HRCS
UKCRC Health Research
Classification System

UK
CLINICAL
RESEARCH
COLLABORATION
igniting our potential

Health Research Classification System Report of an International Workshop

14th January 2009

TABLE OF CONTENTS

EXECUTIVE SUMMARY

A workshop was organised in response to increasing international interest in the Health Research Classification System (HRCS) and because of a growing consensus that a single classification system for health research is needed to promote research strategy development and collaboration between funding organisations. The workshop was attended by 35 delegates of 14 different nationalities from 26 different health research organisations.

The HRCS was designed collaboratively by the Partners of the UK Clinical Research Collaboration (UKCRC) and has been developed and tested over a number of years. It is a two dimensional classification system covering the full spectrum of biomedical and health research across all areas of health and disease. The system has underpinned two major national analyses of UK health research. These analysis reports have had a significant impact on strategy development and greatly facilitated coordination and collaboration in the UK. The UKCRC Partners are committed to making the classification system freely available and it is now supported by a new online information source – the **HRCS Online** website.

The HRCS has been widely adopted by many health research funders in the UK and elsewhere. A number of presentations at the workshop were given by organisations that were successfully using the system. They outlined the benefits of using the HRCS and presented several different types of analysis. Delegates also heard about the experience of the International Cancer Research Partners who pioneered a cancer-based common classification system which the HRCS grew out of.

In the debate during and following the presentations it was agreed that there is a need for a single classification system for health research and delegates were not aware of any other system in active use which could rival the HRCS. There was a great deal of enthusiasm for wider use of the HRCS and agreement that the system could be employed usefully in a number of national and international contexts. The delegates identified key uses and benefits for the HRCS, as follows:

- it has a major potential as a ‘common language’ for classifying health research that can be used:
    - to report progress and reveal funding trends over time;
    - for comparative analyses across national and organisational boundaries;
    - to inform many types of strategic decisions by identifying gaps and opportunities;
    - to effectively communicate messages about health research funding to wider audiences.
- it has been shown to facilitate joint initiatives in the UK context and could do the same in an international context;
- it provides a uniquely broad overview of the full spectrum of biomedical and health research across different contexts;
- it is a stable system fit for purpose which has been tested over many years;
- it is openly available and is backed by supporting resources and guidance;
- it can be used alongside existing coding systems and is compatible with the Frascati reporting framework.

Delegates at the workshop identified a range of actions that would be needed to facilitate wider use of the HRCS, these include:

- implementing coding using the HRCS would require some personnel resources but these would be modest in scale;
- the support provided by the HRCS Online website is a good starting point but there is a need for further support in terms of training and advice;
- it would be important to adopt consistent and objective procedures for coding together with quality assurance procedures;
- different national political contexts or different costing structures were unlikely to impede wider adoption although there may need to be a provision for translation to cope with different languages:
- there is a need to build appropriate international mechanisms for governing and coordinating the system as its use spreads;
- there is a need to develop practical examples of wider use of the HRCS, such as via pilot studies, and to provide access to endorsements from organisations already using the system;
- leadership from international or European organisations would be invaluable in pioneering adoption and building a critical mass of users.

At the end of the workshop the next steps and outcomes were agreed, as follows:

- wider adoption of the system by key national stakeholders should be encouraged;
- the workshop report should be circulated to promote the benefits of a single classification system such as the HRCS;
- the benefits of the HRCS should be brought to the attention of major international agencies;
- using the HRCS in pilot projects could stimulate the EU joint programming agenda.

SUMMARY OF PRESENTATIONS

Background

35 delegates of 14 different nationalities from 26 health research organisations met at the Cumberland Hotel in London to discuss the Health Research Classification System (HRCS). The workshop was organised in response to increasing international interest in the HRCS and because of a growing consensus that a single classification system for health research is needed to promote research strategy development and collaboration between funding organisations. The workshop attendees heard a number of presentations about the HRCS and its uses and then debated its potential and future.

During the introductory presentation by **Dr Liam O'Toole, Chief Executive of the UK Clinical Research Collaboration (UKCRC)**, attendees were told about the history and purpose of the HRCS.

The HRCS grew out of the UKCRC's intention to create a national picture of the full range of the UK's health research. To accomplish this aim, a number of UKCRC partners created a new classification system collaboratively. The system was designed to give an overview of the full spectrum of the UK's biomedical and health research across all areas of health and disease. The new system was pioneered and tested during a consultation process lasting a year.

The HRCS is a two dimensional system. The 21 Health Categories cover all areas of health or disease and are based on the World Health Organisation's International Classification of Diseases (ICD) codes. The 48 Research Activity Codes are organised in 8 groups and cover all areas of research activity from basic to applied. They are based on the cancer–specific Common Scientific Outline (CSO) classification system. The CSO was developed by the International Cancer Research Partners (ICRP) and used by the UK National Cancer Research Institute (NCRI) to undertake a national analysis of cancer research in 2002.

The HRCS was first used to undertake an analysis of the 11 largest Government and charity funders of health related research in the UK, published as the *UK Health Research Analysis* (2006). It was subsequently used in an analysis of 29 medium and smaller sized health research charities, published as *From Donation To Innovation* (2007).

These two UKCRC reports (and the preceding cancer analysis) have been widely distributed in the UK and had a major impact on strategy development. However, perhaps their greatest impact has been in acting as a catalyst to the development of major initiatives across multiple funding agencies such as the National Prevention Research Initiative and the UKCRC Public Health Research Initiative.

The HRCS classification system has been widely adopted by UK health research funders and by several funders outside the UK. It now functions as a common language for UK funders to discuss health research funding and associated strategy and it has greatly facilitated coordination and collaboration and informed policy discussions at a national level.

In the second presentation at the workshop, **Cherie Nichols of the US National Cancer Institute (NCI)** reviewed the International Cancer Research Partnership (ICRP) and the underlying Common Scientific Outline (CSO) classification system. She also considered lessons which could be learned for the HRCS.

The CSO was initially developed by the NCI in 1997. It has 7 major categories and 35 sub-categories covering all types of cancer research (there are also 50 codes for disease sites). The ICRP partnership of international cancer funding organizations was brought together to develop uniform coding policies for using the CSO and to aggregate their coded data in a common database. A website was launched in 2003 giving public access to key parts of the database.

The ICRP partnership meets annually and includes US, UK and Canadian partners. It is expanding its membership with further recruits from Europe, Asia and Australia. In the UK, the ICRP representative is the National Cancer Research Institute (NCRI), itself a partnership, which pioneered the approach of creating a UK national map of research with its Strategic Analysis of 2002.

Cherie Nichols reviewed the key benefits of using a common classification system including the ability to report progress and to identify gaps and opportunities. Another key benefit is to allow partners to make comparisons with similar funders or against a wider national context. Of the lessons learned during establishment of the partnership, one important one was that the system should not be changed substantively once it was fully established. The importance of ensuring coding consistency by providing advice and training was also emphasised.

It was also noted that the ICRP Partners came together to focus specifically on a common classification system but they have now developed into a wider and deeper collaboration which manages the International Cancer Research Portfolio database.

Dr Edwin Low, Chief Executive of the Singapore National Medical Research Council (NMRC) gave a talk on the use of the HRCS by the NMRC.

He reviewed the context of biomedical funding in Singapore, where there is an aspiration to build a major international centre of excellence in biomedical research. This has led to a number of new initiatives and a significant increase in the Singapore government's investment within the national R&D framework. In particular there is a focus on developing capabilities in translational and clinical research.

As part of its strategic planning for future research funding, the NMRC saw the need to assess the national research funding distribution, including funding from other national funding agencies such as the Singapore Biomedical Research Council (BMRC). NMRC recognized that the HRCS could be a promising tool to provide a more comprehensive and standardized funding allocation analysis. With assistance and advice provided by the UKCRC, NMRC performed a preliminary coding and analysis of the peer reviewed extramural grants funded by both NMRC and BMRC during the period of 2002 to 2007. This has enabled NMRC to identify potential gaps and to determine future funding for needs based biomedical research.

Moving forward, NMRC is exploring the possibility of integrating the HRCS into its online grant application and evaluation system which will be launched in mid 2009. However, to provide a more comprehensive picture, NMRC plans to work out a methodology to factor in intramural or institutional block grants, as these constitute the majority of both BMRC and NMRC grants.

Dr Declan Mulkeen, Director of Research and Training at the UK Medical Research Council (MRC) gave a talk on the use of the HRCS by the MRC.

He reviewed the strategic context for the MRC, where there is a need to coordinate its funding with other government agencies (such as the National Institute for Health Research), with UK charities and internationally. The HRCS was viewed as an excellent vehicle to promote cross-funder information sharing and had the advantages of its independent origins, its stability over time, and its focus on research purpose (as opposed to scientific discipline).

The MRC now uses the HRCS to inform its core business. It has adopted the HRCS as part of its online grant administration processes. HRCS codes are applied to successful grants by the relevant Programme Managers immediately after they are awarded. There is a quality assurance process which involves a subset of the awards being checked by independent contractors.

The MRC sees the HRCS as complementary to several other coding systems which capture different types of information and remain in use (for example, OECD Frascati classification for international reporting).

A number of examples of how the MRC use the HRCS for analysis were presented: including a descriptive map of spending by health area and type of research and other charts tracking changes in funding for different areas of research over time.

Dr Andrew Speakman, Programme Manager at the UKCRC gave a closing presentation. This reviewed further pertinent details of the HRCS and outlined its benefits. The HRCS covers the full spectrum of biomedical and health research. It is a common, stable system which has been tried and tested for many years. It has been used to code thousands of research awards from many different organisations over a four year period.

The UKCRC Partners want to see wider use of the HRCS and ensure its sustainability. They are committed to making the HRCS freely available to all interested parties. Dr Speakman reviewed a new online information support resource which follows up on this commitment. The **HRCS Online** website (http://www.hrcsonline.net/) is intended to cater both for new users wanting to learn about the HRCS and as a reference source for experienced users. It is based on a coding manual which captures advice given and questions answered during the many coding exercises and training sessions conducted by the UKCRC. It has a fully searchable version of the classification system and manual. It also provides advice on good practise, background information, and documents and software for download.

KEY MESSAGES EMERGING FROM THE WORKSHOP

Following the talks delegates split into breakout groups and considered a number of topics. In plenary feedback and discussion the following key messages emerged:

1. Potential uses at the organisational, national and international level

There was a great deal of enthusiasm for wider use of the HRCS and there was agreement that the system could be employed usefully in a number of national and international contexts.

Potential uses

The workshop attendees identified a number of potential uses to which the HRCS could be put:

- An agreed coding system could provide a standardised “common language” for research portfolio analysis and management at national and international levels;
- The coding system could be used for informing strategic planning in health research funding organisations by identifying gaps and strengths;
- The coding system could also be used to enable strategic portfolio analysis at a national or international level and to facilitate wider collaboration and networking effects;
- The coding system could be used to enable comparisons of the research portfolios between organisations, sectors, countries and regions;
- The coding system could be used as a communication tool to promote or explain health research investment to the public, investors or policy makers;
- The coding system could be used to reveal trends in health research investment over time;
- A common coding system could also be used to evaluate research outcomes or research proposals;
- Shared analysis and comparison of current patterns of research funding across Europe using a common classification system could be seen as an important step in developing Joint Programming in the EU.

Advantages of using the HRCS

The workshop attendees identified a number of potential advantages of using the Health Research Classification System (HRCS) as a common coding tool:

- None of the delegates were aware of any similar coding systems which could offer a broad strategic overview of research;
- The HRCS provides an evidential picture covering the full spectrum of biomedical and health research which can be presented in an easily understandable graphical format;
- Joint analysis of portfolios across different funding organisations using the HRCS has been shown to facilitate joint funding initiatives in areas where there previously had been none;

- The HRCS has been developed and tested over a period of time, has been shown to be fit for purpose, is openly available and is backed by supporting resources and guidance information;
- The HRCS can be used as an additional coding system to enable international comparisons rather than as a replacement for existing organisational systems
- The HRCS is compatible and complimentary to OECD Frascati guidelines for reporting R&D expenditure. The HRCS codes align with current Frascati health research headings and could feed into them avoiding any need for double coding at the national level.

2. Potential hurdles/challenges for use

In discussion at the workshop, delegates identified the following issues as potential challenges or hurdles in the way of wider uptake of the HRCS:

- Coding an organisation's research portfolio will require resources at the individual organisation level and this may prevent some funders (especially smaller organisations) taking up the HRCS. However, delegates were reassured that resources needed were modest and eventually coding could be absorbed as part of routine research management.
- Maintaining quality assurance was identified as a major issue. Facilitating comparisons between organisations should be a key aim of a common coding system and delegates agreed that it was important to ensure that the codes were applied consistently and objectively. Delegates discussed several ways of managing this but agreed that the issue would increase in importance the more organisations used the HRCS.
- There may be issues around language, national political contexts or different costing structures that might be potential barriers to wider common use. However, with the exception of language, these issues existed across organisations in the UK and the HRCS was demonstrably robust enough to cope with them.
- The coding system is designed to analyse research activities focussing on particular health areas and types of research. It was noted that the system could also analyse all types of indirect research support and infrastructure associated with a research aim. However, further information might be required when asking detailed questions about infrastructure provision across Europe.
- The value of using the HRCS would increase as more organisations used it. There was a challenge in reaching a critical mass of organisations and delegates were concerned that without clear leadership from European organisations it would be difficult to encourage uptake at the organisational/national level.

3. What is needed to encourage, coordinate and support use of the HRCS?

Delegates agreed that a number of actions were needed to encourage and support the use of the HRCS:

- There is a need for ongoing support for the HRCS in the form of:
  - Training sessions for new users
  - Access to advice from experienced coders
  - Benchmarking and testing to check codes have been applied correctly

- Delegates agreed that the HRCS Online website was a promising development to support wider use, however, this needed to be further developed to include examples and case studies and more reporting tools.
- Endorsements from existing organisations using the system would increase confidence in the system. Adoption of the system by key stakeholders in each state or by regional champions would also build momentum.
- It was important that the HRCS was eventually owned by its users and therefore would need to be regarded as an international standard rather than a UK standard. Governance and coordination could initially be provided by an informal forum with annual meetings and sharing of best practise.
- Several organisations indicated that they saw great potential for the system, but they were reluctant to lead in adoption. Leadership through international or European organisations would be invaluable in pioneering adoption. This would then make it an easier decision for individual organisations to adopt the HRCS.
- A coordinating body or ‘curator’ would be needed in the long-term to provide a focus for training, quality assurance and to oversee evolution of the coding system.
- Pilot studies that used the HRCS to carry out international comparisons would be important to stimulate uptake particularly within the EU.

4. Next steps

Delegates agreed on a number of immediate outcomes from the workshop:

- Adoption of the system by key stakeholders in each state or by regional champions should be encouraged.
- The workshop report should be circulated widely to promote the capabilities and benefits of the HRCS.
- The need for a common standard and the benefits of the HRCS should be brought to the attention of the major international agencies such as EMRC, Eurostat, EUROHORCs, ESF, European Commission, NIH or the OECD.
- Joint analysis of funding across international borders using the HRCS should be encouraged/piloted to stimulate the EU joint programming agenda.

ANNEX 1: WORKSHOP PROGRAMME

Date: Wednesday 14th January 2009
Venue: The Cumberland Hotel, London.

10:30 – 11:00	**Registration and morning coffee**
11:00 -11:45	**Introduction to the UKCRC and health research analyses in the UK** *Liam O'Toole, Chief Executive, UKCRC*
11:45 – 12:30	**International Cancer Research Partnership: Addressing the Global Challenges of Cancer** *Cherie Nichols, Director of Science Planning and Assessment, National Cancer Institute USA*
12:30 – 13:30	*Lunch*
13:30 – 14:00	**HRCS: Experience of NMRC (Singapore) and future implications for its grant framework** *Dr Edwin Low, Executive Director, Singapore National Medical Research Council*
14:00 – 14:30	**The Medical Research Council and its use of the Health Research Classification System: past, present and future** *Dr Declan Mulkeen, Director of Research and Training, Medical Research Council*
14:30 – 15:00	**HRCS Online - a new website** *Andrew Speakman, Programme Manager, UKCRC*
15:00 – 15:30	*Afternoon tea*
15:30 – 16:30	**Breakout sessions**
16:30 to 17:30	**Feedback session and general discussion**
17:30 to 18:30	*Break*
18:30 to 19:00	**Pre-meal drinks**
19:00 to 21:00	**Conference dinner**

ANNEX 2: LIST OF ATTENDEES

Name	Organisation
Michele Acton	Fight for Sight, UK
Lone Bertelsen	Health Research Board, Ireland
Jane Cope	National Cancer Research Institute, UK
Kevin Dolby	Wellcome Trust, UK
Diana Dunstan	Independent Consultant, UK
Anne-Marie Engel	The Lundbeck Foundation, Denmark
Maiken Engelstad	Department of Health Services, Ministry of Health and Care Services, Norway
Erica Hackenitz	The Netherlands Organisation for Health Research and Development (ZonMW)
Matthew Hallsworth	UK Clinical Research Collaboration
Bernie Hannigan	Health and Social Care Research & Development Office, Northern Ireland
James Harden	Wellcome Trust, UK
Maura Hiney	Research Strategy and Funding Directorate, Health Research Board, Ireland
Per Hyenstrand	Ministry of Enterprise, Sweden
Shabbar Jaffar	European & Developing Countries Clinical Trials Partnership (EDCTP)
Lin Jing	National Medical Research Council, Singapore
David King	National Institute for Health Research, UK
Øystein Kruger	South Eastern Norway Regional Health Authority
Hilary Lapsley	Chief Scientist Office, Scotland
Sølvi Lerfald	Western Norway Regional Health Authority
Edwin Low	National Medical Research Council, Singapore
Hannie Lundgren	Swedish Association of Local Authorities and Regions
Svet Mihaylov	European Clinical Research Infrastructures Network (ECRIN)
Carole Moquin-Pattey	European Medical Research Councils (EMRC)
Declan Mulkeen	Medical Research Council, UK
Cherie Nichols	National Cancer Research Institute, USA
Liam O’Toole	UK Clinical Research Collaboration
Liz Philpots	Association of Medical Research Charities, UK
Andrew Privett	Wales Office of Research and Development for Health and Social Care
Andrew Speakman	UK Clinical Research Collaboration
Karen Todd	Office for Strategic Co-ordination of Health Research, UK
Janet Valentine	Medical Research Council, UK
Luca Valer	Cancer Research UK
Gerrit Van-Ark	The Netherlands Organisation for Health Research and Development (ZonMW)
Ian Viney	Medical Research Council, UK
Ole Wiig	Department of Health Services, Ministry of Health and Care Services, Norway