Response of the British Dental Association
To the review of UK Health Research led by Sir David Cooksey

Background

The United Kingdom is renowned for its excellent research and this extends to the subject area of dentistry. We are pleased that we are allowed the opportunity to respond to the invitation by Sir David Cooksey on the review of UK Health Research. The British Dental Association is the professional association and trade union for dentists in the UK. We have over 18,000 qualified members, the majority of the profession, and over 3,500 student members. The BDA develops policies to represent dentists working in every sphere, from general practice, through community and hospital settings, to universities and the armed forces. The Association represents the interests of Clinical Academic Staff who provide a significant contribution to the success of the NHS:

- They educate and train the profession's workforce and contribute significantly to its continuing education and specialist training;
- They deliver a clinical service in the primary sector, through their students, and in the secondary and tertiary care settings. Some specialist services are only provided within university dental hospitals by academic staff;
- They undertake research in the area of health care, so contributing to the future health of the nation.

This group are actively involved in obtaining funds for research from the Medical Research Council (MRC) and the NHS R & D programmes. Dentistry has made great strides in improving the health of the nation and funds from these programmes has been translated into improvements in dental care. Research into dental diseases brings about large improvements in the Quality of Life. We are particularly active at the primary care interface but it is accepted that only with adequate funding, good infrastructure, and networks can high quality research be conducted in dental primary care.[1]

The strength of dental research is well documented within the UK from the last Research Selectivity exercises. However dentistry is significantly under funded relative to the effect of dental diseases on the population. Dentistry is a high priority in the life and expectations of the general public and this is seen by the extensive media coverage following the introduction of the new contract for General Dental Practitioners. Dentistry has had many successes over the years including fluoridation, improvement in the dental health of both adults and children. However results from the last Adult Dental Survey reveal that 13% of adults have lost all their natural teeth. This is decreased from 30% in 1978 but there is still need for dental research to improve oral health further. Other conditions are starting to give cause for concern including tooth wear caused by erosion from the consumption of fizzy drinks. In the Adult

Dental Survey over half (51%) of dentate adults said they had been affected in some way by their oral health, and in 8% of cases the impact was sufficient to have reduced their quality of life.[3]

The condition of children's permanent teeth in England and Northern Ireland had improved markedly in a similar manner to the Adult Survey. However there were no statistically significant changes between the 1993 and 2003 surveys in the proportion of five and eight year-olds with obvious decay experience, or in the proportion having teeth with cavities, in the primary (.milk.) teeth.

In conclusion more research is required to improve the health of the nation's oral health.

There are other areas where the United Kingdom leads the rest of the world. This includes the areas of dental materials and biomaterials, dental health technology and basic research into clinical dental science. Our successes are demonstrated by the number of distinguished scientist awards made to UK researchers by the International Association for Dental Research. The UK has a strong representation in the international field of dental editors. Twelve of the top 25 international dental journals are edited by UK researchers. Dental researchers in the United Kingdom are one of the most productive groups internationally (higher than the USA) and has the highest productivity rates for publications (number of documents per researcher).[4]

Our dental research output is well represented on a geographical basis throughout the country and any new system of funded should not attempt to ignore the strengths of the dental research community. In summary dental research makes a marked contribution to the health and success of the country. However funding is necessary to maintain its present position and the proposals for a new UK health care funding body cannot afford to ignore dentistry within its remit.

1. What are the strengths and weaknesses of the MRC and NHS R&D programmes at present? How do each of these support the research and training needs of the NHS, social care, industry and academia? Does more need to be done?

The present system of funding has served the United Kingdom well and its strength lies in the robust peer review system. The MRC and the NHS R & D provide a good foundation for research. In keeping with many organisations there is a need for change to improve the present system. The current organisation of health research is primarily funded by the major two agencies. The weakness is that dentistry finds it difficult to have its voice heard in the Medical Research Council. Unlike other research councils (i.e. the Engineering and Physical Sciences Research Council - EPSRC) the MRC does not operate a Peer College and researchers feel frustrated that they are not fully represented in the decision making process. The dental research community has lobbied hard to have representation in the peer review process. It is suggested that a combined organisation establishes a universal Peer College which would allow dentistry to have representation as it does in other research councils. It could be argued that one of the weaknesses of the NHS R & D is that it does not appear to fully understand the research community. Calls for research are often highly focussed preventing many institutions from accessing funds. Such calls for health funding are better organised when they fall under a research council remit.

The involvement of non-academic collaborators such as Industry should also occur to allow ideas to be translated into direct benefits to patient care. The UK is a major player in oral and dental research but often lacks the infrastructure to grasp the opportunities to develop the applications. An example was in the research into light curing dental tooth coloured fillings which was initiated in the UK but

subsequently had the support environment moved to the USA and Japan, with Japan ending up buying up the technology.

Therefore there would be immediate benefit bringing the two organisations under one umbrella.

2. What do you believe are the key scientific and organisational challenges facing health research, and underpinning training, in the UK over the next decade? How might the UK Government best help address those challenges? What do you believe should be the Government's objectives for health research, and why?

A new report published in June 2006 by CHMS and CHDDS – "Clinical Academic Staffing Levels in UK Medical and Dental Schools" has looked at Clinical Academic Staffing Levels in UK Dental Schools. It shows that the number of clinical dental academic staff in the UK is seven per cent lower than it was in 2003, despite Government plans to boost the number of students studying dentistry. Despite a one per cent increase in the number of dental academics between 2004 and 2005, researchers found 23 vacant clinical academic positions, including two professorships, across the UK. Dental academia should be made more attractive and the BDA would like to see transparent funding arrangements to ensure that dental schools are fully funded and that the government recognises this to make academic careers more attractive. Also the government should be encouraging more females to enter into dental academia as at present they constitute just 19 per cent of the workforce. Any new funding body into health care should look to supporting the dental academic community otherwise the ability to produce high quality research will be diminished.

Whilst we applaud the government's initiatives such as Walport training monies, they are driven by the medical community who do not fully understand dentistry and the training requirements within our speciality. Clinical researchers often have excessive burdens of patient care and teaching to undertake compared to their medical colleagues. Much of the research initiatives may be improved by:

- Increasing the funding at the basic scientist/clinician links allowing such partnerships to successfully evolve.
- Investing more money into the already existing strong research links with Primary Dental Care and quality of life. This may be developed by investing in Networks and or/ Primary Dental Care research centres.

Research governance surrounding clinical trials is important to safeguard patient safety. However increased bureaucracy and red tape has increased. Such barriers that stifle an innovative and developmental culture need to be challenged.

Finally, interdisciplinary research in health care should be encouraged and rewarded. There is competiveness between institutions which can result in a negative culture which in our present system discourages multi research centres.

3. What should be the Government's priorities for health research? Is there anything it should stop doing or funding? What is it not doing or funding that it should do, and, in the absence of further sources of support, what can it lower in order to release the necessary funds?

Oral health is an important aspect of general health - it enables an individual to eat, drink and socialise without painful disease, discomfort or embarrassment, which contributes to general well being. The

British Dental Association is committed to promoting initiatives and actions that tackle inequalities in oral health and this policy sets out our priorities.

In order to tackle inequalities government policy must emphasise the prevention of disease and promotion of oral health to help reduce inequalities and improve the oral health of the nation. Dental services must be fully integrated within primary care to help develop local solutions for local needs thus helping to tackle local oral health inequalities. Areas where further funding of research is necessary to improve the health of the nation include:

- Reducing the inequalities in child dental health
- Research into Fluoridation
- Health Promotion and Health Education
- Involvement of communities in oral health promotion. There needs to be increased appreciation of cultural differences in relation to oral care.
- Patients should be provided with the appropriate information in order to make informed decisions about their oral health.
- Dental public health functions such as screening, epidemiological surveys and the identification of oral health inequalities, which are essential to service planning, must be safeguarded and developed.
- Reducing tobacco usage and oral cancer screening

4. How should decisions be taken on the balance between the long-term economic and social benefits of a high quality biomedical research base; and the needs for research to improve healthcare and other public services? What is the appropriate balance between public funding for investigator-led and priorities led research? How do we balance funding for basic science, translational science and applied science? Is this something that should vary over time? What mechanisms should be used to make judgements about this balance?

A balance between investigator led and priorities led research is required in this new organisation. New research ideas can be brought up by the former approach and is underpinned by a robust peer review process. NHS funded research has tended to be priorities led. It is perceived that many of the committees making the decisions are driven by researchers who are often remote from the grass root level. It is suggested that a broader church involving young up and coming researchers with a science based and/or clinical background will inject new ideas into the system. The training and management of researchers is essential in developing the community. Initiatives such as career development grants for young clinicians /researchers working in dental research should be instigated.

5. In your experience, how have the results of publicly-funded health research in the UK been used, both in the development of new treatments and to influence / change wider policy and healthcare practices? What lessons can usefully be learned to improve the uptake of advances in science and medicine?

In Dentistry we have had real success stories. For instance it is well documented that the introduction of fluoride toothpaste over 25 years ago is responsible for the decline in tooth decay in the UK. Despite this, fluoride still has a role for all age groups. Where fluoridated water is not possible, other mechanisms to target fluoride should be considered such as toothpaste to children in deprived areas,

fluoride in milk or salt. Further evidence based research should be undertaken to build on such successes.

6. How might better links be forged between 'basic', translational and applied researchers, working across the whole field of health research, from the laboratory bench to the front line of the NHS? How might better links be forged across disciplines, e.g. with engineers, physicists, and social scientists?

One of the great successes of the Engineering and Physical Sciences Research Council (EPSRC) has been the introduction of the Life Sciences Interface programme. This has brought together researchers from different backgrounds that collaborate on projects that will have benefit for patients. Some of these have been project led. Such examples of best practice should be instilled into the new organisation. Dentistry is particularly good at working across traditional boundaries and has a strong track record of interdisciplinary research. There should also be the provision for "Blue Sky" or high risk projects which will allow new innovative ideas to be brought forward.

7. How can the Government encourage translation, entrepreneurship and innovation in health research to improve public services in the UK?

Clinical researchers are trained to undertake research to a high standard. However they are not necessarily entrepreneurs. The new combined funding organisation should providing start up funds to assist researchers in bringing their ideas to fruition which help in improving the health care of their patients. Many times a good idea for research is not translated into a commercial product which assists the community due to the administration or bureaucracy involved. It is suggested that the training of clinical academics should include education in this important area. An example of this is the Medici collaboration (http://www.midlandsmedici.org/) which is a Midlands-based programme aiming to foster a climate of entrepreneurship in Universities, particularly in relation to research that has commercial application. Such an initiative could be translated to the MRC/NHS R & D funding body.

8. How can UK health research funding be most effectively used to provide the appropriate infrastructure for basic, translational and applied research, whether funded by the UK public sector or other sectors? How can UK health research funding be most effectively used to support the work of NICE, facilitate innovation and collaboration with industry, and address market failures in the application of healthcare?

Dentistry already has networks in place which facilitate innovation and collaboration. An example is the Dental Virtual centre[5]. It aim is to identify and objectively synthesise, quality-assured best evidence on dental interventions and dental care of importance to the NHS, its staff and its patients. Such information should be made readily accessible via a variety of formats, exploiting the potential of electronic knowledge services from Connecting for Health. Funding for such networks from a combined organisation will have direct benefits by informing NHS dental policy, service and education interests on evidence-based dentistry issues.

The value of change will need to be assessed. One of the drawbacks of systematic reviews is that, in a field that is rapidly changing, by the time the retrospective assessment has been completed further innovation has taken place which makes the assessment out of date. The UK tends to take a guarded approach to new technology preferring to take the systematic review/NICE approach. There might be advantages in taking a risk analysis approach and investing in innovative research and predicting health care advances.

9. What lessons should the UK learn from other countries in making the proposed changes to the institutional arrangements for the funding of health research?

The USA operates the National Institute for Health (NIH) which supports health research. There are subsets of the NIH which either champion a theme (for example the National Institute for Aging) or discipline (the National Institute for Dental and Craniofacial research). This is a good example which would enable health care research in the United Kingdom.

The translation of research into direct benefit to the patient should be streamlined. The UK patent laws put those in UK technological development at a disadvantage to their counterparts in the USA. Exploitation of research can be hindered by the wishes of employers or sponsors such as the funding councils and the health departments. It is hoped that the new funding agency would seek to overcome such difficulties.

10. In implementing the single fund for health research, to what extent should the MRC and DH / NHS R&D be merged or brought together? And to whom should the single, ring-fenced fund be accountable? Please provide reasons and any supporting evidence for your response.

The BDA is in agreement to a full merger but the new organisation should follow principles of other research councils and charity bodies. Unhealthy competition should be avoided and collaboration encouraged with the establishment of networks. One of the problems with working at a research council/NHS interface is that both organizations have different cultures. Therefore accountability for the single ring-fenced fund should be majored where a full understanding of research and its impact on patient care is understood.

11. To what extent does the success of recent innovations in health research (e.g. Clinical Research Networks) and the proposed structures rely on the new Connecting for Health NHS IT system, and to what extent should it do so?

There is an urgent need that the Connecting for Health NHS IT system is in place so that information is made readily accessible via a variety of formats, exploiting the potential of electronic knowledge services. The NHS connecting for health does not appear to be producing the necessary results required to bring about the accessibility of such information.

12. Given that NHS R&D is currently devolved, but that the work of Research Councils is not, how can these functions work best together to maximise the health and economic benefits to the UK?

There are culture differences. Research council funds typically span either 3 to 5 year funding. NHS R & D funding is often linked to priorities and has shorter time spans. There should be continued funding streams that allow better communication of research findings to other researchers and their eventual benefit to health care in general. In this reply the British Dental Association does not necessarily wish to make dentistry a special case but rather that it is allowed access to the decision making process.

In Summary

- The British Dental Association welcomes the Review of UK Health Research and is in broad agreement that the MRC and NHS R & D programmes are amalgamated. However there is a call for broader representation in the decision making from disciplines such as Dentistry. The establishment of a Peer College which has broad representation is required.

- Funding should be directed to maintaining a well trained research community and fostering a culture that is prepared to invest in research and innovation. If the capacity is there and we believe it is, then patients and dentists will benefit.

- We wish to see such an organisation operated on open lines similar to the research councils with both priority and project led research.

- Such an organization should be prepared to invest more funding in the research strengths of dentistry including the area of Primary Dental Care.

- There should be closer links with industry and training of researchers in entrepreneurship approach to translating research into direct patient care

- There should be and increase in the number of clinical dental academics and there should be promotion of the clinician/basic scientist partnerships.

References

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