Improving Mobility

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BOA Research Strategy 2012

British Orthopaedic Association
Caring for Patients; Supporting Surgeons

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The British Orthopaedic Association Research Strategy 2012

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Our Mission

In order to "Care for Patients and Support Surgeons" the British Orthopaedic Association will promote and help sustain high quality research in Trauma and Orthopaedic Surgery.

Our Vision

The British Orthopaedic Association will

1. Promote the best possible care for patients with musculoskeletal disorders to give lasting benefit at the lowest risk with effective treatments that can be implemented and assessed;
2. Encourage innovation and the translation of proven innovations into practice for the benefit of patients;
3. Facilitate research in basic science, treatment effectiveness and service delivery;
4. Partner with others to grow research infrastructure and develop future researchers.

Our Values

1. We will discharge our moral obligation to seek evidence for our treatments and expose negative outcomes where identified;
2. We will help develop and support innovation that improves patient care;
3. We are committed to partnership working that combines strengths, skills and resources of all who contribute to research into and management of musculoskeletal disorders;
4. We will always put our patients first and will not compromise on ethical or moral principles;
5. We expect to be measured by what we do, as well as what we say.

The Gaps

In the last decade academic research activity in Trauma and Orthopaedic surgery has not kept pace with other disciplines in the United Kingdom.

Funding

The funding methods[1] for research have changed and of the small amount (1.5%) of Department of Health funds[2] obtained by surgical research projects, a very small portion has been secured by Trauma and Orthopaedic research applications. This research deficit in T&O can predominantly be attributed to our specialty. We lack academic vigour, effective collaborations with basic science disciplines and our specialty needs help. We have failed to grow our research expertise, and hence our influence in universities. Our poor grant accrual is due to very few high quality applications for available research funding.

This partly explains the poor performance of Trauma and Orthopaedic Academic departments in the Research Assessment Exercise compared to our peers in Cancer Research, Cardiovascular Sciences, Diabetes, Respiratory Diseases, and Stroke Medicine. However, it is more difficult to conduct RCTs in T&O surgery particularly where there is a non-operative arm. Very little of our research output is therefore published in high impact journals such as the Lancet.

The investment into T&O research by the implant/devices industry has not mirrored that of pharmaceutical companies in medical research. We have been too ready to accept new implants untested in our health ecosystem and without adequate surveillance.

Although orthopaedic surgery provides great and lasting benefit after trauma and disabling diseases of the musculoskeletal system[3], particularly for painful joints[4], the demands of the growing burden of musculoskeletal disease will only be met with further innovation to help us deliver more and better care for less. Good quality research into T&O treatments is urgently needed and should attract a greater amount of research funding. Many partners (e.g. ARUK, RCSEng) are working hard to help address this deficit.

Culture

There has been a significant deterioration in the climate of curiosity within the T&O surgical community due to increasing beaurocracy and financial constraints surrounding the conduct of even good quality case reviews and due to the near terminal state of “own account” research. This has left the orthopaedic clinicians and NHS managers disengaged from the processes of investigation into what we do. We all passively accept what we are told rather than question and seek to improve.

This climate of disengagement has widened the gap between the clinicians and the clinical academic units and has challenged recruitment into studies.

A big hurdle to high quality musculoskeletal surgical research is that the current system is still constrained by a competitive rather than a collaborative environment[5]. Departments are assessed on their research activity and this generates competition for meagre resources. We lack cohesion nationally in the musculoskeletal academic and clinical community.

This culture of disengagement and competition must be reversed.

Partnership

The British Orthopaedic Association and the Department of Health, Health Research systems in the Departments of Health in the four countries, the Research Councils and the Orthopaedic and Musculoskeletal Research charities, including Arthritis Research UK[6] and Orthopaedic Research UK need to work together to improve the culture, infrastructure and delivery of T&O research.

We must actively explain the need to develop new and effective ways of treating our patients and delivering our services nationally. This involves explaining the need for high quality musculoskeletal T&O research to policymakers, commissioners, patients and clinicians to highlight the benefits of high-quality musculoskeletal research in improving the quality of patient care. We need to showcase our British orthopaedic surgery solutions internationally.

The quality of our research should attract partnership with the implant/devices industry.

Representation

The effective representation on policy making bodies, research boards, grant giving bodies[6] and those identifying and prioritising research needs to improve. The research-active members of the BOA must be encouraged to represent and promote musculoskeletal research in these organisations in greater numbers and more effectively.

Infrastructure

Few T&O academic units have grown and developed under recent conditions.

Trauma and Orthopaedic Academic departments have fared poorly in the transition from the Culyer funding[7] to the new Post-Culyer funding mechanism[7] introduced in 2009.

In many universities the HEFCE funding of Trauma and Orthopaedic academic posts has been reduced or withdrawn. This has been replaced by the promotion of honorary and visiting chairs, but without funding, time or infrastructure allocated. This has stalled growth in Trauma and Orthopaedic research manpower and development of research infrastructure within the United Kingdom.

Internationally, we are fast losing our competitive edge in innovative T&O research.

Our Goals

1. Develop a culture and climate which promotes curiosity and innovation;
2. Partner with all to facilitate high quality musculoskeletal research;
3. Represent musculoskeletal disease and help set musculoskeletal research priorities;
4. Facilitate research activity nationally;
5. Foster strong collaborations between Trusts, academic units, disciplines and CTUs;
6. Help foster and improve clinical research recruiting networks;
7. Stabilise and grow research manpower and infrastructure.

Developing a culture and climate to facilitate research

We will co-ordinate research method training, developing our future researchers and work to develop a climate in which research into musculoskeletal disease is facilitated in partnership with the NHS, clinicians and patients and catalysed by our partners.

Work with partners to develop musculoskeletal research

We will join partners to raise the awareness and understanding of the impact of trauma and musculoskeletal disease on the population of the United Kingdom and highlight the benefits from well conducted surgery in restoring people's abilities to look after themselves, their loved ones, and to return to work. T&O needs help from our partners and national institutions to bridge the research deficit.

Represent the need for musculoskeletal research

We will work with all partners in order to achieve our goals. We will work in collaboration with a range of partners including the Dept of Health and other national government bodies, medical research charities in the UK and other professional bodies such as the British Rheumatological Society, the Chartered Society of Physiotherapists, the Royal College of General Practitioners, and various patient bodies. We will network closely with our partners in industry and with the general public.

Be recognised as research leaders for musculoskeletal disorders by facilitating National Research

Our aim is to establish the United Kingdom as an internationally recognised centre of musculoskeletal research excellence. This will not just be limited to one disease, but the entire range of disorders affecting the musculoskeletal system and will critically evaluate the role of surgery in delivering outstanding outcomes.

Coordinate and promote funding of research activity Nationally

We will seek to increase the funding for musculoskeletal research at all levels of the spectrum: Basic Science, Clinical Trials and Health Services Research. The British Orthopaedic Association will strive to create the best environment to support and develop research that is fit for purpose in the current international climate. We will seek to assist in the commissioning of research focused on improving the effectiveness and value of surgical interventions for injury and disease of the musculoskeletal system.

Generate good research networks

We will work hard to ensure that the entire clinician workforce want to and are able to participate in research to deliver high quality care for trauma and musculoskeletal disorders. This will need a concerted effort to change the culture and climate for musculoskeletal research at all levels of our organisations from commissioning to provision.

Stabilise and grow research infrastructure

We will support the development and staffing of academic orthopaedic departments and work hard to attract and develop and retain the best young research professionals in conducive multidisciplinary research environments.

Our Objectives

Create a BOA research board and research committee

a. We will set up a small Research Board that includes a member of the BOA Executive and the Chairman of the Research Committee. It will report to the BOA Council and bear responsibility for the achievement of the objectives below.
b. The British Orthopaedic Association Research Board will oversee the development and annual revision of the British Orthopaedic Association Research Strategy, help set priorities and co-ordinate our National efforts.
c. We will advertise for the Chair of the Research Board.
d. We will create a more inclusive Research Committee that will integrate the thinking of research committees of specialist societies, the British Orthopaedic Research Society, Joint Action and the Association of Professors of Orthopaedic Surgery.
e. The Research Committee, with senior representation form statisticians, Clinical Trials Units and Public Health and our partners (ARUK, RCS) will advise the Research Board and Council and help deliver our goals.

Complete and maintain the research strategy

a. We have generated this research strategy, held a debate at the February BOA Council Meeting and have finalised the strategy for publication in 2012
b. There will be an annual review of the strategy each January working closely with the Musculoskeletal Alliance, the Departments of Health and the Musculoskeletal Research charities, in particular our partners ARUK.

Developing a culture of research and innovation

(a) We will generate a competency based and mandatory "Research Methods Curriculum" in the T&O curriculum for Specialist Training Registrars to ensure our future clinicians are research aware and research competent.
(b) We will link with the strategy for Education of the British Orthopaedic Association to ensure that the knowledge obtained from the research programmes are transmitted to all users and providers of the service.
(c) We will work closely with the Department of Health (e.g. PbR, SDM,BPT,ER) to ensure timely and effective

conversion of research findings into practice using incentives if needed (CQUIN, BPT).

(d) Patient involvement:

(i) Our research strategy will be reviewed and assisted by the Patient Liaison Group of the British Orthopaedic Association and we will work closely with all who represent our patient's needs[8].

(ii) The PLG will review our research priorities and help us disseminate findings

(iii) We will form a network of lay contributors and service user volunteers and facilitate their interaction on our website and at the annual congress to strengthen closer working with our service users.

(iv) We will develop and deliver an educational course for this network in collaboration with current research involved service users to promote their active participation in research.

Contribute to setting National research priorities

This objective will be met by doing the following

a. Collate a Delphi process[9] responses from the Orthopaedic academics within the UK, to six questions (See appendix 1).

b. Generate, using the Delphi method[9], lists of areas where urgent research is needed using the Research Priority setting Exercise[10]. We will facilitate and contribute to a T&O and musculoskeletal Research Priority setting Exercise (RPE)[10] every 4 years to help focus academic attention on urgent and significant gaps in evidence. This will be done in collaboration with our research and clinical partners, the Royal Surgical Colleges, and the DH. We will ensure that all specialist areas (eg Paediatric Orthopaedic Surgery, Trauma, Spine, Hand) are included in such an exercise.

c. These will be developed, with our partners, into programmes of research addressing a range of trauma and orthopaedic priorities, in particular the gaps in knowledge identified from our practice strategy, "Restoring your Mobility".

d. Co-ordinate the Research Committees of Specialist Societies and form a good network to help generate the important research questions.

e. Identify priorities raised by present issues and by the analysis of registries and national databases.

f. Engage with the patients, surgeons and commissioners to help rank these priorities.

Facilitate research delivery

Funding:

i. The objective is to get increased funding (double in 2 years) for musculoskeletal research[11-13]. We would do this by nominating our research questions as appropriate research topics with our partners, the National Institutes of Health research in our four countries and other government bodies such as NICE and MHRA, and with other research charities and industry.

ii. In order to reduce the funding deficit for research we need to facilitate strong teams to put in high quality and competitive applications for funding.

iii. We will use the British Orthopaedic Association funding generated by Joint Action to pump prime and facilitate grant applications

iv. We will consult with our industry partners on how to improve industry funding of research.

Improve partnership

a. We will complete a MoU with ARUK and we are committed to working closely with ARUK to ensure that our strategies complement one another and together we deliver improvement in UK academic orthopaedic surgery.

b. Our work with AR UK and other funders will deliver our strategic aims which are closely aligned with those of the RCS research strategy.

c. We will generate a BOA background statement to support the case for Musculoskeletal Research.

d. We will promote research in all countries of the UK working with the four DHs and MHRA, NICE, NJR.

e. We will work closely with the musculoskeletal alliance (ARMA) to develop multidisciplinary research investigating the entire pathway of care for common musculoskeletal disorders.

Improve Representation

a. We will identify a group of colleagues to agree to represent Trauma and Orthopaedic surgery on the different boards relevant to research, including those raising research questions such as MHRA and NICE.

b. The research questions raised by the highly successful audit databases such as the National Joint Registry[4], the National Hip Fracture database[14], Information Centre, and the Patient Reported Outcome Measures should help define research questions which are clearly framed and underpinned by proper analysis of audit data and then supported, prioritised and

delivered through adequate grant applications.

c. We will understand and use existing mechanisms to set and modify research questions[15].

d. Our representatives will mitigate the conflict of interest[16-18], both intellectual and pecuniary, by declaration, transparency, and independent oversight. We will extend the BOA Conflict of Interest Policy to actively mitigate such conflicts so all can have full confidence in those representing Trauma and Orthopaedic Surgery. The lists of our representatives will be available on our website where we will also hold the list of funded studies.

Widen research collaboration

a. We will work hard to facilitate the use and deployment of our resources of people, money, academic resources of skills and equipment and academic time available. This will best capture the activity done in the United Kingdom and reflecting the 1.6 million procedures done in England each year for musculoskeletal disorders.

b. We will foster the creation of multidisciplinary teams of researchers linking all the clinical groups involved in delivering care for musculoskeletal disorders. The clinicians involved will include orthopaedic surgeons, rheumatologists, physiotherapists and general practitioners.

c. We will help promote partnership working with Health Economists, statisticians, CTUs, basic scientists and other disciplines to address important research questions.

d. We acknowledge the competition between units and individuals and seek to manage it so that we can deploy academic manpower effectively in a co-ordinated fashion working together to deliver an ambitious portfolio of research. Not only do we need cohesive and supportive networks to recruit patients in commissioned and funded studies but we will do exactly the same for the academic units around the UK so expertise is shared and collaboration facilitated.

e. Academic units must harness the capacity and enthusiasm of those non-academic clinicians who are research active and facilitate their research.

Establish and develop clinical networks

a. Collate a list of current musculoskeletal clinical research networks.

b. Align to Injuries and Emergencies and planned pathways.

c. Annual Congress will have sessions to promote, educate and recruit local researchers and help extend these networks.

Grow infrastructure

a. We will generate a directory of Grant holding Chief and Principal investigators, and active recruiting centres engaged in major research activity including portfolio studies, Joint Action studies and major (>100K) commercially funded studies.

b. We will eventually develop and grow the Musculoskeletal Research Faculty and support its activity of training and mentoring musculoskeletal researchers within the British Orthopaedic Association.

c. We will specifically develop the skills of researchers and strengthen career pathways and use the British Orthopaedic Association fellowships and awards to support this.

d. We will work closely with the Department of Health to ensure that the supporting professional activities (SPA) time is made available for clinicians to remain involved in research activities.

e. We will conduct a careful and urgent national-stock taking to identify the resources (of people, time, infrastructure and funds) and their level for musculoskeletal surgical research in each unit. The data we will collate will include:
   i. the names and contact details of research active BOA members;
   ii. the grants held by research active members;
   iii. the infrastructure with which they are working;
   iv. their principal area of interest;
   v. the available skills;
   vi. equipment/ technical expertise.

Appendix 1: The six questions we needed answers to

1. Why is Trauma and Orthopaedic Surgery not better represented in the national funding of research either from the Medical Research Council, the National Institute for Health Research, or Non-Government streams?

2. Where do we see UK T&O research by 2018?

3. What are the barriers to us achieving this?

4. How can we overcome these barriers?

5. What are the three main research questions we can address as an orthopaedic community over the next 5 years?

6. Which of these would you personally be most interested in working on?

Appendix 2: Why do we need research into Musculoskeletal diseases: The Landscape and impact of Musculoskeletal disease and Trauma & Orthopaedic treatments

1. More than 6.5 million cases of musculoskeletal disorder are present among the individuals of working age in the UK; by 2030 that number will increase up to more than 7 million cases[19].

2. The total cost of osteoarthritis to the UK economy is estimated at 1 per cent of GNP per year[20]. Each year, over 2 million adults visit their GP because of osteoarthritis.

3. In 2010/11 around 26.4 million working days[21] were lost in total, 22.1 million due to work-related illness and 4.4 million due to workplace injuries which cost 5.4 billion. Musculoskeletal disorders are the leading cause of disability and time off work for sick leave worldwide. In the UK in 2011 there were 158,000 new cases and 351,000 pre-existing cases of work related musculoskeletal disorders (33% of all causes) 40% affected the back and 40% affected the upper limb. This led to 7.6 million working days lost and cost[22] a proportion of 14 billion for all disorders.

4. In November 2011 nearly 1.1 million people receive disability living allowance as a result of musculoskeletal disorders and injury, representing 32.3% of all claims[23].

5. 1.6 million Procedures are performed for trauma and non -trauma in the UK each year[24] and the rate of surgery is increasing but is still lower than comparable countries.

6. There is large variation in intervention rates, inpatient stays in England[25] but we do not understand the variation in disease prevalence and severity yet.

7. The failure of Trauma & Orthopaedic Surgery to meet the 18 week RTT standard_ENREF_10[26] in 15% of cases and the Nicholson Challenge[27] requires innovative ways to deliver good and more care at a lower cost.

8. The rate in 2009 of hip replacement was 194/100,000/ year and Knee replacement was 141/100,000 per year in the UK. This rate is lower than most like sized countries with adequate data[28]. This may reflect better health, better management in primary care or a large unmet need.

9. In 2009 in the region of 11,000 people in England and Wales were enabled to return to work by a hip replacement surgery, saving the UK welfare system £37.4 million each year of their working lives[20].

10. Orthopaedic Surgery is cost-effective. The estimated 10-year cost per QALY gained was EUR 5000 for hip replacement surgery[29] this translates to less than £10/ week for sustained relief of pain.

11. Trauma remains the fourth leading cause of death in western countries and the leading cause of death in the first four decades of life.

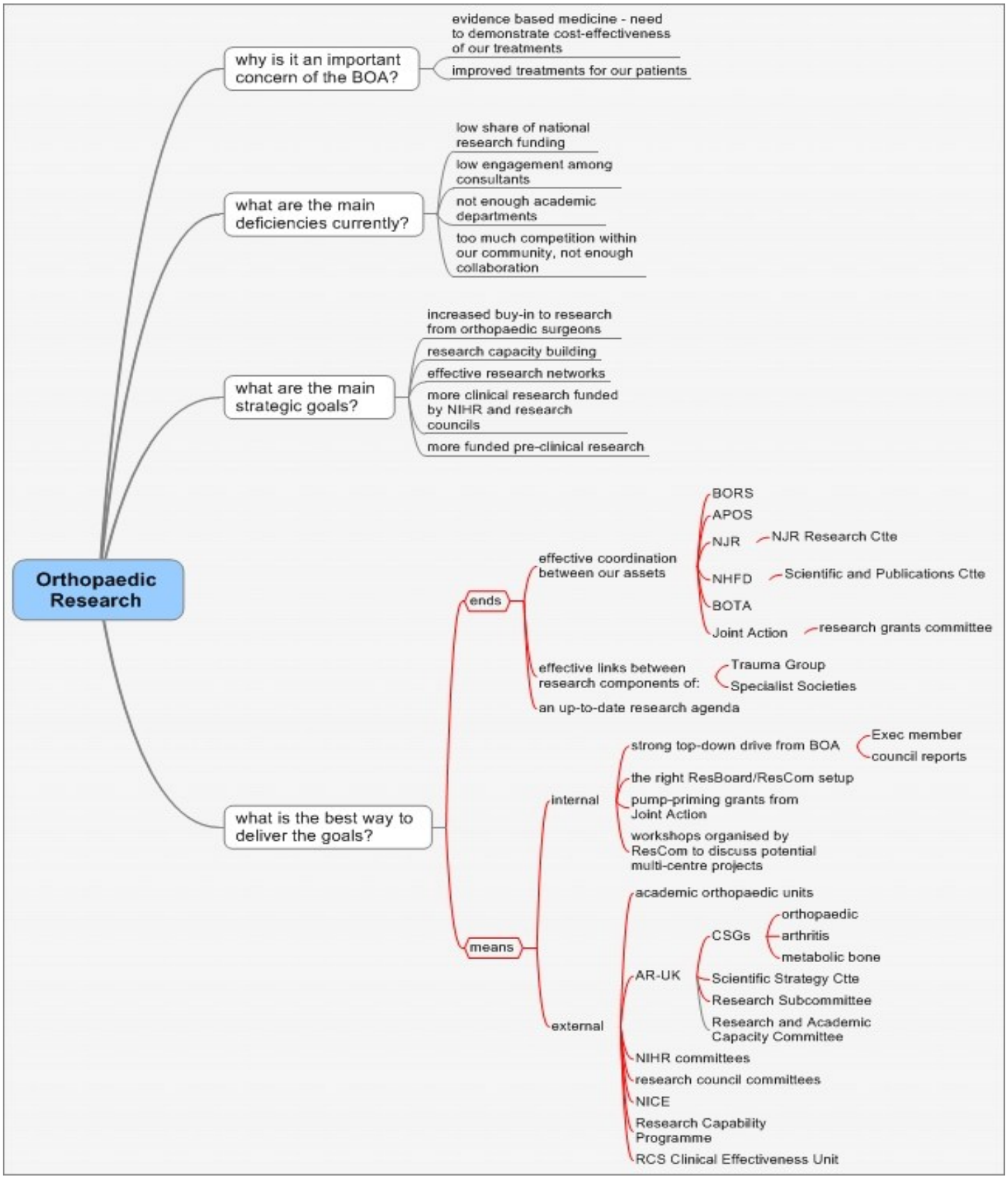
12. The incidence of trauma is particularly high in the younger population; an average of 36 life years are lost per trauma death[30].

13. For each trauma fatality there are two survivors with serious or permanent disability[31]. Trauma the cause of a large socio-economic burden.

14. In the UK, injury is the commonest cause of death between the ages of one and forty[32].

15. In 2006 every trauma death cost the nation in excess of £0.75 million and every major injury £50,000.

Appendix 3: Research Map



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