Interdisciplinary Space?
(IDD = a-disciplinary?)
IDD = task oriented ID Team?
Conclusion

Proportion of IDD in daily work?
- IDD actual 45%  wanted 72%
- Work experience is -ve correlated to Wanted Level of IDD

What are the purposes (aims) of IDD?
- Linking disciplines
- Solving unsolved problem
- Expanding own discipline
Conclusion

Proportion of IDD in daily work?
- IDD actual 45% → wanted 72%
- Work experience is -ve correlated to Wanted Level of IDD

What are the purposes (aims) of IDD?
- Linking disciplines
- Solving unsolved problem
- Expanding own discipline

What are frequently recognized drawbacks in IDD?
- Team: communication, conflict, scheduling
- Financial: personal effort, fee, costs and resources

How frequent are disciplines collaborating?
- IDD happens within close related disciplines
Conclusion

Proportion of IDD in daily work?
- IDD actual 45% wanted 72%
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- Linking disciplines
- Solving unsolved problem
- Expanding own discipline

What are frequently recognized drawbacks in IDD?
- Team: communication, conflict, scheduling
- Financial: personal effort, fee, costs and resources

How frequent are disciplines collaborating?
- IDD happens within close related disciplines

How dentists perceive IDD?
- Definitions of IDD are unclear and inconsistent
Current situation of evidence based dentistry

Katholieke Universiteit Leuven - Belgium

Naert Ignace
Katleen Vandamme
K.U.Leuven
Prof. Mark Waer
Rector K.U.Leuven
Leuven

In 2011, the population of Leuven, the capital of the province of Flemish Brabant, was 97,291.

The city covers an area of 5,751.25 ha and is only a stone’s throw away from Brussels.

This ancient university town combines rich historical and cultural heritage with a joyful, exuberant city atmosphere and unstoppable creative energy. Leuven is not only age-old, it is alive and kicking!
History

1425
Foundation by Papal Bull

1797
Abolition by the French authorities

1816
Refoundation as a state university under Dutch rule

1834
Restoration as a Catholic university

1911
First lectures in Dutch

1965
Foundation of Kulak

1970
Division of the university into K.U.Leuven and U.C.Louvain

2011
Welcome to K.U.Leuven, a ‘community’ of 54,803 people
Mission

Excellence in academic education

Excellence in research

Relevant contributions and service to society
# K.U.Leuven Organisational Chart

3 groups, 15 faculties
Including the Bachelor's Campus in Kortrijk

<table>
<thead>
<tr>
<th>Board of Trustees</th>
<th>Board of Governors</th>
<th>Academic Council</th>
<th>Executive Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities and Social Sciences</td>
<td>Biomedical Sciences Group</td>
<td>Science, Engineering and Technology Group</td>
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<tr>
<td>20,767 students</td>
<td>9,632 students</td>
<td>8,354 students</td>
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</tr>
<tr>
<td>2,633 international</td>
<td>1,117 international</td>
<td>1,817 international</td>
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3 scientific groups: 3 vice-rectors
4 cross-group authorities: 4 vice-rectors: Education, Research, Student Affairs, International Policy
1 vice-rector K.U.Leuven Kulak

Figures: February 2011
# Humanities and Social Sciences Group

## Faculties (Education and Research)

- Institute of Philosophy
- Theology
- Canon Law
- Law
- Business and Economics
- Social Sciences
- Arts
- Psychology and Educational Sciences

## Doctoral School Humanities and Social Sciences

- Leuven Centre for Global Governance Studies
- Centre for Premodern Intellectual History (LECTIO)
- Leuven Centre for Irish Studies
- KADOC - Documentation and Research Centre for Religion, Culture and Society
Biomedical Sciences Group

<table>
<thead>
<tr>
<th>Faculties</th>
<th>Research Departments</th>
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</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>Department of Cardiovascular Sciences</td>
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<tr>
<td>Pharmaceutical Sciences</td>
<td>Department of Oral Health Sciences</td>
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<tr>
<td>Kinesiology and Rehabilitation Sciences</td>
<td>Department of Pharmaceutical &amp; Pharmacological Sciences</td>
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<tr>
<td></td>
<td>Department of Human Genetics</td>
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<td></td>
<td>Department of Imaging &amp; Pathology</td>
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<td></td>
<td>Department of Kinesiology</td>
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<td>Department of Microbiology &amp; Immunology</td>
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<td>Leuven International Doctoral School Biomedical Sciences</td>
<td>Department of Cellular and Molecular Medicine</td>
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<td></td>
<td>Department of Neurosciences</td>
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<td>Department of Oncology</td>
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<td>Department of Clinical and Experimental Medicine</td>
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<td>Department of Rehabilitation Sciences</td>
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<tr>
<td></td>
<td>Department of Reproduction, Development &amp; Regeneration</td>
</tr>
<tr>
<td></td>
<td>Department of Public Health</td>
</tr>
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</table>

Flemish Hospital Network

- 19 Flemish regional hospitals
- 37% of Flemish hospital beds
- Both public and private hospitals

January 2012
# Science, Engineering and Technology Group

<table>
<thead>
<tr>
<th>Faculties</th>
<th>Research Departments</th>
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<tbody>
<tr>
<td>Science</td>
<td>Department of Architecture, Urban Design and Regional Planning</td>
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<tr>
<td>Engineering</td>
<td>Biology Department</td>
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<tr>
<td>Bioscience Engineering</td>
<td>Department of Biosystems (BIOSYST)</td>
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<tr>
<td>Faculty of Engineering Technology</td>
<td>Departement of Civil Engineering</td>
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<tr>
<td></td>
<td>Department of Chemistry</td>
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<td></td>
<td>Department of Chemical Engineering</td>
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<td>Department of Computer Science</td>
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<tr>
<td></td>
<td>Department of Earth and Environmental Sciences</td>
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<tr>
<td></td>
<td>Department of Electrical Engineering (ESAT)</td>
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<tr>
<td></td>
<td>Department Metallurgy and Materials Engineering (MTM)</td>
</tr>
<tr>
<td></td>
<td>Department of Microbial and Molecular Systems (M²S)</td>
</tr>
<tr>
<td></td>
<td>Department of Physics and Astronomy</td>
</tr>
<tr>
<td></td>
<td>Department of Mechanical Engineering</td>
</tr>
<tr>
<td></td>
<td>Department of Mathematics</td>
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</table>
Programmes

- 55 Bachelor’s programmes
- 132 Master’s programmes
- 53 advanced Master’s programmes

<table>
<thead>
<tr>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distinctive vision of education and learning</td>
</tr>
<tr>
<td>Culture of quality</td>
</tr>
<tr>
<td>Innovative learning environment</td>
</tr>
<tr>
<td>Flexibilisation</td>
</tr>
<tr>
<td>Internationalisation</td>
</tr>
<tr>
<td>Extensive range of education facilities</td>
</tr>
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</table>

Figures: 2011-2012 academic year
## International programmes

<table>
<thead>
<tr>
<th>Specification</th>
<th>Count</th>
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</thead>
<tbody>
<tr>
<td>Over 2000 courses taught in English</td>
<td></td>
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<tr>
<td>47 Master’s programmes and 31 advanced Master’s programmes completely in English</td>
<td></td>
</tr>
<tr>
<td>2 Bachelor’s programmes completely in English</td>
<td></td>
</tr>
<tr>
<td>1 Master’s programme in French, 1 advanced Master’s programme in Spanish</td>
<td></td>
</tr>
<tr>
<td>7 Erasmus Mundus programmes</td>
<td></td>
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<tr>
<td>ECTS label: transparent credits (European Credit Transfer System)</td>
<td></td>
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<tr>
<td>37 co-operative programmes:</td>
<td></td>
</tr>
<tr>
<td>• 9 joint degree programmes</td>
<td></td>
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<tr>
<td>• 17 double degree programmes</td>
<td></td>
</tr>
<tr>
<td>• 11 programmes organised with international partners</td>
<td></td>
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Figures: 2011-2012 academic year
Research: European excellence

Prominent research university in European context

6th place in the HES ranking #FP7 contracts (2007–Oct 2010)

University of Cambridge
Imperial College London
University of Oxford
EPFL
ETH Zürich
K.U.Leuven
University College London
The University of Edinburgh
Danmarkss Tekniske Universitet
Karlsruhe Institut fuer Technologie

Number of FP7 contracts

K.U.Leuven (incl UZ)
IMEC
UGent (incl RAMIT)
Université Catholique de...
ULB
UA (incl UZ)
VIB
Vrije universiteit Brussel
Université de Liège
IBBT
VITO
Université de Mons
Université Namur
Urhasselt
Research: European excellence

**Total number of ERC grants**
(starting & advanced 2007–2010)

- Cambridge: 47
- Oxford: 43
- EPFL: 42
- Hebrew Jerusalem: 33
- ETH Zürich: 32
- Imperial College London: 27
- University College London: 26
- K.U.Leuven: 23 (incl. 6 VIB-K.U.Leuven)
- University Zürich: 18
- LMU München: 17
- Karolinska: 16
- University Helsinki: 16
- Universiteit Leiden: 14
- Bristol University: 14
- Vienna University: 13
- Vrije Universiteit Amsterdam: 13
- Radboud Nijmegen: 13
- University Utrecht: 13
- Universiteit van Amsterdam: 12
- Universiteit Gent: 12 (incl. 1 VIB-UGent)
- University of Geneva: 12

**ERC starting grants**

- Cambridge: 25
- Oxford: 22
- EPFL: 21
- Hebrew Jerusalem: 20
- Imperial College London: 13
- University College London: 13
- Universiteit Gent: 10 (incl. 1 VIB-K.U.Leuven)
- ETH Zürich: 9
- Edinburgh University: 9
Research: input

Research funding expenses 2010: € 347 million

<table>
<thead>
<tr>
<th>Internal funds</th>
<th>24.7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Research Fund (BOF)</td>
<td>22.6%</td>
</tr>
<tr>
<td>Industrial Research Fund (IOF)</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Leverage to:

<table>
<thead>
<tr>
<th>External funds</th>
<th>75.3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flemish Science Fund (FWO)</td>
<td>23.2%</td>
</tr>
<tr>
<td>Other government funds</td>
<td>14.9%</td>
</tr>
<tr>
<td>International/EU</td>
<td>6.8%</td>
</tr>
<tr>
<td>Flemish Science &amp; Innovation Fund (IWT)</td>
<td>8.6%</td>
</tr>
<tr>
<td>Industrial/private sector contracts</td>
<td>21.8%</td>
</tr>
</tbody>
</table>
Research: Staff

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>International Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professors</td>
<td>1,004 VTE</td>
<td>(12%)</td>
</tr>
<tr>
<td>Postdocs</td>
<td>1,052 VTE</td>
<td>(36%)</td>
</tr>
<tr>
<td>Doctoral students</td>
<td>4,381</td>
<td>(38%)</td>
</tr>
</tbody>
</table>

Doctorates obtained: annually ~585
Student Numbers

Total number of students: 38,640

- Bachelor: 49.8%
- Initial Master: 30.2%
- Adv. Master: 4.2%
- Doctoral Programmes: 11.3%
- Academic Teacher Training: 1.7%
- Other: 2.8%

Largest student populations:
- Medicine: 6,928
- Business & Economics: 4,643
- Arts: 4,373
- Engineering: 4,369
- Law: 4,274

15% first-time students: 5,819
55% female students

Figures: February 2011
International Students

K.U.Leuven = more than 140 nationalities

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,530 international students</td>
<td></td>
</tr>
<tr>
<td>14.3% international students</td>
<td></td>
</tr>
<tr>
<td>36.7% advanced Master’s and doctoral students</td>
<td></td>
</tr>
<tr>
<td>2,748 EU students</td>
<td></td>
</tr>
<tr>
<td>the Netherlands</td>
<td>1,198</td>
</tr>
<tr>
<td>Italy</td>
<td>265</td>
</tr>
<tr>
<td>Spain</td>
<td>208</td>
</tr>
<tr>
<td>Germany</td>
<td>184</td>
</tr>
<tr>
<td>Poland</td>
<td>130</td>
</tr>
<tr>
<td>2,782 Non EU students</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>456</td>
</tr>
<tr>
<td>India</td>
<td>278</td>
</tr>
<tr>
<td>United States</td>
<td>209</td>
</tr>
<tr>
<td>Iran</td>
<td>133</td>
</tr>
<tr>
<td>Turkey</td>
<td>109</td>
</tr>
<tr>
<td>Vietnam</td>
<td>107</td>
</tr>
</tbody>
</table>

Figures: 1 February 2011
One of the largest employers in the region

<table>
<thead>
<tr>
<th>Members of staff</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18,635</td>
<td>University Hospitals</td>
</tr>
<tr>
<td>9,971</td>
<td>University</td>
</tr>
<tr>
<td>8,664</td>
<td>University Hospitals</td>
</tr>
</tbody>
</table>

**University**

<table>
<thead>
<tr>
<th>Staff Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Academic Staff</td>
<td>1,473</td>
</tr>
<tr>
<td>Junior Academic Staff</td>
<td>4,546</td>
</tr>
<tr>
<td>Other Scientific Staff</td>
<td>798</td>
</tr>
<tr>
<td>Administrative and Technical Staff</td>
<td>3,154</td>
</tr>
</tbody>
</table>

Figures: December 2010
UZ Leuven

Leuven University Hospitals
- Acute hospital: Gasthuisberg Campus
- Chronic care + rehabilitation: Pellenberg Campus

Core Figures 2010
- Turnover: €850 million
- Beds: 1,955
- Staff members (FTE): 6,152
  - Permanent medical staff: 484
  - Trainee specialists: 568
  - Paramedic staff + support staff: 5,100
- Nursing days: 533,042
- Hospitalised patients: 64,287
- Consultations: 635,513
- Daycentre: 111,854
- Surgical interventions: 46,407
- Emergencies: 54,191
- Transplants: 288
- Number of visitors: > 2,400,000
Lifelong Learning Programme - Leonardo da Vinci

e-viDENT

Kick-off meeting  17-18 Nov 2011

Naert Ignace & Vandamme Katleen
K.U.Leuven - Department of Oral Health Sciences - Prosthetic Dentistry Unit
1. Obstacles in evidence-based dentistry in BE

2. Current situation of implementation of evidence-based medicine/dentistry in BE
Obstacles to Implementing Evidence-Based Dentistry: A Focus Group-Based Study

Karin Hannes, M.Sc.; David Norré, M.D.; Jo Goedhuys, Ph.D.; Ignace Naert, M.D., Ph.D.; Bert Aertgeerts, M.D., Ph.D.

Abstract: In many countries, questions have been raised about the use of evidence-based practice (EBP) in oral health care. The call for an increase in EBP seems to face many obstacles. Only limited empirical studies address these obstacles. We present a qualitative study that explores the obstacles that Flemish (Belgian, Dutch-speaking) dentists experience in the implementation of EBP in routine clinical work. We collected data from discussions in focus groups. Seventy-nine dentists participated. The data were analyzed using constant comparative analysis. Three major categories of obstacles were identified. These categories relate to obstacles in 1) evidence, 2) partners in health care (medical doctors, patients, and government), and 3) the field of dentistry. Our findings suggest that educators should provide communication skills to aid decision making, address the technical dimensions of dentistry, promote lifelong learning, and close the gap between academics and general practitioners (dentists) in order to create mutual understanding. The obstacles identified are considered useful to support future quantitative research that can be generalized to a broader group.
Qualitative study conducted in 2004-05

6 focus groups in the Dutch-speaking part of BE (Flanders)
  - group 1: academics (n=6)
  - group 2 to 6: dentists (n=73)

2 major topics were discussed:
  1) applicability of EBD
  2) specific barriers to implement EBD
Obstacles related to Evidence

Table 2. Obstacles to EBD related to evidence

- Difficulties to keep up-to-date due to fast-changing insights in the field of dentistry
- Lack of up-to-date evidence for many devices and products
- Lack of clear outcome measures to evaluate practice
- Complexity of the dental field regarding treatment choices
- Time delay between scientific knowledge and application in practice
- Lack of information on negative effects
- Difficulties in interpreting research results due to academic language
- Contradictory, subjective information in scientific literature
- Lack of familiarity with information retrieval technology
- Lack of clear answers to clinical questions
- Very expensive, specialized, academic journals
Obstacles related to Partners in Health care

1. Government
2. Commercial companies
3. Patients

Table 3. Government factors related to health care that can be counterproductive for EBD

- Current nomenclature and reimbursement systems are outdated
- Evidence-based practice is not financially awarded
- Patients prefer treatments that are reimbursed above evidence-based treatments
- Strong focus on cost-efficiency
- Strong focus on cure, less on prevention
- Little impact of dental professional organizations on a political level
- Professional organizations focus on economic instead of educational topics
Obstacles related to Partners in Health care

1. Government
2. Commercial companies
3. Patients

Table 4. Commercial factors related to health care that can be counterproductive for EBD

- Companies sponsor academic projects
- No research budgets from independent sources
- Potentially subjective research results are presented
- Economic attitude of investigators
- Influence of sales representatives
- No accuracy check on medical information from firms
- Managers start taking over dental practices
Obstacles related to Partners in Health care

1. Government
2. Commercial companies
3. Patients

Table 5. Patient-specific factors related to health care that can be counterproductive for EBD

- Patients become more emancipated
- Objectivity of information presented by popular media is doubtful
- Media raises high expectations of treatments
- Little or no accurate information on preventive actions
- Compliance with recommendations is low
- Patients are not sensible to worsening condition of their teeth
- High expectations concerning the availability of dentists
- Unique features of patients hard to standardize
Obstacles related to the Field of Dentistry

<table>
<thead>
<tr>
<th>Table 6. Factors related to the field of dentistry that can be obstacles for EBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Concept of EBD is new to many</td>
</tr>
<tr>
<td>• Gap between younger and older dentists in EBD-related knowledge and skills</td>
</tr>
<tr>
<td>• Perception of EBD as serving a select public of dentists (academics)</td>
</tr>
<tr>
<td>• No time or finances to experiment with new evidence-based devices</td>
</tr>
<tr>
<td>• No information exchange between practitioners and academics</td>
</tr>
<tr>
<td>• Patient satisfaction used as main criterion to justify actions</td>
</tr>
<tr>
<td>• Skills strongly influence outcomes with patients, not evidence</td>
</tr>
<tr>
<td>• Rely on expert advice for problems</td>
</tr>
<tr>
<td>• Lack of quality labels to distinguish EB products from other</td>
</tr>
<tr>
<td>• Dental courses not up-to-date with evidence</td>
</tr>
<tr>
<td>• Heavy workload in dentistry</td>
</tr>
</tbody>
</table>
What have we learned?

Obstacles were more strongly expressed by general dentists, including the lack of communication on EBD, the lack of time to invest in EBD, the complexity of dental care, and criticism on the rigidity of EBD and scientific studies.

today’s educators’ challenge is to improve outcomes where it matters the most: at the point of care. Educators have to become aware of dental actions that are desirable from an evidence-based perspective as well as feasible in practice.
1. Obstacles in evidence-based dentistry in BE

2. Current situation of implementation of evidence-based practice in BE
e-viDENT

Current situation of evidence-based practice in BE

cebam: centre for evidence based medicine

BELGIAN UNIVERSITIES

BELGIAN HEALTH CARE PROVIDERS

evidence based medicine (EBM) promotion & implementation

quality of care
e-viDENT

Current situation of evidence-based practice in BE
Current situation of evidence-based practice in BE
Quaternary sources

Tertiary sources

Secondary sources

Primary sources
The Finnish e-xperience

Ilkka Kunnamo, MD, PhD
Editor-in-Chief, EBM Guidelines & EBMeDS
Duodecim Medical Publications Ltd.

Adjunct Professor of General Practice, University of Helsinki

Leuven
June 16, 2011
Collaboration Finland/Belgium

- Continuous discussions between editorial teams
- Feedback from editors and users from both countries compared and acted upon
- Development of clinical terminologies and indexing tools
- Platform for developing national or local decision support rules
- Collaborative development of drug databases
- Development of translation tools
e-future?

- EBM-platform-decision support (E-Health)
- Education via undergraduate students and online post-graduates
- Credits for use?
Current situation of evidence based dentistry

Helsingin Yliopisto - Finland

Heikki Murtoamaa
Jorma Virtanen
Institute of Dentistry
Faculty of Medicine
University of Helsinki

Heikki Murtomaa and Jorma Virtanen
e-viDENT Kick-off meeting 17.-18.11.2011
University of Helsinki Faculty of Medicine

- The Royal Academy of Turku (later: University of Helsinki) was founded in 1640

- Moved to Helsinki in 1827: "The Imperial Alexander University" started next year 1828

- Faculty of Medicine was also founded in 1640 (together with faculties of Theology, Law and Philosophy)
Helsinki University Central Hospital and Biomedicum Helsinki
University of Helsinki
Faculty of Medicine

- Institute of Biomedicine
- Institute of Dentistry
- Hjelt-Institute
- Institute of Clinical Medicine
- Haartman Institute
- Research Programs Unit
University of Helsinki and Helsinki University Central Hospital

Biomedicum

Main library of the Faculty of Medicine

Ruskeasuo Campus

Surgical Hospital

Töölö Hospital

Meilahti campus

Children’s Hospital
### Students

<table>
<thead>
<tr>
<th></th>
<th>Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>820</td>
</tr>
<tr>
<td>Dentistry</td>
<td>275</td>
</tr>
<tr>
<td>Doctoral</td>
<td>840</td>
</tr>
</tbody>
</table>

**Swedish-speaking Finnish program (5%)**
- University of Helsinki only
- Annual intake about 25 new medical and 8 dental students

**Research training program**
- Simultaneous undergraduate and doctoral education
- Annually 2-5 students
## Faculty of Medicine Staff

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and teaching</td>
<td>590</td>
</tr>
<tr>
<td>Administrative</td>
<td>110</td>
</tr>
<tr>
<td>Other</td>
<td>220</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>920</td>
</tr>
</tbody>
</table>

**Staff 2010 (person years)**
# Faculty of Medicine degrees in 2010

<table>
<thead>
<tr>
<th>Degree Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licentiate of Medicine</td>
<td>141</td>
</tr>
<tr>
<td><strong>Licentiate of Dentistry</strong></td>
<td>33</td>
</tr>
<tr>
<td>Doctoral degrees</td>
<td>109</td>
</tr>
<tr>
<td>Specialist degree in medicine</td>
<td>193</td>
</tr>
<tr>
<td><strong>Specialist degree in dentistry</strong></td>
<td>6</td>
</tr>
<tr>
<td>Specific training in general medical practice</td>
<td>130</td>
</tr>
<tr>
<td>Supplemental training program</td>
<td>18</td>
</tr>
</tbody>
</table>
Dental / oral research at the University of Helsinki

The research topics range from epidemiological and public health issues to basic, applied and clinical research on oral and dental diseases.
Dental / oral research at the University of Helsinki

- The scientific research programmes of the Institute of Dentistry consist of clinical and basic research.

- One of the main goals of research activities is to promote clinical research using methods of molecular biology and biotechnology.

- The Institute has excellent research laboratory facilities at the Biomedicum Helsinki building, where the majority of laboratory analyses are being made.

- Clinical research is mainly conducted at the Surgical Hospital.

- The Institute has a large network of research partners both in Finland and abroad.
Dental / oral research at the University of Helsinki

- A total of 112 original publications were issued in 2010, of these, 62 articles were published in international scientific publication series.

- A total of 112 original publications were issued in 2009, of these, 86 articles were published in international scientific publication series.

- A total of 141 original publications were issued in 2008, of these, 103 articles were published in international scientific publication series.
### Numbers of PhD dissertations in Dentistry years 1997-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>7</td>
</tr>
<tr>
<td>1998</td>
<td>7</td>
</tr>
<tr>
<td>1999</td>
<td>5</td>
</tr>
<tr>
<td>2000</td>
<td>10</td>
</tr>
<tr>
<td>2001</td>
<td>6</td>
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<td>2002</td>
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<td>2003</td>
<td>8</td>
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<td>2004</td>
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<td>2005</td>
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<td>2006</td>
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</tr>
<tr>
<td>2007</td>
<td>4</td>
</tr>
<tr>
<td>2008</td>
<td>7</td>
</tr>
<tr>
<td>2009</td>
<td>8</td>
</tr>
<tr>
<td>2010</td>
<td>10</td>
</tr>
</tbody>
</table>
Institute of Dentistry Simulation Laboratory
City University Dental Clinic

- Only citizens of Helsinki are entitled to be treated at the City University Clinic
- The population base is >500,000 inhabitants
- All patient records are digitalized in the Health Department database
- The treatment principle is holistic oral health care with possibilities for specialist consultation when needed
- Clinical teachers employed by the City, University lecturers by University with extra City salary
- The City gets State subsidization for taking care of the facilities and proving patients for dental education
Helsinki City Health Department
University Dental Clinic

60 dental units for student training.
Dental specialist education at the Surgical hospital

Operative treatment room for oral surgery and for dental treatment under general anaesthesia
Curriculum
Public Health Discipline

- Epidemiology and biostatistics (2. year)
  - Basics in Public Health
  - Introduction to EBM
  - Medical and dental students

- Scientific reading (3.-4. year)
  - Medical and dental students
National Institutions and Associations working with Evidence-based Medicine and Dentistry
National Institute for Health and Welfare

- Research and Development Institute under the Ministry of Health and Social Welfare
- Finnish Office for Health Technology Assessment (Finohta)

- Finohta: Health technology assessment promotes the use of good, evidence-based technologies in health care
Criteria for Finohta's support for assessment projects:

- the importance of the technology in terms of public health and the national economy
- the technology's researchability
- the credibility of the study arrangement
- the quality of study design
- the adaptability of the results to clinical practice
- how rapidly the results can be utilised
In assessment, the best knowledge available of the safety, effectiveness, costs and outcomes of a health technology is gathered and combined.

In order to influence health technology decisions, we aim to pass the information on to decision-makers - to doctors, nurses, patients and politicians - in a form easily accessed.
Current Care - guidelines

- Current Care is a Finnish unit producing evidence-based treatment guidelines for the Finnish Medical Society Duodecim

- These guidelines (n=110) are drawn up in support of health care professionals and for the benefit of patients
Current Care – guidelines for Dentistry

- Odontogenic acute infections and antibiotics
- Controlling dental caries
- Periodontitis
- Temporo-mandibular parafuntions
- Oral cancer
- Third molar
- Tobacco dependency and tobacco weaning