Workshop Title: What do healthcare staff need to know about Human Factors & Ergonomics? Defining core competencies and accredited educational and training providers

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Theme: Healthcare Ergonomics

Objectives:
- To share the experience of the Chartered Institute of Ergonomics and Human Factors (CIEHF, UK) working with Health Education England to explore educational opportunities for embedding Human Factors and Ergonomics (HFE) in healthcare
- To discuss core competencies for HFE needed by healthcare staff (clinical and nonclinical)
- To explore how clinical competencies (with and without additional HFE education) can be mapped on to membership structures of IEA federated societies

Outline
In the UK healthcare sector there is a renewed focus in taking a HFE approach to tackle patient safety issues. The National Quality Board (NQB) Concordat ‘Human Factors in Healthcare’ (NQB, 2013) has brought together 16 government educational, commissioning, monitoring, insurance and professional agencies1 to endorse two statements:

1. ‘We, the undersigned, believe that a wider understanding of Human Factors principles and practices will contribute significantly to improving the quality (effectiveness, experience and safety) of care for patients’

2. ‘We commit to supporting the National Health Service to optimise its leadership, systems and processes, design, education and training, regulation and quality assurance, to build a high performing, resilient and efficient healthcare system which protects patients through minimising human errors in healthcare delivery and is constantly aspiring for excellence through quality improvement. So, supporting the NHS to do the right thing first time, every time.’

At two planning meetings (convened by Health Education England/East Midlands) to discuss implementing the Concordat it became apparent that there was considerable confusion about:

1. Human Factors - is this the same as Ergonomics, Human Factors Engineering, Organisational Psychology etc.?
2. Similarities, overlaps and differences between Human Factors and Quality Improvement (QI) – is Human Factors a new initiative or is it already being achieved through QI projects?

In this workshop we will explore how Quality Improvement Science (QIS) and HFE can work together to produce safer solutions for healthcare. We suggest that there will be considerable advantages from an integrated approach between the two disciplines and professions which could be achieved in two phases. Firstly, by identifying people trained in HFE and those trained in QIS who understand how to work together and secondly, by developing opportunities for integrated education and training. To develop this viewpoint we will:

1. Discuss and explore how QIS and HFE could be integrated by building on existing definitions, scope of practice, knowledge, skills, methods, research and expertise in each discipline.
2. Outline opportunities for a longer term integration through training, and education for healthcare professionals (HCPs).

We will use the IEA Core Competencies (Fig 1.) to consider how HFE could be embedded within healthcare education and draw on recommendations from Carayon et al (2014) that the following four criteria could provide a framework to increase the use of HFE in healthcare:

1. Use of HFE tools
2. Use of HFE knowledge
3. Application of HFE to the design of equipment, medical devices, products, buildings, vehicles and systems
4. Direct involvement of qualified HFE professionals (registered member of a federated society of the International Ergonomics Association (http://www.iea.cc/about/council.html))
1. Investigation and analysis of the demands for ergonomics design to ensure appropriate interaction between work, product and environment (systems), and human capabilities and limitations (including safety, the concepts of risk, risk assessment and risk management).


3. Documents ergonomic findings appropriately in terms understandable by the client.

4. Determination of the compatibility of human capacity and planned or existing demand including the extent of human variability influencing designs, the match and the interaction between a person’s characteristics, abilities, capacities and motivations, and the organisation, the planned or existing environment, the products used, equipment, work systems, machines and tasks.

5. Development of a plan (holistic view) for ergonomic design or intervention to improve health, safety and quality of life; including consideration of alternatives for optimisation of the match between the person and the product, the task or the environment and to achieve a good performance.

6. Makes appropriate recommendations for ergonomic design or intervention with an understanding of the hierarchies of control systems and organisational management structure and appropriate recommendations for education and training in relation to ergonomic principles.

7. Implements recommendations to optimise human performance at all levels of personnel.

8. Evaluates outcome of implementing ergonomic recommendations and modifies the program in accordance with results of evaluation, where necessary.

9. Demonstrates professional behaviour with a commitment to ethical practice and high standards of performance and acts in accordance with legal requirements and recognising personal and professional strengths and limitations and acknowledges the abilities of others.

Figure 1. IEA Core Competencies

(https://iea.cc/upload/IEAPSE_CoreCompetenciesinErgonomics_fullversion_v2_1001.pdf)

Key words: Education, Healthcare, Competency

Length of workshop: 1.5 hours

Target audience and expected level of interest:
An interest in increasing HFE in healthcare through education – max 20

Type of room and/or facilities required:
Lecture style and wall space for pinning up photographs and voting boards

Materials needing to be provided (if any):
Projector, pin boards (and pins) or adhesive materials to stick photographs to walls

References

National Quality Board. Human Factors in Healthcare: a Concordat from the National Quality Board. 2013
