



# *The Impact of DentEd on European Dental Schools*

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and  
Prof. George Brown*

## Acknowledgements

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The interaction with the DentEd community has been both informative and rewarding.

George Brown, University of Nottingham  
Eilis Delap, Dublin Dental School and Hospital

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## Preface

This is an analysis of the impact of the DentEd/DentEdEvolves School Visitation System to dental and stomatological institutes in Europe. The DentEdEvolves TNP is deeply appreciative of the role carried out by Dr Eilis Delap and Professor George Brown and to the wide range of colleagues in the participating schools. This review and analysis was a central part of the final year's activities of both the DentEd/DentEdEvolves projects and illustrates the enormous benefits of the TNP not alone to the schools visited but to the knowledge base that was developed through this activity. Those recognised in the acknowledgements section of our TNP Report were central to the achievement of our goals.

Diarmuid B. Shanley  
DentEdEvolves Co-ordinator

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## Chapter One: Introduction

This report provides an evaluation of the impact of DentEd on European Dental Schools and Odontological Institutes. It includes an overview of DentEd, its aims and objectives; the purposes and protocol of the visits; the methods of investigation used in this report; the results of the investigations; a discussion of the results, and recommendations for further development of the DentEd approach to quality assurance in European Dental Education.

### Aims and Objectives of DentEd

The aims of DentEd are to provide convergence in European Dental Education through better understanding of various approaches to dental education, pooling of expertise and sharing communication of best practices. These broad aims led to the formation of a set of objectives and a method of exploring the current practices in dental education in the individual schools and institutes of dentistry. The objectives and method were designed by the steering group of the project, which was chaired by Professor D.B. Shanley, Trinity College, Dublin.

The objectives of the DentEd approach were:

- 1 To establish a network of dental educators in Dental Schools and related institutions in Europe.
- 2 To promote better understanding by effectively communicating each other's priorities and systems of education/training.
- 3 To assist schools converge towards higher standards in their own programmes with special emphasis on dental students achieving similar levels of competence in defined primary dental care procedures.
- 4 To identify, disseminate and share best practices and innovations.
- 5 To establish an active web site for the dissemination of new information as well as carrying information and instructions to participants in the *DentEd* project.
- 6 To promote the concept of evidence-based treatments in the training of clinical students.

- 7 To encourage the faculty have a better understanding of their own school, share innovations and best practices, open dialogue and break down barriers that often exist between departments.
- 8 To promote the concept of international peer review.
- 9 To disseminate the information gained.
- 10 Through self-assessment in respect of the following to review:
  - a The philosophical basis of the educational process.
  - b Educational aims and objectives.
  - c Curriculum content and structure.
  - d The relationship between educational methods, curriculum structure and the assessment of Odontological and Stomatological students.
  - e How the educational objectives relate to outcomes.
  - f Ethics and equity in access to educational opportunity and health care.
  - g The efficiency of decision making structures.
  - h Staff development initiatives and practices.
  - i The relationship of the management structures and financial priorities to the mission statement of each school.
  - j How patient care priorities within the school and regional health needs impact on the training process.
  - k Each school's clinical training programme in the context of an agreed set of competences as set down by the Advisory Committee on the Training of Dental Practitioners in respect of basic and primary dental care.
  - l Awareness within each institution of clinical competences.
  - m Realistic quality improvement initiatives that could be implemented on a continuous incremental basis.
  - n The educational and clinical training environment for students and other influences such as the broader elements of student development, tutoring and mentoring in a university context.
  - o The importance of the behavioural sciences and an awareness of the psychological and social determinants of health and disease in addition to the emphasis on the biological basis of oral and dental diseases.

- p Research activity and publications.
- q The school's strengths, weaknesses, best practices and innovations and how these apply to each department or academic discipline within the institute.



## The DentEd approach

The above objectives provided the basis of the DentEd approach. In essence, this consisted of:

A compilation of a self-assessment report prepared for the peer reviewers (Visitors) by members of the institution being visited. The structure of the self-assessment report was based on the objectives of DentEd.

A structured report consisting of a factual account of their procedures and processes and an evaluation of the strengths and weaknesses of their approach.

A visit, of usually five days, in which the visitors discussed the self-assessment report with staff and students of the Institution and members of the local dental community. The visitors observed the teaching, clinical work, facilities and resources of the Institution and compiled a draft evaluation report based on the Institution's self-assessment and their own observations and discussions with members and associates of the institution. At the end of the visit, the visitors presented and discussed an oral summary of their findings with members of the Institution.

The report was sent to the Dean for checking for factual accuracy. The final version was then sent to the Dean and senior members of the University and subsequently published on the DentEd website <http://www.dented.org>.

A summary of the template used and the protocol for the visit are given in Appendix I.

## The Core Strategy of the Dented Approach

The core strategy of the DentEd approach is based on a developmental, 'fitness for purpose' model in which the members of the Institution visited are encouraged to be reflective and frank about their achievements, their approach and the difficulties which they are facing. The combination of the self assessment report, the visit and the report on the visit was to enable members of the Institution to discuss and exchange views, ideas and procedures with members of other European Dental Institutions within the framework of the aims and objectives of the Institution. The experience and information gained was to provide the Institution with a basis for further development and convergence with other European Institutions of Dentistry. The role of the visitors was to support the members of the Institution in their quest for improved quality of dental education. Through the processes of questioning, commenting and discussing various approaches and mutually shared experiences, the visitors encouraged the members of the institutions to consider how well they were achieving their aims and objectives, what alternative approaches were available and in what way the aims and objectives might be changed.

It was not expected that the visitors' views would be regarded as *ex cathedra* statements but rather as statements to reflect upon and, where desirable and practicable, acted upon. This developmental approach is in marked contrast to the inspectorial, judgmental stance adopted by some European Governments in their approach to Higher Education and Dental Health. Evidence from various sources indicates that an informed developmental approach is more likely to lead to embedded, sustained change than an inspectorial approach. In short, the DentEd approach is well founded. This theme is returned to in Chapter Five of this report.

## The DentEd Strategy

The DentEd approach was the foundation of the wider DentEd strategy. This strategy consisted of using the information gained from the visits, through peer scrutiny, to identify the innovations, best practices and areas in need of development in dental education in the European Union and associate countries.

The analysis of the visitors' reports was undertaken at two European conferences, disseminated at a third conference and published on the DentEd website and as a text (1). An additional report was prepared by Bucur (2003) on the strengths and areas in needs of development in associate and candidate countries. Together these reports provide a sound basis for assisting European dental institutions to move towards convergence and the enhancement of Dental Education in all areas of Europe.

- (1) Shanley, D. B. (ed) (2002) *Dental Education in Europe: towards convergence*  
Budapest: Dental Press Kft
- (2) Bucur, M.V. (2003 In Press) *A profile of dental education in the accession countries of the European Union*

## Outcomes of DentEd

Forty-four dental institutions were visited by teams of DentEd visitors. One hundred and fifty visitors were involved. The feedback from the visitors to the DentEd office revealed that the great majority of visitors gained a rich experience from the observations and discussions of approaches to dental education. Indeed the experience which the visitors gained could be regarded as a powerful form of professional development.

The visitors reviewed courses provided by approximately 2000 staff (faculty) for about 21,000 students. Most of the staff and student representatives of each year of the course were involved in discussions with the visitors and in some institutions, the

students assisted in the compilation of the self-assessment report. The full effects of this wide exposure to the DentEd approach cannot easily be reduced to numerical measures but it is safe to say that the DentEd approach led to increased awareness of staff and students of the approaches to dental education in their own institutions and other institutions. This awareness is a step towards convergence and enhanced quality.

The awareness of approaches to dental education for faculty members was further heightened by the visitors' report which was made available to all members of the institution visited. In addition the senior members of institutions received the reports by Shanley (2002) and Bucur (2003) referred to in the previous section. Some senior members of institutions disseminated the DentEd approach to other members of their universities and governments. This dissemination is leading to the adoption of the DentEd approach for the accreditation of dental institutions in many Francophone countries, Ireland, the Netherlands and Poland. The Republic of China is considering the approach for use with their dental schools and it is being considered by many countries in South East Asia. Interest in the DentEd approach by the American Dental Education Association (ADEA) and the International Federation of Dental Education (IFDE) has led to worldwide interest in the DentEd approach and strategy. A Global conference on the DentEd approach is being held in Washington, DC in Spring, 2006.

Together these outcomes are strong evidence of the success of DentEd. The generic reports provided by Shanley (2002) and Bucur (2003) provide a sound basis for assisting European dental institutions in their moves towards convergence and the enhancement of dental education in all areas of Europe and, perhaps, beyond.

## **The Evaluation of the Impact of DentEd**

It may be thought that the impact of DentEd is already well evidenced by the findings from the reports and the outcomes indicated in the previous section. There remains however one crucial question:

### ***What is the impact of the DentEd approach on dental institutions in Europe?***

An answer to this question was sought in three different ways:

- A survey of the perceptions of representative members of the participating institutions was undertaken in late 2002. The survey focussed upon the influences of DentEd upon dental education and dental research within the institution (The Main Survey).
- Group discussions were held with junior and senior members of nine participating institutions drawn from stomatological institutes and odontological schools in the European Union and associate countries. These discussions were to confirm and explore the responses to the Main Survey. They were held in late 2002 and early 2003 (Participant Group Discussion).
- A survey of the changes in practice of the participating institutions was undertaken in August 2003 in which the local co-ordinators of the visits were invited to indicate which recommendations and suggestions by the visitors to their institution had been considered and implemented (The Practice Survey).

These methods of investigation provided different measures of the impact of DentEd on the individual institutions. The use of three different methods of evaluation enabled triangulation of the findings and thereby ensured that a reliable estimate of the impact of DentEd was obtained. The methods and results of the investigations are reported in the following chapters of this report.

## Chapter Two: The Main Survey

A questionnaire was designed, piloted and distributed to the Deans of 44 participating institutions (Appendix II). A letter from the Chair of the DentEd committee (Professor Shanley) was attached to the questionnaire, which it was hoped, would encourage participating institutions to respond (Appendix II). Each institution was invited to obtain the views of the Dean, a senior Head of Department, an experienced lecturer, a relatively new lecturer, a student (at the time of the visit) and the local co-ordinator. This approach was used so that a conspectus of views was obtained from each institution.

The questionnaire was divided into two sections. The first section consisted of structured questions, which focused upon the broad themes of:

- The education of students;
- Management and quality;
- Dental Research;
- European involvement;
- Patient care;
- The value of the visit to the institute/school;
- Other influences - the value of the visit to the country, and the European Union.

The items within each theme were based on the objectives of DentEd (See Chapter One). Each item required a rating on a six point scale from strongly positive to strongly negative. The 6-point scale was chosen so that respondents had to choose whether the influence was negative or positive and so that analyses could be made, if necessary, on the positive/negative dichotomy.

In the second section, respondents were asked to provide examples of the influence of DentEd on the education of students, research, European involvement; an indication of the areas of teaching and research which they would like to develop, their perceptions of the value of the DentEd approach and how it might be improved. These semi-structured questions were followed by an open question for respondents who wished to add further comments and observations.

The questionnaire was transmitted electronically in October 2002 and a reminder was transmitted a month later. Respondents were able to return the questionnaire electronically, by fax or post. A copy of the questionnaire is provided in Appendix II.

## Results

Questionnaires were received from twenty-three of the forty-four institutions surveyed. The responding institutions were from eight major countries within the European Union and eight major associate countries.

The pooled results from each of the institutions were analysed and tabulated using SPSS (Statistical Package for the Social Sciences). Further analyses were undertaken to identify any differences between countries of relatively high or low economic prosperity, as measured by Gross Domestic Product, and differences between the two traditions of stomatology and odontology. The latter was the primary focus since the dental tradition is more within the control of the institution than the economic prosperity of its country.

The tables and bar charts presented in this chapter are based on mean scores derived from the six point scales. All the mean scores on all the items were positive. Mean scores within the range 4.0 and 4.4 were interpreted as moderately positive, between 4.5 and 5.4 as positive and beyond 5.5 as strongly positive. Most scores fell within the positive domain thereby indicating that DentEd was perceived by the respondents as having a positive influence on the work of their institution.

## European Profiles

Table 2.1 provides the overall European profile and Tables 2.2 - 2.4 show the profiles according to educational approach, EU and associate countries, and higher/lower levels of economic prosperity. The economic indicator used was the index of Gross Domestic Purchases. This index is regarded as the most reliable indicator of economic prosperity.

The European profile shows that the DentEd approach had a moderately positive influence on patient care; a positive influence on the education of students, management and quality, research and European involvement. The visit was regarded as having high value for the institution, country and the European Union.

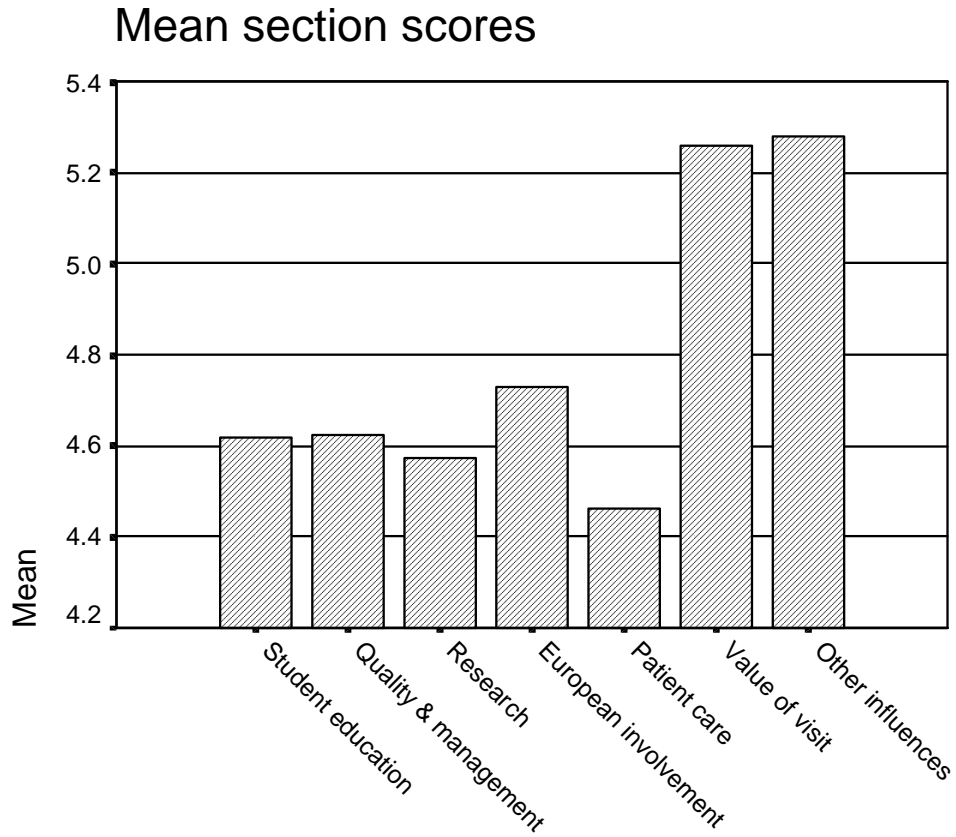


The comparison of odontological and stomatological schools suggest that the influence of DentEd was greater in stomatological institutes in the themes of dental education, quality and management, research and patient care. The reported influence on research may mask two differential influences. Dental research in many odontological schools is well established whereas research in stomatological institutes in less prosperous associate countries have recently become coming more involved in research. This observation is corroborated by the evidence discussed in Chapters Three and Four.

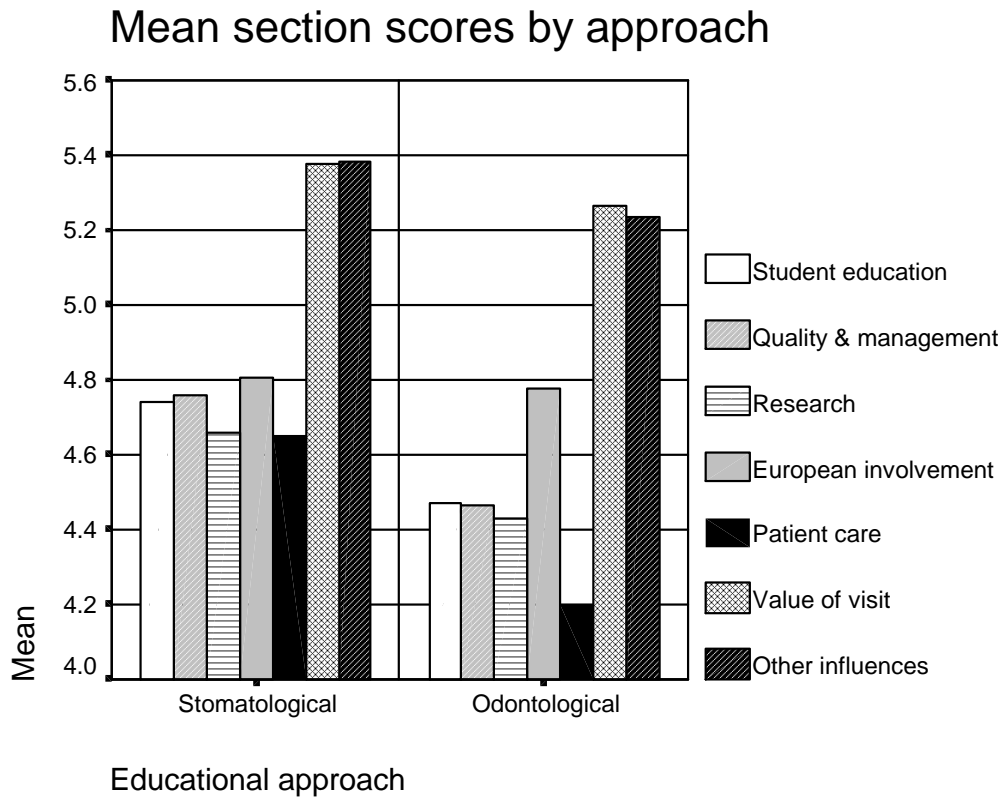
All institutions regarded the DentEd approach positively but the DentEd approach was regarded more highly in stomatological institutes. Similar results were obtained in the comparisons of countries of relatively high and low prosperity. DentEd appears to have increased European involvement and influenced patient care and research amongst less prosperous countries, to have had a greater influence in these countries and to be regarded more highly than in more prosperous countries. However the differences between EU member states and others states was marginal. The overall mean score for EU and non-EU was 4.8 and 4.9 respectively. The differences on the themes were marginal. The mean scores for student education were 4.6 and 4.6; for Management and Quality assurance, 4.6 and 4.6; for Research, 4.5 and 4.5; for European Involvement, 4.8 and 4.7; Patient Care, 4.5 and 4.4; Value of Visit, 5.2 and 5.3 and Other Influences, 5.2 and 5.3 respectively. All of these scores with the exception of patient care in associate countries point to the positive influence of DentEd. The score for patient care in non-EU countries is bordering on positive influences by DentEd.

The above findings point to a difficulty in selecting which variables to explore. Educational approaches, levels of economic prosperity and membership of EU all interact. Multivariate analyses are required to tease out the influences of DentEd but such analyses might be difficult to interpret, particularly given the sample size. So, in the remainder of this chapter, the focus is upon the overall results within themes.

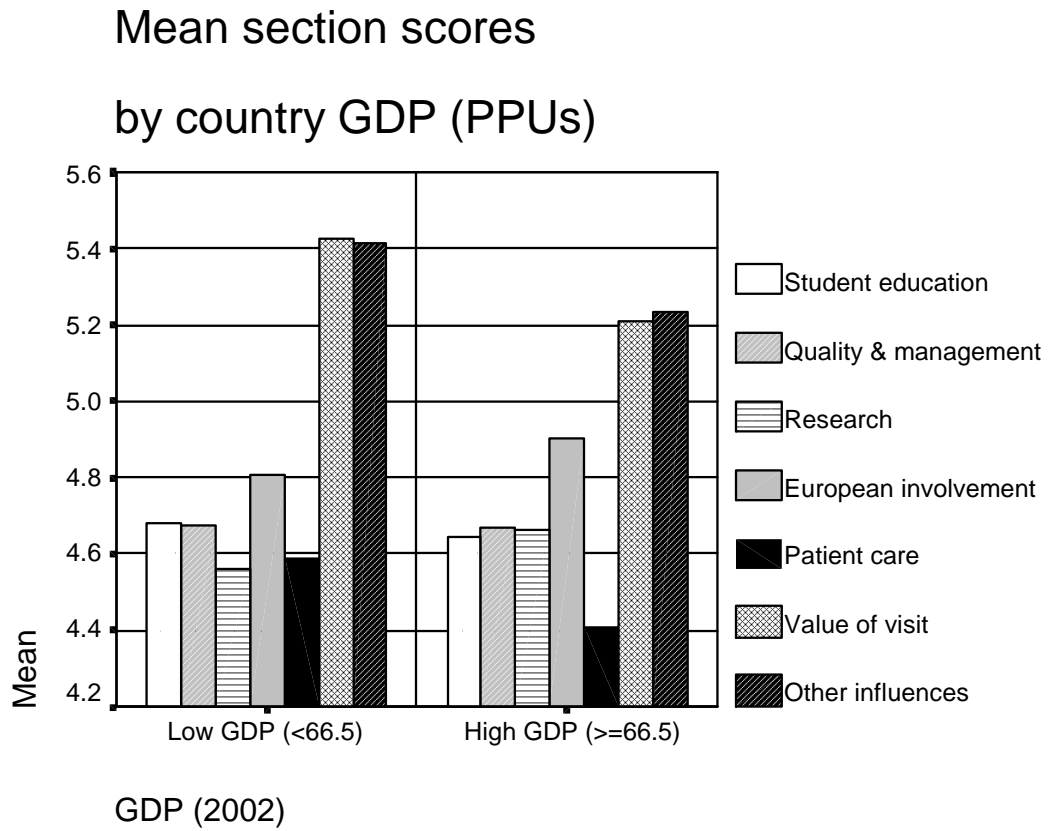
**Table 2.1: The European Profile**



**Table 2.2: Stomatological and Odontological approach**



**Table 2.3: Economic prosperity**



## Analyses of themes

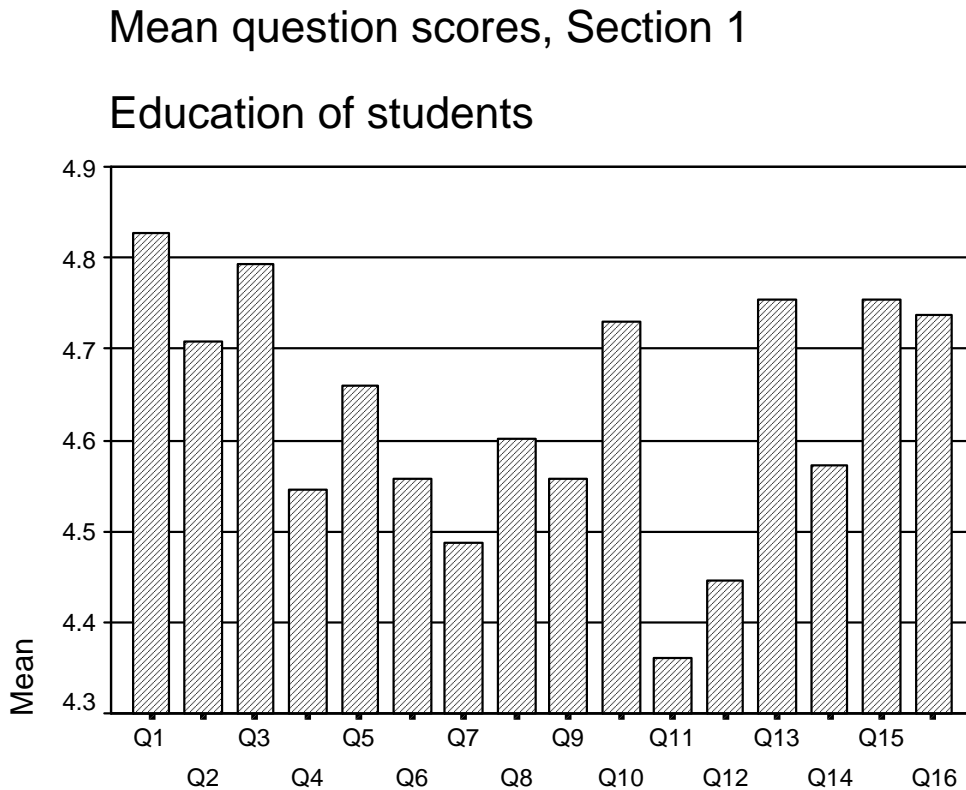
Overall the results demonstrate the positive influences of the DentEd approach to many aspects of the major themes. Tables 2.4 to 2.10 provide a summary of the results within the main themes.

### *Education of students*

|    |  |
|----|--|
| Q  | <b><i>Education of Students</i></b><br><i>To what extent has the DentEd site visit to your school had an influence on the following?</i> |
| 1  | The use of learning outcomes (objectives) in course design   |
| 2  | The content of the curriculum  |
| 3  | The organisation of the curriculum   |
| 4  | The range of methods of learning and teaching  |
| 5  | The range of methods of assessment   |
| 6  | The use of criteria for assessing students work  |
| 7  | Analysis of student performance in examination   |
| 8  | The clinical competence of students  |
| 9  | The guidance given to students   |
| 10 | The feedback given to students   |
| 11 | The use of laboratory facilities   |
| 12 | The use of clinical facilities   |
| 13 | The use of information and communication technology  |
| 14 | The use of independent study by students   |
| 15 | Integration of basic sciences and clinical courses   |
| 16 | The philosophical basis of the school's educational approach   |

Table 2.4 shows the results.

**Table 2.4: Education of Students**



DentEd is reported as having a positive influence on the use of learning outcomes, the content and organisation of the curriculum, the feedback given to students, the use of information and communication technology, the range of methods of teaching, the range of methods of assessment, the use of criteria for assessing students' work, the clinical competence of students, the feedback given to students, integration of basic sciences and clinical subjects, the use of independent study, the philosophical bases of the institution's educational philosophy. All of these are central to the development of a modern curriculum in dental education.

DentEd is reported as having only a moderate influence on improving laboratory and clinical facilities. These are beyond the remit of DentEd. However, the evidence provided in Chapter Three demonstrates that there has been improvement in these facilities, particularly amongst stomatological institutes. Analysis of examination results, which is an important feature of dental education and quality assurance, appears to have been only moderately influenced by DentEd. This result may be because the procedure remains neglected or it is already in place. Anecdotal evidence suggests the former.

## ***Management and Quality Assurance***

|    |  |
|----|--|
| Q  | <b><i>Management and Quality</i></b><br><i>To what extent has the DentEd visit to your school had an influence on the following?</i> |
| 17 | Monitoring the quality of student performance  |
| 18 | Monitoring the quality of the courses  |
| 19 | Improving the quality of the courses   |
| 20 | Increasing awareness of the work in other departments in the school  |
| 21 | Increasing awareness of evidence based research in teaching and assessment in dentistry  |
| 22 | Providing staff development in teaching  |
| 23 | Providing staff development in assessment  |
| 24 | The management of the dental departments   |
| 25 | The management of the dental school  |
| 26 | The relationship with the medical school   |
| 27 | The status of the dental school within the university  |

Table 2.5 shows the results.

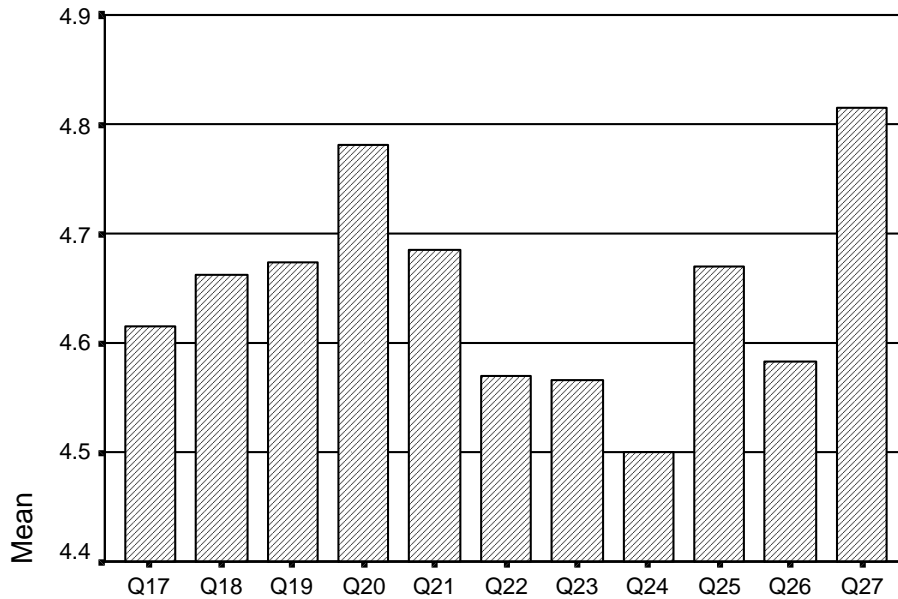
All the aspects of this theme were scored positively. The least influence was upon staff (faculty) development in teaching, assessment and management. These are important aspects of the work of dental institutions which are involved in embedding changes in the curriculum. The greatest influence of DentEd was on increasing awareness of evidence-based research on teaching and assessment. As this awareness grows, the perceived need for staff development is likely to be triggered.



**Table 2.5: Management and Quality Assurance**

Mean question scores, Section 2

Management and quality



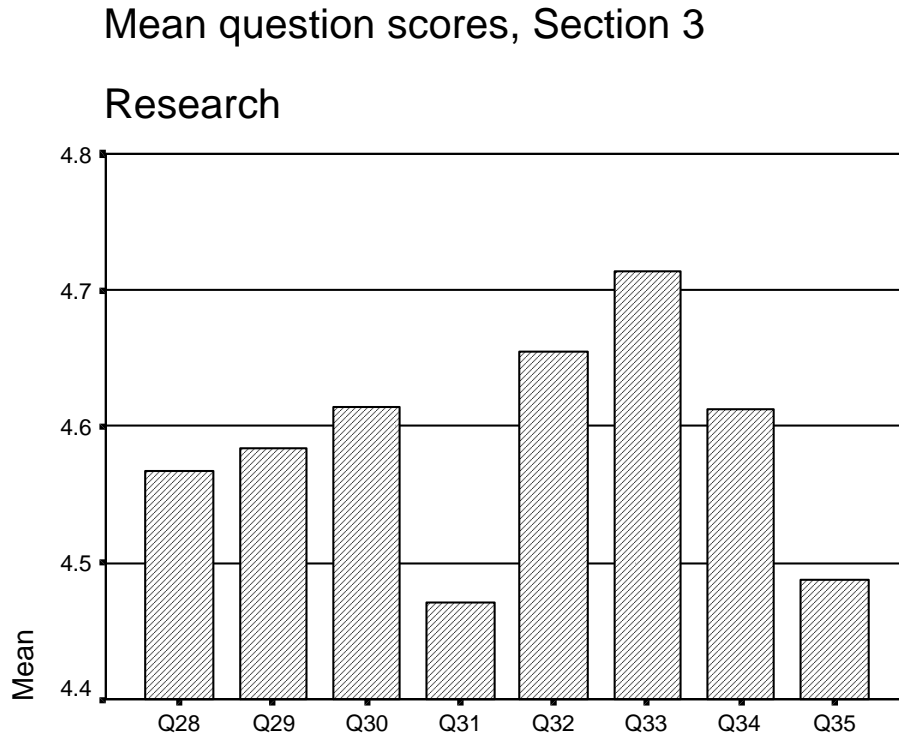
The high scores on the status of the dental institutions in the university may augur well for dental institutions, particularly for those institutions that have been overshadowed by large Medical Faculties. Increased status can have influences upon funding, resources and staffing. Whilst no precise correlational analysis of status and these variables has been carried out at this stage, the evidence in Chapter Three suggests that the DentEd visit has made a contribution to increased funding, resources and staffing in some institutions.

***DentEd influences on Research***

|    |   |
|----|---|
| Q  | <u>Research</u><br><i>To what extent has the DentEd visit to your school had an influence on the following?</i> |
| 28 | Dental research   |
| 29 | Co-operation with other schools in dental research  |
| 30 | Presentation of papers on dental research at national and international conferences                             |
| 31 | Publications on dental research in international refereed journals  |
| 32 | Research in dental education  |
| 33 | Co-operation with other schools in dental education research  |
| 34 | Presentation of papers on dental education research at national and international conferences                   |
| 35 | Publication of papers on dental education research in international refereed journals                           |

Table 2.6 shows the results

**Table 2.6: Influences on Research**



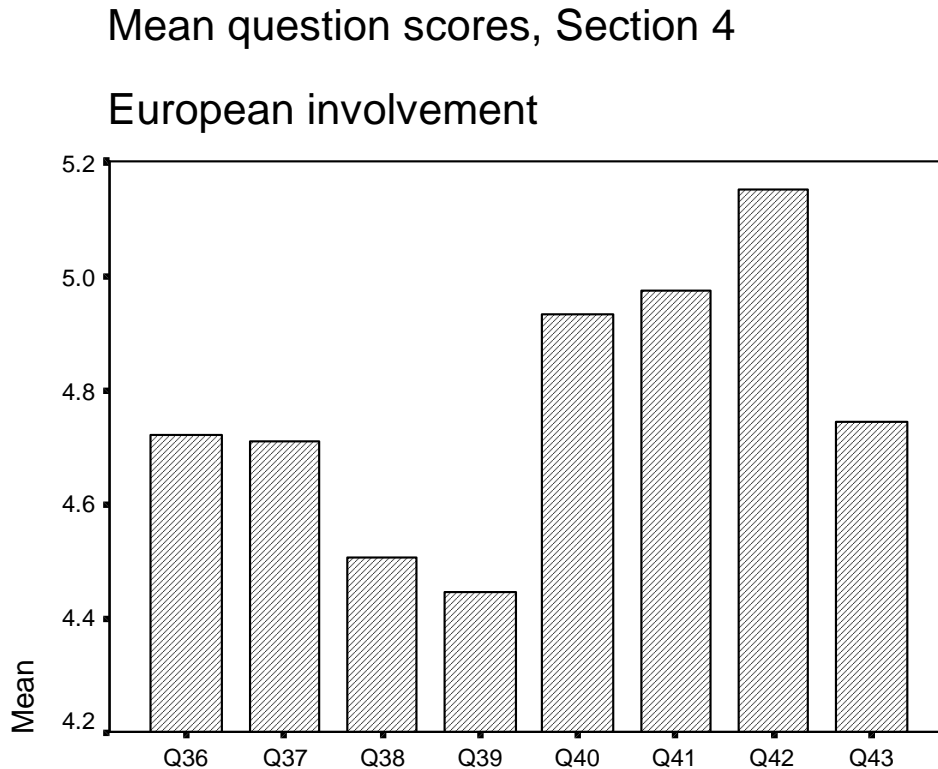
The responses indicate that DentEd has had a positive influence upon all the aspects of research itemised in the questionnaire. The least influence was upon publications in international journals of dental research and dental education. As the interest in research grows, it can be expected that the publication rate will increase overall. However a limiting factor of this growth is the number of research journals available for publication. This comment is particularly pertinent to the area of research in European dental education.

## ***European Involvement***

|    |   |
|----|---|
| Q  | <i>European Involvement</i><br><i>To what extent has the DentEd visit to your school had an influence on the following?</i> |
| 36 | International student exchanges   |
| 37 | International staff exchanges   |
| 38 | Joint projects with other schools   |
| 39 | The use of external examiners and reviewers from other countries  |
| 40 | Interest in ADEE  |
| 41 | Increased awareness of the work in other dental schools   |
| 42 | Convergence towards higher standards of European dental education   |
| 43 | Moving towards the cycle system, as put forward by the Bologna Declaration  |

Table 2.7 shows the results.

**Table 2.7: Influences on European Involvement**



The results indicate that DentEd appears to have had only a moderate influence on joint projects and on the use of external examiners from other countries. Although the influence on joint projects was reported as moderate, the data in Chapter Three and Appendix V suggests that there is a wide range of joint research being carried out. However, from the discussions, summarised in Chapter Four, it became clear that many research projects pre-dated the DentEd visit and some were established through other pan European clinical associations.

The use of external examiners from other countries is a relatively new venture. Progress on this feature of European involvement is inhibited by financial constraints and by the National Examination Boards which control the assessment and examination system of dental institutions in some countries.

These two moderate results are more than offset by the positive influences of DentEd on interest in ADEE, the major body of dental education in Europe; the heightened awareness of the work of other dental schools and increased convergence towards higher standards, a major objective of the DentEd project. DentEd is also reported to have had a positive influence on staff and student exchanges and the moves towards the Bologna declaration.

**Patient Care**

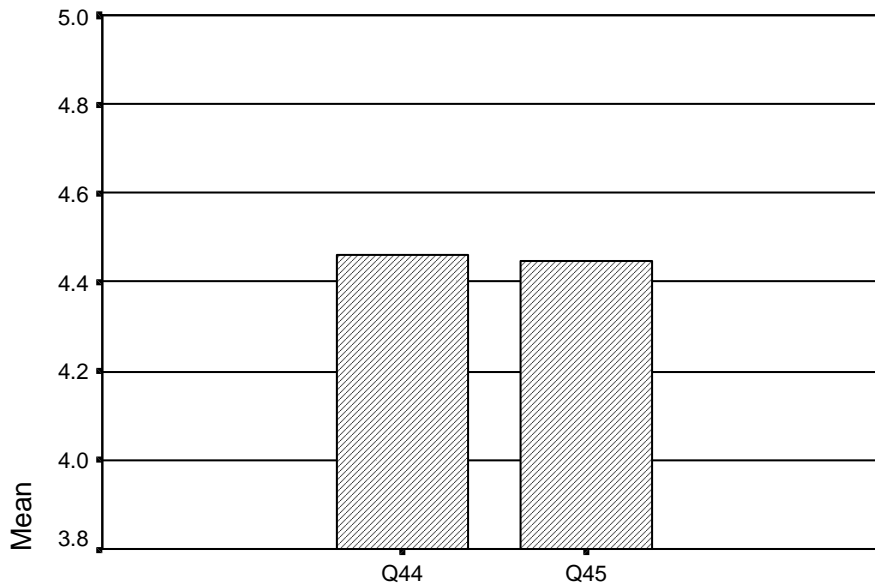
|    |  |
|----|--|
| Q  | <u>Patient Care</u><br>What impact had the DentEd visit to your school on the following? |
| 44 | The treatment and care of patients in the clinic   |
| 45 | The communication with patients in the clinic  |

Table 2.8 shows the results

**Table 2.8: Effects on Patient Care**

Mean question scores, Section 5

Patient care



DentEd is reported to be having a positive influence (albeit just above the moderately positive zone) on the treatment of patients and communication with patients. Chapter Three and Appendix V provide examples of these improvements. In the discussions, summarised in Chapter Four, some participants pointed out that the major positive influences on patient care are likely to emerge in the longer term and improved patient care is more a function of the oral health care system than of the system of dental education.

However, in the mean time, institutions might wish to devote more attention to the important and neglected areas of dentist-patient communication and care of patients in the clinic.



**The Value of the Visit to the School**

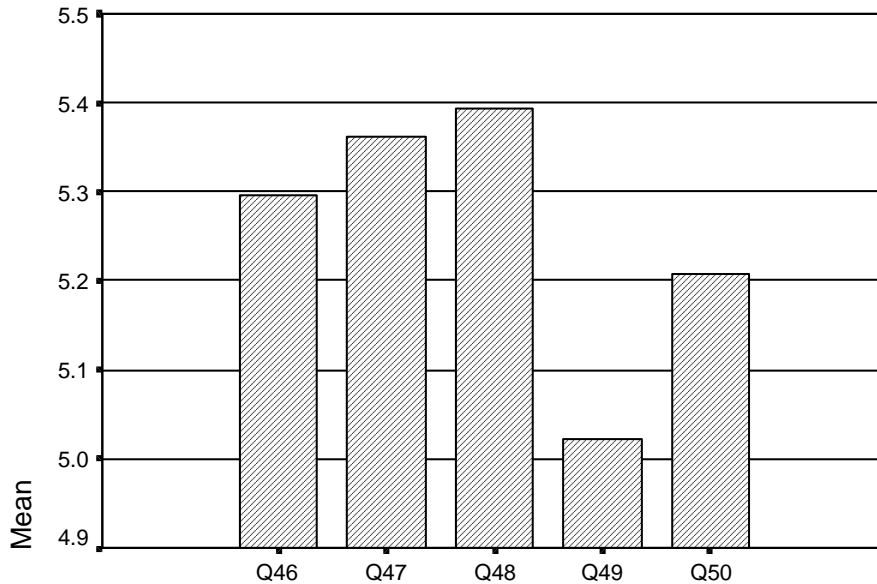
|    |  |
|----|--|
| Q  | <u>Section 6 Value of visit to your school</u><br><br><i>Please rate the value to your dental school of the following aspects of the DentEd visit:</i> |
| 46 | The self assessment report   |
| 47 | The site visit   |
| 48 | The visitors report  |
| 49 | The school's use of the self assessment report   |
| 50 | The school's use of the visitors report  |

Table 2.9 sets out the results

**Table 2.9: Value of visit to your school**

Mean question scores, Section 6

Value of visit to school



The results show that the site visit and the visitors report were valued highly. The school's use of the self-assessment report and the visitors report were not valued as highly. Discussions with the participants reported in Chapter Four, confirm this view and led to the development of the Practice survey reported in Chapter Five.

**Other influences**

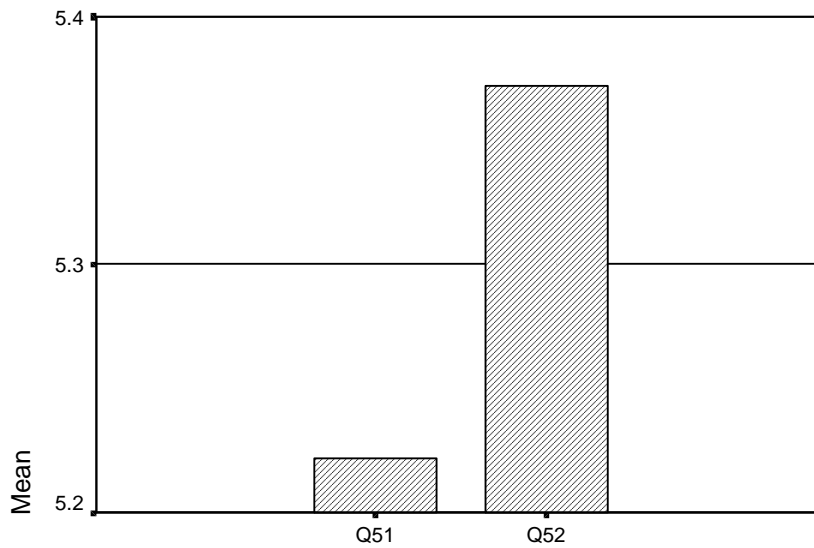
|    |   |
|----|---|
| Q  | <u>Other influences</u><br><i>Please rate the following:</i>                    |
| 51 | The value of structured DentEd visits to the dental schools in your own country |
| 52 | The value of structured DentEd visits throughout the whole of the EU            |

Table 2.10 shows the results

**Table 2.10: Other influences of DentEd**

Mean question scores, Section 7

Other influences



The DentEd approach to Dental institutions in the institution's own country and within the European Union were both rated highly.

## ***Seniority and Experience***

The data was examined to see if there were any overall differences in views of Deans and other members of the Dental Institutions and whether experience in Dental Education appeared to have any effect on views. The Deans assigned the highest rating to the value of DentEd (Mean: 5.0) followed by Heads of Departments, the DentEd co-ordinators and junior staff (Mean: 4.9) and Senior and Intermediate staff (Mean: 4.8). Those with 6-10 years experience rated the value of DentEd most highly (Mean 5.0), those with 5 years or less were next (Mean: 4.9) and those with more than 10 years experience gave the DentEd approach a mean score of 4.8. The slight differences between these set of results may be attributed to interactions between status and length of experience. The more important point is that all the staff, regardless of status or length of experience, rated the DentEd approach highly.

## Summary

The quantitative results from the main survey provide strong evidence of the impact of DentEd on the work of EU and Dental schools in associate countries. Its impact appears to be stronger in Dental Schools outside of the EU. Although in all dental schools it had an effect upon the education of students, management of quality, research, European involvement and patient care. It was thought to have had an impact on the university, the country and other dental schools in Europe. DentEd had had positive effects upon the main themes of the survey and in so doing demonstrated that DentEd had achieved its main objectives.

The response rate was relatively high for an international survey but it should be borne in mind that the results are based on the perceptions of the representative participants of the dental schools visited by DentEd. (This approach is often the only approach available.) However by using three independent methods, the main survey, the group interviews and the individual impact questionnaire, it was possible to triangulate the results to check the validity of the responses. With these reservations in mind, one can conclude that the quantitative results provide strong indications of the impact of DentEd.

### **Chapter 3 Analysis of Comments from the Main Survey**

The respondents were invited to offer examples and comments on the influence of DentEd on the work of their Dental Institution. The examples and comments to questions 55-60 were categorised and a sample of the categories were checked by an independent observer. Some respondents wrote extensively and some wrote only a few comments or none. The frequencies in the tables refer to the numbers of examples or comments not the number of participants. The full list of comments is given in Appendix III. The examples and comments were divided into those from stomatological institutes (St) and those from odontological schools (Od). Examples and comments were edited slightly to ensure the anonymity of the respondents was preserved. There were relatively few additional comments and open comments so these are summarised in written form.

## Areas of Teaching

Table 3.1 summarises the areas of teaching which the respondents would like to develop.

*Question 55: What areas of teaching and learning would you wish to develop?*

**Table 3.1: Areas of teaching**

| <b>Theme</b>                                    | <b>St</b> | <b>Od</b> | <b>Total</b> |
|---|-----------|-----------|--------------|
| Clinical subjects                               | <b>26</b> | <b>7</b>  | <b>33</b>    |
| Public Health/Community dentistry               | <b>1</b>  | <b>4</b>  | <b>5</b>     |
| Oral Health/Preventive Dentistry                | <b>1</b>  | <b>3</b>  | <b>4</b>     |
| Integration of basic sciences and clinical work | <b>1</b>  | <b>2</b>  | <b>3</b>     |
| Training Dental Hygienists                      | <b>0</b>  | <b>1</b>  | <b>1</b>     |
| Teaching and learning methods                   | <b>7</b>  | <b>3</b>  | <b>10</b>    |
| Knowledge of Dental Education                   | <b>3</b>  | <b>1</b>  | <b>4</b>     |
| Self-directed learning                          | <b>7</b>  | <b>9</b>  | <b>16</b>    |
| e-learning                                      | <b>4</b>  | <b>1</b>  | <b>5</b>     |
| Assessment                                      | <b>2</b>  | <b>0</b>  | <b>2</b>     |
| Critical thinking                               | <b>2</b>  | <b>0</b>  | <b>2</b>     |
| <b>Totals</b>                                   | <b>54</b> | <b>31</b> | <b>85</b>    |

The great majority of the responses were concerned with developing teaching within clinical subjects including comprehensive care, prosthodontics, oral surgery, oral medicine and restorative dentistry. Overall the responses indicate a strong interest in teaching but members of stomatological institutes were more interested in developing their expertise in teaching than their counterparts in odontological schools.

## Areas of Research

Table 3.2 summarises the areas of research which the respondents would like to develop.

*Question 56: What areas of research would you wish to develop?*

**Table 3.2: Areas of research**

| Theme                                     | St        | Od        | Total      |
|---|-----------|-----------|------------|
| Clinical                                  | 50        | 10        | 60         |
| Clinical/biological                       | 13        | 9         | 22         |
| Biological                                | 5         | 5         | 10         |
| Public Health                             | 5         | 7         | 12         |
| Preventive Dentistry and Oral Health Care | 2         | 3         | 5          |
| Psychological aspects                     | 1         | 3         | 4          |
| Dental Education                          | 9         | 5         | 14         |
| Miscellaneous                             | 3         | 3         | 6          |
| <b>Totals</b>                             | <b>88</b> | <b>44</b> | <b>133</b> |

The findings on areas of research are, of course, a reflection of the interests of the respondents. The clinical topics suggested included cariology research, endodontics, gnathology, implantology, maxillofacial surgery and temporomandibular diseases. The wider range of research topics suggested by the responses from stomatological institutes may be because of the recent heightened awareness amongst associate countries of EU dental research. The lower scores of odontological schools is probably because these schools already have well established areas of research. The miscellaneous comments from the stomatological institutes included co-operation with other departments; the importance of research investment, and no particular wish to develop research. From the odontological schools, the miscellaneous responses were lack of time, lack of staff and the need to develop more research areas.



## Influence on Dental Education

Table 3.3 summarises the examples of the influence of DentEd on the education of students.

*Question 57: Give an example of the influences of DentEd on the education of students in your school.*

**Table 3.3 Influences on Dental Education**

| Theme   | St        | Od        | Total      |
|---|-----------|-----------|------------|
| Curriculum change   | 31        | 17        | 49         |
| Methods of Assessment                                     | 15        | 8         | 23         |
| Teaching Methods  | 10        | 6         | 16         |
| Evaluation of Teaching                                    | 3         | 0         | 3          |
| Greater emphasis on dental subjects                       | 2         | 1         | 3          |
| Greater emphasis on clinical work                         | 10        | 1         | 11         |
| Greater emphasis on preventive dentistry                  | 2         | 0         | 2          |
| Greater emphasis on self-directed learning and e-learning | 3         | 0         | 3          |
| Integrated clinical care                                  | 3         | 4         | 7          |
| Integrated basic sciences and clinical work               | 4         | 6         | 10         |
| Miscellaneous   | 3         | 1         | 4          |
| <b>Totals</b>   | <b>86</b> | <b>44</b> | <b>130</b> |

The miscellaneous comments were concerned with credit points; that DentEd was a booster to existing developments; that the respondent had little experience of the curriculum; student views were now sought, and patient files were now being implemented.

The results indicate that DentEd had a strong influence on the curriculum, teaching, assessment and the clinical work carried out by students. This influence was stronger in the stomatological institutes.

## Influences on Management and Quality

Table 3.4 summarises the examples of the influence of DentEd on management and quality assurance procedures.

The miscellaneous comments included improved European Exchanges, morale, teachers are more aware of dental education, adoption of some European and US practices. International Organisation for Standardisation (ISO) and Total Quality Management (TQM) received specific mentions so they were categorised separately although they may be interpreted as additional indications of improved management and quality. The great majority of the comments provide examples that indicate that the DentEd visit had an impact on the overall management and quality procedures in the dental institutions; on co-operation and communication between departments; the quality of the curriculum and computerised systems for administration and teaching. The impact was greater amongst those stomatological institutions, which had not been exposed to the quality assurance procedures in higher education in many EU countries.

Question 58: Give an example of the influence of DentEd on the management and quality assurance within your school.

**Table 3.4 Influences on Management and Quality**

| Theme  | St        | Od        | Total     |
|--|-----------|-----------|-----------|
| Improved Management and Quality                    | 10        | 10        | 10        |
| Use of ISO2000 and TQM                             | 9         | 2         | 11        |
| Improved Facilities and Staffing                   | 5         | 2         | 7         |
| Communication and co-operation between departments | 10        | 3         | 13        |
| More open decision making                          | 5         | 0         | 5         |
| Quality of curriculum                              | 9         | 6         | 15        |
| Improved computerised systems and e-learning       | 8         | 2         | 10        |
| Improved treatment standards                       | 4         | 1         | 5         |
| Status of Dental Institute in University           | 2         | 0         | 2         |
| No or little change                                | 3         | 3         | 6         |
| Miscellaneous                                      | 2         | 2         | 4         |
| <b>Totals</b>                                      | <b>67</b> | <b>31</b> | <b>98</b> |

## Influences on Research

Table 3.5 summarises the examples of influences on research. The DentEd visit clearly had impact upon research but again it was more noticeable in the stomatological institutes. It should be noted that ten respondents from the stomatological institutes also reported that DentEd had had little impact. These respondents were from the same three institutes. The miscellaneous examples included the stimulus for personal development in research, teachers and deans were now more interested in research, laboratories could be better equipped for research, the European Journal of Dental Education was a valuable outlet for reporting research in Dental Education.

*Question 59: Give an example of the influence of the DentEd visit on research in your school*

**Table 3.5 Influences on Research**

| <b>Theme</b>  | <b>St</b> | <b>Od</b> | <b>Total</b> |
|---|-----------|-----------|--------------|
| Increase in research projects                       | <b>13</b> | <b>4</b>  | <b>17</b>    |
| Improved research facilities                        | <b>5</b>  | <b>1</b>  | <b>6</b>     |
| Co-operative research between departments in school | <b>6</b>  | <b>1</b>  | <b>7</b>     |
| Co-operative research with other institutions       | <b>3</b>  | <b>1</b>  | <b>4</b>     |
| More clinical based research                        | <b>7</b>  | <b>2</b>  | <b>9</b>     |
| More basic science research                         | <b>1</b>  | <b>2</b>  | <b>3</b>     |
| Improved approach to postgraduate research          | <b>4</b>  | <b>2</b>  | <b>6</b>     |
| Research in Dental Education                        | <b>2</b>  | <b>1</b>  | <b>3</b>     |
| Increased interest in Evidence-based dentistry      | <b>2</b>  | <b>0</b>  | <b>2</b>     |
| Little influence on research                        | <b>10</b> | <b>1</b>  | <b>11</b>    |
| Miscellaneous                                       | <b>2</b>  | <b>4</b>  | <b>6</b>     |
| <b>Totals</b>                                       | <b>55</b> | <b>19</b> | <b>74</b>    |

## Influences on European Involvement

Table 3.6 provides a summary of the examples of the influence of DentEd on the European Involvement of the institutes and schools. The miscellaneous responses included improved status(2); opportunity to evaluate teaching and research, the value of the visitors' report and 'invisible spin-offs'. As indicated in Chapter Four, many of the odontological and more prosperous stomatological institutes already had well-established contacts with other European dental institutes and schools. Overall the results indicate that DentEd has increased European involvement.

*Question 59: Give an example of the influence of the Dented visit on European involvement of your school.*

**Table 3.6 Influences on European Involvement**

| Theme  | St        | Od        | Total      |
|--|-----------|-----------|------------|
| Contacts with other European Dental Institutions           | 8         | 2         | 10         |
| Academic Exchanges   | 9         | 3         | 12         |
| Student Exchanges  | 7         | 8         | 15         |
| Increased knowledge of Dental Education in Europe          | 10        | 9         | 19         |
| Attendance at conferences                                  | 8         | 1         | 9          |
| Moves towards European convergence                         | 6         | 6         | 12         |
| Joint European Projects                                    | 4         | 0         | 4          |
| Curriculum change specifically due to European involvement | 2         | 5         | 7          |
| Little or no influence                                     | 9         | 2         | 11         |
| Miscellaneous  | 5         | 1         | 6          |
| <b>Totals</b>  | <b>68</b> | <b>37</b> | <b>105</b> |

## Benefits and improvements to the DentEd Process

The respondents were invited to offer further comments on the DentEd site visit and ways in which the process might be improved.

The reported benefits included the support that the visit gave to curriculum development; improvement in quality; increased knowledge and understanding of European Dental Education; international trends in dental education; stimulation of research exchanges and of debates on dental education; an opportunity to reflect upon teaching and research within the institute/school and the increased recognition of the dental institute/school within the university and internationally.

There was strong support for the continuation of DentEd visits, perhaps at five-year intervals. It was suggested that these visits should be extended to all European Dental Schools and the visits should be used to provide guidance and monitor what changes have taken place. Follow up programmes of faculty development and co-operation for curricular change through contacts, curriculum materials and web resources were emphasised by some respondents. Amongst the many responses to this question there was only one negative comment, *'little value'*, All the other responses were strongly positive and supportive.

## Other comments

A space was left on the questionnaire for additional comments so that respondents, if they wished, could add further observations on the DentEd process. A few respondents took the opportunity to highlight the strong positive influence of DentEd on the institute/school; its role in strengthening links with other European Dental Schools; its contribution to the increased status of the dental institute/school within the University and the value of the report for applying for external funding. One respondent would have liked the DentEd visit to have evaluated the programme for dental technicians. Another praised highly the DentEd process but criticised his/her faculty for not considering the suggestions made by the visitors and not incorporating any of their suggestions into the curriculum. *'... all of this was very positive. The minus is not on DentEd but on the Faculty'*. This theme of reflection and implementation is returned to in Chapter Five.

## Summary

The strong evidence from this qualitative analysis of the main survey is clearly in line with the quantitative results reported in Chapter Two. The examples summarised in the tables indicate that DentEd has already had a strong impact upon teaching, dental education, management and quality, research and European involvement. Participants in the survey wish to develop further their expertise in teaching clinical subjects and pedagogy and develop their research in clinical, integrated clinical and basic sciences and in basic sciences. Dental Education remains a lower priority. There was not a strong impetus for research into the social aspects of dentistry such as epidemiology, preventive oral health and the psychological aspects of dentistry. This finding is probably a reflection of the interests of the respondents who were predominantly clinicians and basic scientists. However in the longer term these aspects of dentistry may become of increasing importance.



## **Chapter Four: Report on the follow-up visits: participant discussions**

Nine institutions were asked to participate in the programme of follow-up visits. All nine institutions accepted the invitation and they were visited in the period October (2002) to February (2003). Six of the institutions were from EU countries and three from non-EU countries. Five followed the stomatological tradition and four the odontological tradition. At each institution, with the exception of one, two meetings were held; one for senior staff and one for less experienced staff and students who had participated in the visit. Notes were taken at the meetings by the Chair and Secretary. Professor George Brown and Dr. Eilis Delap. On one occasion Professor Brown was unable to attend the meeting because of disruption of flights. The meetings were, with the permission of the participants, audio-recorded.

The meetings were conducted in English and the first language of the participants. The discussions were translated into English by members of the group. The purpose of the meeting was to help participants to reflect upon the impact of the DentEd visit to their institution. A template of questions was designed and used at each meeting. The template is given in Appendix IV. These questions were predominately open-ended and used as a springboard for open discussion by the participants. The role of the Chair was to facilitate the discussion through encouraging all participants to contribute, to clarify issues, to reflect back the views of the participants and to summarise their views. The guidelines approach was different from structured interviews in which a narrow range of alternatives are pre-specified in the interview schedule. The facilitative approach often reveals insights and observations that are not readily captured by questionnaires or structured interviews. This report of the meetings is given in narrative form, the customary approach used in qualitative research.

## 1. Value of preparation for the visit

The preparation for the visit was regarded by almost all discussants as valuable. It had brought together, often for the first time, in one document a factual account of the whole curriculum. It had provided a clear picture of the workings of the dental school. The account had proved to be a useful point of reference for internal discussion within the school / institute and for external purposes such as the University, government agencies and professional bodies. It had provided a basis for guidance on the curriculum for staff and students.

The self-assessment report prepared for the visit was regarded as particularly valuable. It had helped to clarify the school's objectives, increased communication and co-operation between departments and identified weaknesses in the curriculum, assessment, the students' experience of the curriculum, and in national legislation concerned with clinical dentistry. The discussion of best practices, strengths and weaknesses had generated lively debate and forced members of the institute to confront issues, which had been avoided in the past. In some institutions it had led to questioning of the balance of the proportions of medicine and dentistry in the curriculum and in others to the balance of theoretical studies and clinical experience. These discussions had also led to a reconsideration of the philosophical basis of the institutes' approach to dental education.

The preparation for the visit had been especially challenging for those institutions who had been unfamiliar with the process of translating documents into English but this process had clarified their thinking about their own procedures and assumptions.

There had been some resistance to the idea of DentEd in institutions which had already been visited by Government agencies. They suffered from 'quality fatigue'. On the other hand these institutions who were preparing for external evaluations had found the preparation for the DentEd visit extremely useful. They particularly liked the open developmental approach which DentEd had provided. Some had been particularly valuable for reviewing and developing their curriculum. However, it was rightly pointed out that self-assessment was not enough: one also needed external scrutiny and comparisons with other institutions.

In summary, the preparation of the visit had been hard work with a high payoff.

## 2. Value of Visit

The visit was thought to be fundamental to the DentEd approach by almost all participants. The self-assessment report per se, it was thought would have had little effect whereas the self-assessment plus the visit had created a much stronger impact. The reasons why the visit was so useful were many. Amongst the most important were:

1. The visit verified the self-assessment. It proved an external, objective appraisal based on the self-assessment report, the views of staff and students and the visitors' own observations and analysis: some discussants pointed out there is a 'written' curriculum, a 'staff' curriculum and a 'student' curriculum. The visit enabled these different curricula to be compared.
2. The visitors were able to explore sections of the report, which seemed puzzling. In so doing, they gained a greater understanding of the institutions and so were able to make more useful comments and suggestions.
3. The visitors saw things, which the faculty had not seen. Some discussants expressed surprise at how much the visitors had discovered in four days.
4. The discussion with the visitors provided new information and alternative perspectives, which helped in curriculum decision making. These discussions enabled visitors and visited to share experiences with one another. They learnt about how other institutions worked and that they share common problems with other European dental schools so bonds within and between institutions were strengthened. The visitors learnt too what academic dentistry looks like in other institutions. The range of topics discussed was wide. It included assessment, self and peer assessment, approaches to curriculum, the problems of horizontal and vertical integration, integrated health and improving the learning experience of students.

5. The visit had brought members of the institutions together. The preparation of the document and the organisation during the visit had increased communication and co-operation between departments and it had developed teamwork.

6. The visit had raised the profile of the institutions within the University and sometimes, nationally. In so doing, it had helped the institution directly in negotiations for resources and through gains in prestige.

7. The DentEd approach provided a model for the institutions evaluation process and it had in some cases indirectly contributed to the development of the University's quality assurance system. Particularly influential were the uses of templates, the visit procedures and the combination of formal discussions in meetings and informal discussions in social events. The informal discussions were a forum of staff (faculty) development, which had increased understanding of other approaches in Dental Education.

### ***Student Views***

The students who participated in the discussion reported that they had gained much from the visit. Some had contributed to the self-assessment report; some had organised the social events and others had been involved in the organisation of the visit. These activities together with the formal and informal discussions with the visitors had increased their understanding of the structure of their own degree programme and introduced them to other approaches. The contacts made during the visit had led to student exchanges and to increased participation in the Association of Dental Education in Europe (ADEE), the European Dental Student Association (EDSA) and national Dental Student Associations.

## ***Stomatological Institutions in Associate Countries***

In the meeting held in stomatological institutes in associate countries, the discussions, not surprisingly, leaned towards the issue of European involvement. Discussants in these institutions reported that the visit had reduced the feelings of isolation and the DentEd approach had been an important step towards convergence. It had led to closer co-operation with EU dental institutions in teaching, standards, competences and research. It had stimulated interest in participation in integrated congresses and conferences. The template and the visit had provided a European mirror in which to see their own practice. The visit has brought staff and students closer together and it had led to the establishment of staff student committees. The prestige of the institute within the University had been raised. The visit had prepared members of the institute psychologically for entry into the European Union.

## ***Views on the DentEd visitors***

The DentEd visitors and the DentEd approach received fulsome praise from many discussants. The teams of DentEd visitors had been friendly and helpful, yet rigorous. They had asked perceptive questions, identified weaknesses which had not been identified in the self-assessment report and confirmed strengths and weaknesses which the institution had identified. Occasionally the visitors had indicated that a reported weakness was not that serious – much to the relief of the institution. Occasionally the visitors had initially misunderstood the structure of the curriculum. The visitors had asked why certain subject matter was not present, when it was present, but in a different form. Sometimes they had queried the apparent neglect of certain clinical procedures when these procedures were of little significance in the oral health care provision of the country. These misunderstandings were often across the stomatological / odontological boundaries and the traditional and newer integrated approaches to the curriculum. The misunderstandings were usually resolved by the end of the visit but as should be expected in a democratic process, there remained some differences of opinion between visitors and visited.

### ***Value to the visitors***

One unanticipated outcome of the visits was the value of the visit to visitors. Discussants pointed out that the visit had an educational function for the visitors. It had expanded their knowledge of dental education in Europe and their cultural and political understanding. These gains in expertise were of value to the visitors and could be put to use when the visitors returned to their own institutions. These gains also contributed to the movement towards convergence of European dental education.

### ***Some minor reservation***

It would be easy to leave this section of the report without mentioning the minor reservations about the DentEd visit, which emerged in discussion. However these points are of importance when considering ways of improving the DentEd approach.

The preparation and the visits had been exhausting. Not all the faculty had co-operated closely with the visitors and a few faculty regarded the process as an unwarranted interference and an attack on their autonomy. A few participants reported that some of the visitors had lacked understanding and they had been unduly aggressive in their questioning and dogmatic in their assertions. Such comments are not unusual when external enquiry is introduced. However, DentEd should take account of these minority views in their preparation and briefing of DentEd visitors.

### ***Comment***

The above reservations aside, it is clear that the DentEd visit had considerable added value. At every meeting the view was expressed that DentEd should continue; follow up visits to monitor progress should be introduced and the approach should be extended to other dental schools in Europe and the associate countries.

### 3. Value of report on the visit

At the end of the DentEd visit an oral report of the visitors comments was given and discussed. This report was subsequently published. The discussants thought the oral report, and associated discussion, were valuable. It brought the faculty together; it confirmed most of the strengths and weaknesses that had been identified in the self-assessment report. It provided a lively forum for discussions of the recommendations and the suggestions of visitors.

The written version of the DentEd visitors' report provided a ground plan for producing change. It had proved useful in negotiations and discussions with the Medical faculties (in stomatological institutions) with the University, Government and with various professional bodies of practising dentists. The report, in some cases, had resulted in participation by some senior members of institutions in the development of national quality assurance initiatives in higher education and in changes of legislation affecting dentistry.

However, some discussants pointed out that the report had not been used as comprehensively as it might have been. There was a sense of relief, and sometimes of celebration at the end of the visit. The final version of the report had not been discussed fully at the major committees of the school. Interestingly, some discussants reported that they had reviewed the report and discussed it for the first time just before the participant discussions were held. This comment confirmed the view that follow up visits are necessary to increase the impact of DentEd.

Despite the above reservations, the ground provided by the visitors report had resulted in many changes in the curriculum and in teaching, learning and assessment, and some changes in management of quality assurance, research, European involvement and patients care. These changes are outlined in subsequent sections of this chapter.

## 4. Curriculum, teaching, learning and assessment

The discussants provided several examples of changes, which had been introduced or were being introduced as a result of the DentEd visit. The examples provided by discussants are summarised below. The list is impressive but one should bear in mind that some dental schools were already sympathetic to these changes and DentEd validated their intentions rather than directly instigated them. However the lists do provide useful checklists of good practice.

### *Changes in curriculum*

- Curriculum review
- Change of sequence of curriculum with more clinical experience in the early stages of the curriculum.
- Use of learning outcomes in course design
- Introduction of competences
- Integrated cases in the final year of study
- Vertical integration of basic sciences and clinical subjects
- Horizontal integration in each year of the curriculum
- Some joint courses with hygienists and nurses
- Clinical experiences commences earlier in the course
- Enrichment of clinical experience of students
- Greater use of outreach and Accident and Emergency units
- Greater emphasis upon preventive dentistry, community dentistry, oral epidemiology, behavioural sciences, treatment of dental caries.
- Greater emphasis on evidence- based dentistry.
- Introduction of electives, optional choices of research projects
- Reduction of curriculum load.
- Move from teacher-centred to student-centred approaches to learning
- Greater use of PBL and other forms of self-directed learning.
- Greater use of e-learning.
- Greater use of information technology for recalls of patient and student progress in the clinics.



### *Changes in assessment*

- Use of learning outcomes as a basis for self assessment of competences
- Use of continuous assessment
- Change from unstructured to structured clinical examinations
- Less use of essays
- Use of reflective portfolios and learning logs
- Introduction of projects
- Use of case-based Multiple Choice Questions (MCQs ) and classed MCQs
- Use of self, peer and collaborative assessment
- Reduction of assessment load.
- Use of criteria-based assessment
- More feedback provided to students
- Closer monitoring of students' performance

Discussants also reported increased use of student evaluations of teaching and the use of awards for good teaching and the use of computerised patient records for teaching students.

### ***Comment***

Some discussants pointed out that changes had not been easy. Integration has proved particularly difficult because of the question of ownership of the curriculum. This question can be stated boldly: who owns the curriculum, the institution or the departments? Heads of department were sometimes unwilling to give up their control, Institutions who wanted greater integration between courses and years of study inevitably created tensions which needed to be resolved. Other discussants pointed out that the shift towards student-centred learning and self-directed study changes the role of the dental teachers and some were not prepared for, or were reluctant to take on their new role. International courses on these issues would assist in these matters.

## 5. Management and Quality Assurance

Few changes in management structure were reported by the discussants. All the changes were concerned with changes in faculty and University organisations and could not be attributed to the DentEd visit. However there had been changes in quality assurance procedures and these had been influenced, to some extent, by the DentEd visit.

Student evaluations were a common feature in all the institutions. These were, in some countries, a legal requirement or University statute. Questionnaires were most commonly used. In one institution on-line questionnaires had been unsuccessful. In another, questionnaires were optically marked by the University's quality assurance unit and the summary provided to the academic dentist responsible for this course. These questionnaires consisted of fixed items asked of all faculties and optional items provided by schools and departments.

These were some reservations about the use of questionnaires. It was thought that they were ratings to a lecturer or course and the ratings were affected by the difficulty of the course. Often the outcomes of these evaluations were not used in some institutions. In others they were integral to the management of quality assurance.

These were varying degrees of student representation on committees of the dental schools. In one institution there was a student council chaired by the Vice-Dean and various sub-committees of students chaired by members of departments. In other institutions, student representatives were members of the major committees of the school. These procedures were 'well established' in many schools before the DentEd visit but in a few institutions these procedures were instigated as a result of the DentEd visit.

Some discussants stressed the importance of informal consultations with students. These consultations usually ensured that minor problems could be resolved quickly and major problems could be referred to the appropriate committees. In one institute focus group were used to explore students' thoughts about the courses.

It was recognised by all the participants that student evaluation was only one feature of quality assurance. In one institution each year there was a meeting of all the staff to review student performance, student evaluations and reports from course leaders. The meeting made recommendations for action and a committee-reviewed implementation of the recommendations. In one institution, each course leader submitted a bi-annual report on his / her course which included analyses of student performance of student evaluation. In another institution, good practices identified in the curriculum review were disseminated throughout the school. Some schools had or were conducting graduate surveys, studies of the educational background of students, selection procedures developing standards, benchmarks and competences as part of their approach to quality assurance.

DentEd is, of course, only one player on the field of quality assurance. Other important players were Government agencies and professional bodies. However these organisations were not always viewed favourably.

Government agencies were reported as being more concerned with grading institutions than developing them, with the detail of process rather than the quality of the product. The DentEd approach was thought to be superior to these approaches. In some institutions. DentEd had assisted indirectly the University to prepare for external evaluations and in a few cases it had contributed considerably to the development of quality assurance of the University and country.

## ***Comment***

Overall, the discussants reported few changes in management structures as a result of the DentEd visit. This may be because management is a sensitive issue – particularly if the Dean or Senior Professors are present. On the other hand, if there were serious issues of management then it is likely that at least one discussant in each institution would have commented on managerial issues. One can conclude that management approaches had not changed substantially, that DentEd had little effect and, perhaps, few changes were necessary.

With regard to quality assurance, DentEd appears to have had an impact on these institutions who were visited. But there is perhaps an undue emphasis on student questionnaires as the tool of quality assurance. Whilst questionnaires have a role, more important are the analyses of student performance and the reflections and action plans of the teachers and committees of the school. Equally important, and often neglected, is putting action plans into operation. Closing the feedback loop of evaluation is the core of a successful quality assurance strategy.

## 6. Influences on research

Three broad areas of research were mentioned by discussants: subject-based research, postgraduate research and research in dental education.

Subject based research was well established in many institutions and research was increasing. There was a growing awareness of the importance of evidence-based dentistry and evidence-based medicines. Examples from all areas of clinical subject and basic sciences were mentioned by the discussants. New areas of research were emerging in preventive care, oral epidemiology and behavioural sciences and integrated basic and clinical research areas were being developed. DentEd had alerted institutions to the importance of the newer areas which will become of increasing importance as the oral needs of European countries change. The DentEd visit had helped some institutes to prioritise their research and to establish research clusters. The visitors had provided useful practical advice on doing the right kind of research and doing the research right. They had supplied the names of useful research contacts. The structure of the self-assessment report and the DentEd visitors had prompted questions and stimulated thought about research, publications and attendance at conferences. In a few institutions academic research was not as high a priority as commercially driven research or private practice.

DentEd had stimulated interest in research in Dental Education within some subject areas. Research on assessment, e-learning and methods of teaching had been initiated. The Association of Dental Education in Europe (ADEE) and the DentEd project, through their conferences and courses, had made a substantial contribution. The DentEd initiative had generated projects on student learning and assessment. A few institutions were embarking upon research on selection of student performances, the use of portfolios and methods of learning. In one institution postgraduates were conducting research in dental education and in another institution new lecturers were required to do a certified course on teaching. As part of the course they were required to do a research project in dental education.

Postgraduate research was strong in the more prosperous institutions. In less prosperous institutions young staff and postgraduate students were in short supply. In institutions with a relatively low research profile, courses on research method for staff (faculty) were being introduced. The impact of DentEd on dental research was not regarded as high as its impact upon undergraduate education. National legislation, in some countries, and the traditions of the institutions were the more powerful influences. However DentEd had played a part in discussions and reflections upon the research strategies of the schools.

In some institutions, undergraduate research projects were being introduced so that new graduates were equipped to examine critically research evidence and clinical practice. In a few institutions, dental research and dental education projects were being undertaken by student nurses and hygienists. And in some institutions there was greater emphasis upon research as the basis of practice.

### ***Comment***

DentEd had not had a direct impact on the growth of research. However it was clear from the discussions that the DentEd visit had created links, which had led to collaborative projects. The projects between institutions in associate countries of the EU had been assisted by the access to medicine, the World Wide Web of US and European journals. Both EU and associated institutes had benefited from these exchanges.

Whilst it cannot be claimed that increases in research are solely attributable to DentEd, it is clear that DentEd has increased awareness and interest in Dental research, postgraduate research and research in dental education.

## 7. European Involvement

DentEd was reported to have increased European involvement. Networks had been established between clusters of dental institutions to discuss curriculum, assessment and research. Student exchanges had increased after the visits but most of the exchanges were from southern institutions to northern institutions. Students in Southern European institutions enjoyed gaining the clinical experience available Northern Europe. The mismatch of courses prevented some northern students doing exchanges to southern institutions. This is an area which merits further exploration in the light of the Bologna declaration.

Exchanges of teachers had increased and visits to other institutions had become more frequent. This interest in teaching stimulated greater interest in the Association of Dental Education in Europe (ADEE) which, in turn, did stimulate some interest in teaching. A similar cycle appeared to be developing amongst students. DentEd had increased awareness of the European Dental Student Association (EDSA) and has stimulated interest in dental education.

DentEd visits had strengthened links between the visitors and visited and these links had led to e-mail contacts and exchange of ideas. Occasionally these contacts faded away but in the main, DentEd had created networks of institutions, which shared approaches, experiences and of course, gossip.

## 8. Patient Care

There were several views on the influence of DentEd on patient care. For some discussants, DentEd had been a contributing factor in improving care in the short and long term. Some thought that the DentEd approach had stimulated greater interest in patient care, others that it had not. One discussant from an odontological school observed that 'DentEd had not helped us but that DentEd had helped others.'

The discussants reported several changes in curriculum assessment and the organisation of clinics that had occurred recently. Some institutes now had a sequence of education, which began with preventive care and simple techniques in the early years and culminated with integrated oral care in the final year. This approach, they argued, ensured that students were equipped to manage patients presenting with multiple signs and symptoms. Supervision of teaching on clinics had been improved in some courses. Competences and guidelines for treatment were used in many institutions and there was a greater emphasis in some institutions in helping students to decide when to refer or not refer patients and to devise treatment plans which took account of the psychological needs and financial status of the patients. Patient surveys were undertaken in some clinics and some clinics had developed efficient computerised systems or patient records. However there remained logistical problems of obtaining sufficient patients with a sufficiently wide range of clinical problems but it was hoped that greater use of outreach would provide a richer and wider dental experience.

In the longer term, it was expected that patient care would be improved through the changes in the curriculum, particularly through research-based clinical practice, greater emphasis on dental competences and relevant knowledge gained from the behavioural. However many discussants pointed out that improved patient care was also dependent on the clinical facilities which were available. These facilities were determined by Government policies and health insurers and, sometimes, by professional organisations.



## ***Comment***

From these discussions it can be seen that DentEd has contributed to improvements in patient care. It has influenced care in the short term but its greatest impact will be in the long term through assisting institutions to reflect upon their approaches to dental education, by creating networks of contacts and by stimulating awareness of good practices in oral care. All of these contribute to raising standards and to increasing convergence of oral care in Europe.

## 9. Odontology or Stomatology?

One consequence of the DentEd visits was they heightened awareness of the two major perspectives in European dentistry, odontology and stomatology. This debate continued at the ADEE conference in Ljubljana in September 2002. It seemed appropriate to raise this issue in the discussions with participants.

All the participants agreed on the identity of their institutions as stomatological or odontological; and these identities matched those given in the main survey. However the discussions revealed a spectrum of views rather than two distinctive categories. Some discussants saw themselves as definitely odontologists. For them, dentistry was an integrated health profession concerned with prevention of oral problems of the patient. Some odontologists suggested that perhaps the concept of odontology was too narrow. Increased knowledge of the effect of human diseases and the increased knowledge of the effects of social conditions on the health of patients, all pointed towards a broader conception of odontology which, in the longer term, might make dentistry closer to a stomatological model, yet still distinctive.

Some discussants saw themselves as definitely stomatologists. They argued that students should be exposed to medical and surgical cases so they could see dentistry in context. The patient behind the teeth was as important as the teeth. They argued that the emphasis should be upon treating the patient holistically. On the other hand, it was pointed out that it was curious that dental students did very similar courses to medical students but were not qualified to practice medicine. In one institute visited, it was possible to also qualify as a medical practitioner after one year's further study. Some discussants commented that, although, by culture and identity, they were stomatologists, shifts in legislation had moved them closer to the odontological approach. Other stomatologists said they taught odontology in a stomatological setting; that odontology was a subset of stomatology; that just as medicine needed to have a more holistic approach so too did dentistry. One discussant suggested that, given the time available to educate a dentist, perhaps clinical experience in dentistry should have a higher priority than medical experience. Behavioural sciences and epidemiology, which were more common in odontological

schools, were, paradoxically, the basis of a more holistic approach than the studies of medical specialities in stomatological institutes.

One discussant suggested that there were two broad curriculum models in stomatology and odontology. Stomatology moved from the study of the patient to the study of the mouth, odontology moved from the study of the mouth to the study of the patient. What mattered was the final product: the standard of care and treatment that the dental graduate could provide.

## ***Comment***

These discussions suggest a middle ground is emerging between the two perspectives and this middle ground may be the basis for convergence. However one should not underestimate the political and cultural forces involved at the root of these two traditions. DentEd has helped to raise awareness and deepen understanding of the issues involved. Perhaps its next goal is to help the tradition to grow closer together whilst, at the same time, focussing upon competences and standards of care.

## **10. What aspect of DentEd would you keep? What aspects would you change?**

The discussants were strongly in favour of retaining the existing DentEd approach. They valued highly the structure of the self-assessment report and particularly the structure of the visit and the development approach of the visitors. The open, friendly style of the visitors had encouraged reflection and honest debate. The discussions had provided mutual help for the visitors and the visited. The visitors had provided constructive feedback, which had sometimes led to vigorous debates in which visitors and visited agreed to differ. This approach was a genuine peer review not an inspection masquerading as a peer review. The publication of the reports on the website and the conferences had all contributed to the strengthening of the DentEd approach.

It was suggested that the DentEd approach could now be built upon and extended. Discussants recommended that more European dental institutions should be involved in DentEd; that it should become the agency for the quality and standards of European dentistry and it should retain its existing developmental approach. The visits should be a regular occurring event so that progress could be monitored and the relationship between DentEd and the institutions sustained. It was suggested the visits should be extended by a day and the number of visitors increased. This change would reduce the burden of intensive writing placed on visitors and it would increase the opportunities to explore the basic sciences. Members of some institutions suggested that there should be more meetings with people than with committees since some committees tend to produce 'official' answers. Part of the visit might be devoted to a seminar on some aspect of dental education. Alternatively, needs and interests identified in the report could be used to design national or international courses. These courses could be supported by networks of interest groups which transcended national boundaries.

The visitors' reports could, it was suggested, be disseminated to a wider audience such as national committees of Deans, professional organisations and public health officials so that these groups became more aware of the work of the dental institutions and of DentEd. However, there were some caveats about this

suggestion; it was thought this wider dissemination should be at the discretion of the institution. There were also some reservations about the suggestion that DentEd should liaise with government quality agencies so that the templates were similar. It was thought that such liaisons might prove cumbersome and distort the DentEd process.

### ***Comment***

Overall, the DentEd approach was highly praised. The comments were in line with the findings of the main survey and they provided useful suggestions for the continuing development of DentEd.

## 11. Single most important influence

The participants were asked to discuss briefly the question what had been the most significant influence of DentEd on their institutions.

The majority view was the major influence had been upon the content and structure of the curriculum. The visits had encouraged many institutions to adopt more integrated approaches, increased the clinical experience of students and introduced new subjects within the curriculum. The visit had lifted the sights; it had provided a higher set of benchmarks to aim at. Some institutions thought the most significant feature of the DentEd visit was that it confirmed their own perceptions. These institutions stressed that the significant feature of DentEd was that it had encouraged reflection and analysis of the curriculum between schools across Europe and increased participants in the ERASMUS project.

## 12. Group ratings of usefulness and impact

Towards the end of the discussion participants were asked to discuss and provide group ratings on the value of the DentEd visit and its impact upon their institutions. A four-point scale was used for rating the visit.

(4 = very useful; 3 = useful; 2 = useful; 1 = not useful).

The ratings of impact were:

4 = very high 3 = high 2 = medium 1 = low

**Table 4.1 : Estimates of value of DentEd visit**

|        | <b>Preparation</b> | <b>Visit</b> | <i>After the Visit</i> | <b>Total</b> |
|--------|--------------------|--------------|------------------------|--------------|
| 1a     | 4                  | 4            | 4                      | 12           |
| 1b     | 4                  | 4            | 4                      | 12           |
| 2a     | 4                  | 3            | 3                      | 10           |
| 2b     | 3                  | 4            | 4                      | 11           |
| 3a     | 3                  | 4            | 2                      | 9            |
| 3b     | 4                  | 4            | 3                      | 11           |
| 4a     | 4                  | 3            | 4                      | 11           |
| 4b     | 4                  | 4            | 4                      | 12           |
| 5a     | 4                  | 4            | 4                      | 12           |
| 5b     | 4                  | 4            | 4                      | 12           |
| 6a     | 4                  | 2            | 3                      | 9            |
| 7a     | 4                  | 4            | 4                      | 12           |
| 8a     | 4                  | 4            | 3                      | 11           |
| 8b     | 4                  | 4            | 4                      | 12           |
| Totals | 54                 | 52           | 51                     | 157          |
| Mean   | 3.8/4.0            | 3.7/4.0      | 3.6/4.0                | 11.2/12.0    |



The agreement of the ratings within institutions was close, thereby implying consensus between the two participating groups on the value of the DentEd visit to their institutions. Most of the participants had no prior knowledge that these ratings would be sought so the responses can be regarded as valid. The results are consistent with the discussions within the groups about the relative usefulness of the preparation the visit and the visitors report after the visit. The results are also consistent with those found in the main survey, which was based on a much larger sample (reported in chapter 2).

Table 4.2 shows the ratings of the impact of DentEd. Again there is a relatively high consistency of ratings within institutions and these ratings match the discussion within the groups. The results are also in line with those obtained in the main survey. Usefulness in curriculum issues, management of quality assurance and European involvement were rated highly (mean scores 3.2, 3.2, 3.1 out of a possible 4.0) and usefulness in Research and Patient Care relatively low (mean scores: 2.1, 2.5 out of a probable 4.0).

|       | <b>CTLA</b> | <b>M&amp;QA</b> | <b>Res</b> | <b>EI</b> | <b>Patient Care</b> | <b>Totals</b> |
|-------|-------------|-----------------|------------|-----------|---------------------|---------------|
| 1a    | 4           | 4               | 4          | 4         | 3                   | 19            |
| 1b    | 4           | 4               | 4          | 4         | 4                   | 20            |
| 2a    | 2           | 3               | 1          | 4         | 3                   | 13            |
| 2b    | 3           | 3               | 2          | 3         | 4                   | 15            |
| 3a    | 5           | 4               | 1          | 3         | 1                   | 14            |
| 3b    | 3           | 3               | 1          | 3         | 1                   | 11            |
| 4a    | 2           | 3               | 1          | 2         | 1                   | 9             |
| 4b    | 3           | 3               | 2          | 3         | 3                   | 14            |
| 5a    | 3           | 3               | 2          | 3         | 2                   | 13            |
| 5b    | 2           | 2               | 2          | 2         | 1                   | 9             |
| 6a    | 2           | 2               | 2          | 4         | 2                   | 12            |
| 7a    | 4           | 3               | 3          | 3         | 3                   | 16            |
| 8a    | 4           | 4               | 3          | 3         | 3                   | 17            |
| 8b    | 4           | 4               | 2          | 3         | 2                   | 15            |
| Total | 45          | 45              | 30         | 44        | 33                  | 197           |
| Mean  | 3.2         | 3.2             | 2.1        | 3.1       | 2.5                 | 14.1/20       |

The ratings obtained from the discussants provided a measure of the consistency of the findings within the participant discussion groups and they reflected the main survey (chapter 2) and the written comments of the respondents in that survey. (chapter 3). The ratings also confirm the perceived value of the DentEd approach and its impact upon the key components of the work of dental institutions and one can conclude from this triangulation that the findings are valid and reliable.

### 13. Open Comments

The discussants were invited to offer additional comments or observations on the DentEd approach and its influences upon their school and other European dental institutions. Many of the comments were repetitions of statements made earlier in the discussions on the added value of DentEd. The remaining parts focussed upon ways of supporting DentEd.

The most salient points were:

- DentEd was good value for money. It had enriched the educational experiences of the visitors and the visited. However, the designers of DentEd may have to reconsider what the balance between verification and development should be. The report(s) had been helpful in identifying strengths and weaknesses but many staff felt ill equipped to bring about changes. They needed tools as well as analysis. For example, self-directed learning and e-learning were recognised as valuable features of dental education but one needs to know how to implement these innovations and sometimes negotiate, at national level, the implementation of these approaches.
- DentEd, it was suggested, could assist here by incorporating staff development opportunities into the continuation strategy. That strategy should create a climate in which it is the norm to be a DentEd accredited school. Support from EU and perhaps a modest increase in fees to ADEE could be used to finance the visits and the support required. Some discussants stressed that this venture should be started quickly. They reported there are several accreditation companies who have little experience in dentistry but see dentistry as a profitable market and these companies are skilled at lobbying the European Union (EU).

- 'Don't forget Russia' was a comment from one discussant. DentEd is evolving through its contacts within South East Asia and ADEA. We should not neglect institutions that are within the same continent. Russia has several stomatological institutes and some of these had, in the past, done valuable dental research and developed new approaches to teaching.

### **Comment**

The main thrust of the discussion of open comments were the importance of developing DentEd as the method of quality in European Dental Education and providing support for developments in dental education through DentEd. It was stressed that all European dental schools should eventually be involved in DentEd. Even if DentEd does not become involved with Russia, then the debate concerning odontological and stomatological approaches should continue. For it is through that debate that a firm middle ground will emerge and it is in that ground that convergence will prosper.

### **Summary**

The evidence from the discussions held on the follow up visits confirm and extend the findings obtained in the main survey. DentEd is reported to have had a powerful influence on the curriculum, teaching, learning and assessment; management and quality assurance and European involvement. It had been a valuable experience in its own right and as a preparation for other visits and reviews. It had also indirectly contributed to the methods of quality assurance of some universities and countries.

## Chapter 5: Impact of recommendations on the schools visited

This chapter provides the report of the follow-up questionnaire sent to forty-one of the schools visited and whose reports were available on the DentEd website. Every school received a tailor-made questionnaire based on the recommendations to that school. Appendix V contains the questionnaires of the twenty-four schools who responded. The questionnaires were designed and transmitted in July and a reminder sent in early September. Of these 21 replied by email and the remainder by fax. Each questionnaire was sent to the local co-ordinator of the visit (See Appendix V). The response rate was high for an international survey (61 per cent). Thirteen of the responses were from stomatological institutes and 11 from odontological schools. There were an equal number of responses from associate countries and the rest of Europe. The non-responses were partly attributable to the co-ordinators moving to other institutions.

Each questionnaire required the co-ordinator to make a judgement on the degree of impact of each recommendation by the DentEd visitors to the school. The measures of impact were:

6=Done, 5=Partly done, 4=Planned,

3=Under consideration, 2=Considered but rejected, 1=Not considered.

In addition to the items based on the recommendations of the visitors, the co-ordinators were invited to offer additional comments, if they wished.

The data was analysed in two ways. First, the ratings of impact were analysed and summarised. Second, the data was categorised using the qualitative method described in Chapter Three. The open comments are provided in a separate section of the chapter. These comments are reported verbatim and only amended to preserve the anonymity of the school.

## The ratings of impact

Table 5.1 provides the overall profile of the impact of DentEd on stomatological institutes and odontological schools. More recommendations were offered to stomatological institutes. Table 5.2 reveals that the co-ordinators in these institutes reported that the recommendations had implemented or partially implemented a higher percentage of the recommendations made by the DentEd visitors. Given the interest in assisting institutes in countries applying for membership of the EU, an analysis of these results was undertaken. The results are shown in tables 5.3 and 5.4. There is, of course, considerable overlap in the composition of stomatological institutes so similar results were obtained. The conclusion to be drawn from these analyses are that the DentEd visits had a substantial impact on all schools and institutes in the sample and the impact had been greater in stomatological institutes and associate countries.

Table 5.1 Overall profile: recommendation made to institutes and schools

|                       | <b>Mean</b>  | <b>SD</b>   | <b>Medn</b> | <b>IQR</b>  | <b>Range</b> | <b>Total</b> |
|-----------------------|--------------|-------------|-------------|-------------|--------------|--------------|
| <b>All schools</b>    | <b>24.0</b>  | <b>9.6</b>  | <b>21.5</b> | <b>9.5</b>  | <b>51-10</b> | <b>575</b>   |
| <b>Stomatological</b> | <b>27.23</b> | <b>10.7</b> | <b>27.0</b> | <b>16.5</b> | <b>51-17</b> | <b>354</b>   |
| <b>Odontological</b>  | <b>20.3</b>  | <b>6.12</b> | <b>22.0</b> | <b>8.0</b>  | <b>28-10</b> | <b>221</b>   |

**Table 5.2: Ratings of impact on institutes and schools**

|                       | 6           | 5           | 4           | 3           | 2          | 1          | Totals     |
|-----------------------|-------------|-------------|-------------|-------------|------------|------------|------------|
| <b>All schools</b>    | <b>143</b>  | <b>185</b>  | <b>106</b>  | <b>102</b>  | <b>18</b>  | <b>21</b>  | <b>575</b> |
| <b>Percentages</b>    | <b>24.9</b> | <b>32.2</b> | <b>18.4</b> | <b>17.7</b> | <b>3.1</b> | <b>3.6</b> | <b>100</b> |
| <b>Stomatological</b> | <b>107</b>  | <b>104</b>  | <b>67</b>   | <b>56</b>   | <b>10</b>  | <b>10</b>  | <b>354</b> |
| <b>Percentages</b>    | <b>30.2</b> | <b>29.4</b> | <b>18.9</b> | <b>15.8</b> | <b>2.8</b> | <b>2.8</b> | <b>100</b> |
| <b>Odontological</b>  | <b>36</b>   | <b>81</b>   | <b>39</b>   | <b>46</b>   | <b>8</b>   | <b>11</b>  | <b>221</b> |
| <b>Percentages</b>    | <b>16.3</b> | <b>36.7</b> | <b>17.6</b> | <b>20.8</b> | <b>3.6</b> | <b>5.0</b> | <b>100</b> |

6=Done, 5=Partly done, 4=Planned,

3=Under consideration, 2=Considered but rejected, 1=Not considered.

Percentages are rounded to the first decimal point

**Table 5.3: Recommendations made, associate countries and EU**

|                          | Mean         | SD           | Medn        | IQR         | Range        | Total      |
|--------------------------|--------------|--------------|-------------|-------------|--------------|------------|
| <b>All schools</b>       | <b>24.0</b>  | <b>9.6</b>   | <b>21.5</b> | <b>9.5</b>  | <b>51-10</b> | <b>575</b> |
| <b>Associate Schools</b> | <b>29.25</b> | <b>11.56</b> | <b>27.5</b> | <b>10.5</b> | <b>51-17</b> | <b>341</b> |
| <b>EU schools*</b>       | <b>19.5</b>  | <b>6.29</b>  | <b>20.0</b> | <b>8.0</b>  | <b>28-10</b> | <b>234</b> |

\* includes Norway

**Table 5.4 : Ratings of impact in associate countries and EU**

|                          | <b>6</b>    | <b>5</b>    | <b>4</b>    | <b>3</b>    | <b>2</b>   | <b>1</b>   | <b>Totals</b> |
|--------------------------|-------------|-------------|-------------|-------------|------------|------------|---------------|
| <b>All schools</b>       | <b>143</b>  | <b>185</b>  | <b>106</b>  | <b>102</b>  | <b>18</b>  | <b>21</b>  | <b>575</b>    |
| <b>Percentages</b>       | <b>24.9</b> | <b>32.2</b> | <b>18.4</b> | <b>17.7</b> | <b>3.1</b> | <b>3.7</b> | <b>100</b>    |
| <b>Associate Schools</b> | <b>93</b>   | <b>107</b>  | <b>67</b>   | <b>54</b>   | <b>9</b>   | <b>11</b>  | <b>341</b>    |
| <b>Percentages</b>       | <b>27.3</b> | <b>31.4</b> | <b>19.6</b> | <b>15.8</b> | <b>2.6</b> | <b>3.2</b> | <b>100</b>    |
| <b>EU schools*</b>       | <b>50</b>   | <b>78</b>   | <b>39</b>   | <b>48</b>   | <b>9</b>   | <b>10</b>  | <b>234</b>    |
| <b>Percentages</b>       | <b>21.4</b> | <b>33.3</b> | <b>16.7</b> | <b>20.5</b> | <b>3.8</b> | <b>4.3</b> | <b>100</b>    |

• includes Norway

6=Done, 5=Partly done, 4=Planned,

3=Under consideration, 2=Considered but rejected, 1=Not considered.

Percentages are rounded to the first decimal point



## The analysis of categories

Each statement in the twenty-four individual questionnaires was scrutinised and a category system was developed and then checked by an independent observer. The category system was then applied to the data and again checked by an independent observer. A full description of the categories is given in Appendix VI. This procedure of grounding the category system in the data is the customary approach in qualitative analysis. The results of the category analysis have been grouped into the themes of the questionnaire in the main survey and the guidelines for the DentEd visits. It should be noted that a few items fell into more than one category. For example, the item “Make the basic sciences, para-clinical sciences and human diseases more relevant to dentistry and integrate these subjects more across courses” was coded as ‘curriculum changes’, ‘horizontal integration’ and ‘vertical integration’ whereas “Redistribute the number of hours on human diseases” was categorised as ‘curriculum change’.

## Education of students

Table 5.5 sets out the results for the education of students. The majority of recommendations were concerned with the objectives of DentEd: curriculum change, methods of teaching and learning, assessment, competences and the use of learning outcomes. These aspects were more prominent in the recommendations to stomatological institutes. The 'newer' approaches to the curriculum such as earlier clinical experience, integrated patient care, horizontal and vertical integration, were more evenly distributed across all dental institutions and countries.

**Table 5.5: Education of students**

| Category                                       | Stomat | Odont | Totals | Assoc | EU  | Totals |
|--|--------|-------|--------|-------|-----|--------|
| Curriculum changes                             | 186    | 99    | 285    | 182   | 103 | 285    |
| Assessment                                     | 18     | 11    | 29     | 19    | 10  | 29     |
| Competences                                    | 15     | 2     | 17     | 14    | 3   | 17     |
| Learning outcomes                              | 16     | 5     | 21     | 10    | 11  | 21     |
| Behavioural sciences and Patient communication | 8      | 4     | 12     | 7     | 5   | 12     |
| Methods of learning and Teaching               | 45     | 23    | 68     | 39    | 29  | 68     |
| Student guidance and support                   | 4      | 9     | 13     | 5     | 8   | 13     |
| Earlier clinical experience                    | 10     | 9     | 19     | 11    | 8   | 19     |
| Integrated patient care                        | 17     | 6     | 23     | 16    | 7   | 23     |
| Horizontal Integration                         | 15     | 19    | 34     | 14    | 20  | 34     |
| Vertical Integration                           | 14     | 19    | 33     | 13    | 20  | 33     |
| Learning Resources                             | 38     | 15    | 53     | 34    | 19  | 53     |

## Research

Table 5.6 sets out the analyses of the categories concerned with research. 'Resources' refers to laboratory and clinical research facilities and access to journals. There were twice as many recommendations in this category for the stomatological institutes and associate countries. 'Internal' refers to greater collaborative research in the institution. 'External' refers to research with other institutions, publications in international journals and research conferences. There were few differences between the groupings of schools and institutes in these categories.

**Table 5.6: Research**

| Category                | Stomat | Odont | Totals | Assoc | EU | Totals |
|-------------------------|--------|-------|--------|-------|----|--------|
| Research resources      | 14     | 12    | 26     | 12    | 14 | 26     |
| Research external links | 7      | 5     | 12     | 8     | 4  | 12     |
| Research within school  | 11     | 10    | 21     | 10    | 11 | 21     |

## Management and Quality Assurance

Table 5.7 summarises the results for management within the school, external communication and relations with the university, hospitals, ministries and other outside agencies. Quality assurance referred to the processes of quality assurance within the curriculum and in clinics. The latter included clinical protocols, health and safety and cross infection control. The majority of recommendations were concerned with management and quality. Recommendations on these aspects predominated in the stomatological institutes and associate countries.

**Table 5.7: Management and Quality Assurance**

| Category                      | Stomat    | Odont     | Totals     | Assoc     | EU        | Totals     |
|-------------------------------|-----------|-----------|------------|-----------|-----------|------------|
| <b>Management</b>             | <b>59</b> | <b>31</b> | <b>90</b>  | <b>57</b> | <b>43</b> | <b>90</b>  |
| <b>External Communication</b> | <b>6</b>  | <b>5</b>  | <b>11</b>  | <b>6</b>  | <b>5</b>  | <b>11</b>  |
| <b>Quality</b>                | <b>78</b> | <b>32</b> | <b>110</b> | <b>76</b> | <b>34</b> | <b>110</b> |

## Resources and staffing

The data on learning and research resources has already been presented in previous tables. This data plus the recommendations for staffing are given in

Table 5.8. It shows more recommendations for better learning resources for stomatological institutes in associate countries. The results for staffing were heavily skewed because several recommendations were made for one school.

**Table 5.8 Resources and staffing**

| Category                  | Stomat    | Odont     | Totals    | Assoc     | EU        | Totals    |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Learning Resources</b> | <b>38</b> | <b>15</b> | <b>53</b> | <b>34</b> | <b>19</b> | <b>53</b> |
| <b>Research resources</b> | <b>14</b> | <b>12</b> | <b>26</b> | <b>12</b> | <b>14</b> | <b>26</b> |
| <b>Staff Requirements</b> | <b>7</b>  | <b>6</b>  | <b>13</b> | <b>4</b>  | <b>9</b>  | <b>13</b> |

## Involvement in Europe

Table 5.9 indicates that the recommendations on this theme were relatively few but associate countries received more recommendations to increase their involvement with other institutions in Europe.

**Table 5.9: Involvement in Europe**

| Category             | Stomat | Odont | Totals | Assoc | EU | Totals |
|----------------------|--------|-------|--------|-------|----|--------|
| European involvement | 6      | 7     | 13     | 9     | 4  | 13     |

## Patient Care

Table 5.10 reveals that, there were several changes recommended in patient care including computerised patient record and recall systems, health and safety, radiology, integrated clinics and clinical treatment. These results were largely skewed by the recommendations made to one institution.

**Table 5.10: Patient care**

| Category     | Stomat | Odont | Totals | Assoc | EU | Totals |
|--------------|--------|-------|--------|-------|----|--------|
| Patient care | 31     | 17    | 48     | 27    | 21 | 47     |

## The comments by respondents

The open comments by the respondents to this survey are shown below. Many of the comments referred to specific items in their individual questionnaires. The remainder are of a more general nature. The comments have been anonymised.

Seventeen of the respondents provided comments. Appendix V contains the full questionnaires so it is possible to crosscheck the comments against specific items. \*

Overall, the comments reveal a sustained interest in the processes of curriculum reform which, together with other influences, has stimulated the development and improved the quality of dental education in Europe and its associate countries.

## Comments of respondents

EU = European Union

Assoc = Associate country

ST = Stomatological

Od = Odontological

## EU/ST

The most significant accomplishments for our school are the following:

1. The comprehensive patient care programme
2. The initiation of the Oral Biology Department
3. The initiation of the student program in dental practices
4. The organisation of the dental biomaterials laboratory
5. The initiation of student self assessment program through a grant received from the EU

## **EU/OD**

Even if many points of the recommendations seem to be applied or on the way, there are still some points which are difficult, in particular as a new curriculum has been applied. Many students are coming to ----- as EDSA exchanges but we will get the final accommodation opportunity only next year. This will increase chances for Erasmus students.

## **Assoc/ST**

Our curriculum takes 5 years (10 semesters). Periodontology is taught in 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> semesters.

## **EU/OD**

Much of what we want to do with our revised curriculum is in the process of being implemented.

We are about to start Year 3 of our revised curriculum. The changes that have been made so far have been pragmatic, and I believe that, until we have all lived through one complete cycle of the revised curriculum, a push for anything other than minor amendments to the year(s) that have just been completed is all that we will achieve. There must be a process of continuous evolution of the curriculum and we change what we can when we can.

The 9<sup>th</sup> question on page 1 about the mission statement describing the sort of dentist we want to produce is difficult to answer. I would respond that we have done that via the 70 or so Competency Statements that give broad outline to the course. These match reasonably well with the revised GDC guidelines and with the QAA benchmark statements.

## **EU/OD**

When a recommendation is noticed “1 or 2”, that doesn’t mean necessarily that we do not want to consider it. Sometimes, we agree with the recommendation but we are unable to implement changes due to the French laws or customs. It is the case for example for recommendations n°1, 3 and 5.



## **EU/OD**

Over the last 2-3 years there has been a major change in the senior staff of the school and hospital. This has resulted in some adjustments in terms of priorities for change.

Significant progress has been made recently in terms of reviewing both the credit system and the Final Dental examination. The Final Dental examination now incorporates an Evidence Based Review Project, which takes place earlier in the year.

## **Assoc/ST**

The “DentEd “ visitation in addition to the above mentioned impact stimulated further permanent self-assessment of the different faculty staff activities (program development, clinical training, research planning etc.) and was helpful in creating openness in exchanging opinions between the staff members and students

## **Assoc/OD**

The faculty took many steps towards competency based dental education. But all are taking some time. The DentEd visitation was a big help to the faculty to do its self-assessment and to reconsider every thing again in the Departments. A curriculum revision us a continuous process with ongoing evaluation

## **Assoc/ST**

All of the letters Y in the field with number 1 mean that this recommendation is not relevant to the situation in -----.

Also you should know, that this year a new core curriculum is going to replace an old one, where 60 % of teaching hours are clinical hours by dental chair. The core curriculum is based on TAIEX recommendations (has been accepted by EU administration in Brussels and all of the dental schools in Poland are following it in changing their curricula).

## **EU/OD**

With respect these questionnaires are a very blunt tool. It is not really possible to express the progress that is being made. An outsider may think that with an integrated PBL course it would be easy to make changes. In reality, to make changes you need to get a very large number of staff to ensure joint ownership of the decision. That is not easy in a busy Institution. However, an interesting feature is that often, a long planning stage results in rapid introduction that seems to bed in quickly.

I recall that the Dented “inspectors” advised that we should integrate examination and emergency treatment on the ground floor. I thoroughly agree, but, until this year, that would have had a negative financial outcome because the NDDU paid more if the patient was transferred between clinics.

I have been criticised for being honest, but it’s better to tell the truth. Like most dental schools we are desperately short of staff. Most overseas students like to visit the school to work in Restorative Dentistry. That is the area that has been hit hardest by staff cuts. This year we have been fortunate to be granted the funding to replace two of the staff, but recruitment of good academic staff is getting difficult because of the almost impossible training for an academic to become a senior lecturer/consultant. We cannot arrange special courses for overseas students if it seriously jeopardises the training of our students.

## **Assoc/ST**

Re: Independent Family of Dentistry

Please be informed that significant changes took place a year ago referring to the organisational structure of our University. Two medical schools existing formerly in --- -: the Medical University of --- and the Military Academy of Medicine were united. The newly established Medical University of ---- consists of six faculties including the independent Faculty of Dentistry.

### **EU/OD**

We are planning a new curriculum following the guidelines of the process of European Convergence in Higher Education. This planning will start in the second half of this year. Most of the relevant recommendations will be taken into account when planning for the new curriculum

### **EU/OD**

I can't answer the last question.

The first question has 2 yes, because the clinical facilities are totally rebuilt, while the administration and technology are planned.

### **Assoc/ST**

From the school year 2003/04 a substantial change of the structure of undergraduate curriculum will be introduced. Dental disciplines will be extended, the medical reduced. Visitors comments have been partly incorporated to the new curriculum. The curricular changes will be introduced gradually – from the first year of study. But there are still many problems difficult to solve for e.g. to extent administrative staff, to improve the library facilities, to intensify the research activities etc. We have simply not money enough for anything, the salaries are low and the profession of university teacher is all but attractive. University departments have to be economically self sufficient so the teachers are forced to prefer health care to work with students and research.

### **EU/OD**

Implementation of faculty development. That could be a question (unless you consider it as quality assurance). I must confess that in our school there is not an enthusiastic trend.

## **Assoc/ST**

A comment on some topics or questions, marked with numbers after the respective text:

### Question 1

Such groups have been created, aims have been pointed and well defined, but we do not have any results by now.

### Question 2

The same group had to work on educational programmes, but the result is the same, as mentioned above.

### Question 3

We've been seeking for a decision every day, however fruitlessly. If you let me, I can conditionally use one of your questions, it is "under construction"

### Question 4

This ability involves full access to Internet, including paid sites, which unfortunately is not provided, funded participation's in congresses and other scientific forums.

### Question 5

No new staff employed for the full time positions, previously occupied by retired auxiliary staff. Where required, this has been done only for the duration of semesters. Assistants are employed to equate the study load in the different departments.

### Question 6

It's been introduced as an optional discipline, not included in the curriculum

### Question 7

It's been done in the Paediatric Dentistry Department.

In the departments of Periodontology, Oral surgery, Prosthetic dentistry and Operative dentistry and Endodontics in integrated study courses, with the participation of Public Health Department.

## **EU/ST**

Re-visit of the DentEd team was very helpful in stimulating discussions and decisions among junior/senior staff. The visits should go on! The best electronic network can never replace the personal face-to-face discussion and visits are tremendously contributing to national/international reputation.

## **Conclusion**

The evidence from this study demonstrates that DentEd has had a powerful impact on the schools visited. Well over half of the recommendations have been implemented or partially implemented and about a further fifth are planned. The latter are predominantly to those institutions visited later in the project. Few recommendations have been rejected or not considered. The range of recommendations made fitted the template of the DentEd visit and its aims and objectives. These recommendations together with the high impact ratings provide a strong indication of the success of DentEd. All schools and institutes visited received generous and perceptive guidance from the DentEd visits. The stomatological institutes, in particular, benefited from the support of DentEd in their quest for greater convergence with dental schools and institutes within the European Union.

## Chapter Six: Conclusions and Recommendations

This report has provided an evaluation of the impact of DentEd on dental schools and odontological institutes in Europe and its associate countries. Three approaches were used:

- A survey based on the aims and objectives of DentEd which provided quantitative and qualitative data (Chapters Two and Three).
- A report of the discussions held in nine institutions, six from the EU and three from associate countries (Chapter Four).
- A survey of the implementation of the specific recommendations made by the DentEd visitors to each institution. (Chapter Five).

Together these approaches provided a method of triangulation which demonstrated the validity and reliability of the results obtained from the three approaches. The approaches yielded a rich database that, in its turn, provided this substantial evaluation of the impact of DentEd. The evaluation, in its turn, will provide the basis of four articles and papers which will disseminate wider the important findings on the value of DentEd as a tool for enhancing the quality of dental education, for convergence and for assisting in the development of common standards of dental education and oral health care in Europe.

## **Conclusions**

The evidence obtained from these three approaches lead to the following conclusions:-

### **1. The Objectives of DentEd**

The ten objectives of DentEd, given in Chapter One, have been fully met. However these objectives are not fixed entities which, once achieved, require no further action. Rather, the objectives are part of a dynamic process, which requires sustainment, reflection and further action. Hence it is important that financial support for DentEd is maintained for a further term to ensure that its impact is firmly embedded and wider participation of dental schools and institutes is achieved. Such an approach is in harmony with the Bologna declaration and the drive towards common and high standards of dental education and oral care in Europe.

### **2. The DentEd approach**

The design and implementation of the DentEd approach to quality assurance was highly successful and valued by the participating institutions. The approach was transparent and developmental and consequently it encouraged honest reflection on the education provided, research, quality assurance and related matters. This approach is in marked contrast to judgmental models of quality assurance which often discourage frank reflection by an institution lest it be penalised. However it is important that DentEd visitors are fully briefed on their roles and the purposes of DentEd.

### **3. Dissemination of DentEd**

The DentEd approach and some of the findings from DentEd have been widely disseminated through the auspices of the major international organisation of dental education, the Association of Dental Education in Europe (ADEE), through publications, reports to Deans' committees and the DentEd website. These disseminations have led to the adoption of the DentEd approach in accreditation procedures in Europe and other parts of the world. Such dissemination is praise worthy and important but more important is the translation of the dissemination into implementation by a wider range of dental institutions in the EU and its associate countries. Hence the importance of the continuing activity of DentEd in the European context.



#### 4. Conclusions from the main survey

DentEd has had impact on all the five major themes derived from the aims and objectives of DentEd and the templates used for the DentEd visits and reports. These themes included the education of students, management and quality, research, European involvement and patient care. Examples of innovations and implementations cited in the survey demonstrate that the DentEd reports to institutions have been used to good effect. More improvements were reported by stomatological institutions than odontological schools. These results are further confirmed by the discussions with members of the institutions in Chapter Four and the measures of impact reported in Chapter Five.

Like all good evaluations, this evaluation has unearthed areas of particular strength and areas in need of improvement. These are summarised in Tables 6.1 and 6.2. The results indicate that although many areas have improved, there are areas still in need of improvement and, of course, all areas require continued monitoring to ensure quality is maintained. The implications of the findings and the expressed wishes of the respondents to this survey are that more support and guidance should be provided through collaboration between institutions and joint courses on teaching, assessment, management, research and patient care. However it should be noted that the views on patient care and communication expressed by respondents to the main survey are more pessimistic than those expressed in the group discussions and the survey of impact of DentEd. A possible reason for this apparent inconsistency is that respondents to the main survey had not considered sufficiently carefully what was involved in patient care and communication and what improvements they had actually instigated.

**Table 6.1: Improvements and areas in need of development**

| <b>Improvements</b>   | <b>Areas in need of development</b>       |
|---|---|
| <b>Education of students</b>                                  | <b>Education of students</b>              |
| Use of learning outcomes                                      | Variety of teaching methods               |
| Curriculum content  | Analyses of student performance           |
| Curriculum organisation                                       | Use of laboratories                       |
| Range of methods of assessment                                | Use of clinics                            |
| Clinical competence   |   |
| Feedback to students  |   |
| Use of ICT  |   |
| Integration of subjects                                       |   |
| Philosophical basis of curriculum                             |   |
| <b>Management and Quality</b>                                 | <b>Management and Quality</b>             |
| Management of dental school                                   | Management of departments                 |
| Monitoring quality of courses                                 | Providing staff development in assessment |
| Improving the quality of courses                              | Providing staff development in teaching   |
| Increasing awareness of work in other schools                 |   |
| Increased awareness of evidence-based teaching and assessment |   |

**Table 6.2: Improvements and areas in need of further development**

| <b>Improvements</b>  | <b>Areas in need of development</b>                          |
|--|--|
| <b>Research</b>  | <b>Research</b>  |
| More research papers presented   | Dental research  |
| Research in dental education   | Co-operation with other schools on dental research           |
| Co-operation with other dental schools in research on dental education |  |
| Papers on dental education   |  |
| <b>European involvement</b>  | <b>European Involvement</b>                                  |
| International student and staff exchanges                              | Joint projects with other schools                            |
| Interest in ADEE   | Use of external examiners and reviewers from other countries |
| Increased interest in work of other dental schools                     | The Bologna declaration                                      |
| Convergence  |  |
| <b>Patient care</b>  | <b>Patient care</b>  |
|  | Treatment of patients in clinics                             |
|  | Communication with patients                                  |

The main conclusions to be drawn from the quantitative and qualitative analyses of the main survey are that DentEd has had a powerful influence upon the dental institutions visited but further developmental work is necessary. However, it would be presumptuous to assume that all the improvements are solely attributable to DentEd. DentEd is part of the zeitgeist of quality, which is sweeping across Europe. Nonetheless, DentEd has been a major influence on, and focus for, quality enhancement.

## 5. Conclusions from the group discussions

Similar conclusions may be drawn from the group discussions. Participants valued highly the experience of the preparation and the visit although they had found the DentEd process was challenging. They had thought the visit had been a rich educational experience for the visitors as well as the visited. They had amplified some of the many improvements, which had been effected after the DentEd visit and pointed to areas, which had been neglected. The discussions had provided a useful set of good practices and these are provided in Chapter Four. Their ratings of the main themes of the visit were closely comparable to those given in the main survey. They had pointed to the limitations of using only student evaluations as a method of evaluation of teaching and they had argued strongly for more opportunities to acquire the appropriate tools for changing their courses and approaches to research. The discussants were strongly of the view that DentEd should continue, its franchise widened, and it should become the European accrediting agency for quality in dental education.

## 6. Conclusions from the survey of impact

The third and perhaps most powerful measure of impact was the extent to which the recommendations of the DentEd visitors had been implemented. On this measure, DentEd was highly successful. Well over half of the institutions had implemented or partially implemented the recommendations, over two-fifths were being planned or considered and few had been rejected or ignored. Most of the recommendations were concerned with the core objectives of DentEd: curriculum reform and methods of learning and teaching. Given the constraints and pressures upon most dental institutions and the voluntary nature of DentEd, these results are remarkable. However, one should note that, despite these positive results, many respondents were of the view that the DentEd reports could have been used even more effectively. Perhaps this finding shows the commitment of the respondents to curriculum reform and quality assurance.

## **7. Differential impact on odontological schools and institutes**

The three modes of evaluation revealed differences between the odontological schools and stomatological institutes. Such differences in tradition are important to recognise, but also to accept, in a wider European context. The differences between stomatological institutes in associate countries and other institutions in the rest of Europe owe much to different levels of economic prosperity. DentEd has been a particularly valuable and challenging learning experience for these institutes. They received much support and guidance from DentEd, they responded well and their level of implementation was high, despite the heavy constraints, which they experience. However much work remains to be done by both the institutes and DentEd. So, as well as continuing to assist European institutions in their quest for quality, it is important that DentEd focuses upon assisting institutes in associate countries through visits and courses which provide support for curriculum change.

## 8. An evaluation of this evaluation

It is a well-known maxim that every project should be subject to evaluation. This evaluation project is no exception. Hence in this section some reflections on the evaluation process are offered. Response rates were high for an international survey but they could have been higher if more reminders had been sent to Deans as well as co-ordinators. The timing of the visits could have been better but they had to fit the institution's timetable and the other commitments of the investigators. More detailed analyses of the rich database obtained could have been undertaken but this would have exceeded the time and financial allocation for the evaluation. However further analyses of the data will be undertaken and published. The use of three different modes of evaluation is sometimes complex and time-consuming but it does provide a means of triangulation. This triangulation has revealed high consistency and internal validity of the results obtained so one can be confident that any recommendations are based on a firm foundation.

## 9. Value for money

The outlay of European funds for the DentEd project were relatively modest. It may be likened to seed corn, which has already yielded a rich harvest. Put another way, compared with many health projects funded by the European Directorate, the financial investment in this project has been low, the yield has been high. It is hoped that DentEd will continue to be supported in its pioneering work of bringing together the dental institutions of Europe and its associate countries and in helping those institutions to achieve common and high standards of dental education and oral health care.



## Recommendations

DentEd has been a highly successful project. It has achieved its objectives, it has laid a firm foundation for future developments, its method of quality assurance is well proven and its approach has been widely disseminated. On the basis of these findings the following recommendations are made:

1. The DentEd approach to quality assurance should continue to be used.
2. More odontological schools and stomatological institutes should be encouraged to participate in DentEd.
3. DentEd should become an accreditation agency for dental education in Europe.
4. Joint courses should be provided on Curriculum Change, Methods of Teaching, Learning and Assessment, Research and Patient Care.
5. Further support and guidance should be provided to stomatological institutes in associate countries.
6. Institutions should be encouraged to increase further their collaboration in curriculum change and research.
7. Regular visits to all dental institutions should be introduced to assure the quality of dental education in Europe.
8. The best practices, areas of strengths and weaknesses should be disseminated to all dental institutions in Europe.
9. DentEd should continue to be supported for a further term.
10. In the next phase of DentEd, greater emphasis should be placed on the European standards and competences in Dentistry.