

**CLINICAL HUMAN FACTORS GROUP SEMINAR & FOLLOW-UP  
MEETING AT RICHMOND HOUSE**

**REPORT**

**Martin Bromiley, Patient Champion/Pilot**

**Jane Carthey, Human Factors Consultant**

**On behalf of the CHFG**

**31st July, 2007**

**Please note that this report on the Clinical Human Factors Group seminar held on 8<sup>th</sup> June, 2007 and the follow-up meeting at Richmond House with the DCMO of England may be subject to amendments following a review by attendees.**

## 1.0 BACKGROUND

This report summarises the key points of discussion and ideas for the future direction of the Clinical Human Factors Group. The Clinical Human Factors Group (CHFG) has been set up by Martin Bromiley, a commercial airline pilot and the husband of Elaine Bromiley, who sadly died during a routine operation. The proposed model for the CHFG is based on the Royal Aeronautical Society Human Factors Group; an independent expert body working in aviation that has been hugely successful in raising awareness of human factors and embedding it in aviation training and practice.

On 8<sup>th</sup> June, 2007, a seminar to launch the Clinical Human Factors Group was held at the Department of Health offices in Skipton House, London. The purpose of this seminar was to discuss the scope and goals of the CHFG and specifically to:

- Share the learning and best practice on human factors in healthcare.
- Agree the CHFG's goals for the first year and what evidence CHFG will collect to demonstrate that these goals have been achieved and have had a positive impact on patient safety.
- Agree the CHFG's longer term goals (i.e. what does the CHFG want to have achieved three years from now and five years from now?).

The seminar brought together a range of stakeholders with clinical, human factors, senior management and policy making expertise. Representatives from the Healthcare Commission, National Audit Office, NHS Institute of Innovation and Improvement, The Health Foundation, National Patient Safety Agency, and Department of Health's Patient Safety and Investigations team participated. There was also cross industry expertise involved in the seminar. A full list of attendees can be found in Appendix 1.

The CHFG seminar involved a series of presentations from clinicians, research teams and commercial organisations that have/are carrying out human factors projects and training. A full list of presentations is shown in Appendix 2. A mixed model structure was used throughout the day in which clusters of presentations were used as a stimulus for small group discussions about the scope and goals of the CHFG.

Following the seminar a small number of CHFG "supporters" met with the DCMO and representatives of other significant "patient safety" organisations at Richmond House on 14 June 2007. This meeting focussed on the seminar, seeking the support of the DCMO and other bodies for the CHFG.

As stated previously, the purpose of this report is to summarise the outcomes of the seminar and subsequent meeting. It is divided into 6 main sections as follows:

1. Background to the CHFG

2. The CHFG's mission statement & Potential work streams for the Clinical Human Factors Group
3. Miscellaneous comments and observations.
4. Highlights of the Richmond House Meeting.
5. Summary of funding offered so far.
6. Recommendations for the next best steps.

## 2.0 The Clinical Human Factors Group's Mission Statement

Following discussions seminar participants, drafted the following mission statement for the Clinical Human Factors Group:

**“To be the recognised authority in clinical human factors; spreading awareness to frontline clinicians in all levels of healthcare, and informing regulatory agencies and professional bodies for the purpose of integrating best HF practices within the culture, systems and training in the health service.”**

Furthermore, seminar participants recognised the need for a simple message that was comprehensible to all stakeholders and therefore a second sentence was added to the original version of the mission statement as follows:

**“A group dedicated to reducing avoidable errors that cause harm to patients.”**

Subsequently, a number of clinicians and Martin Bromiley have proposed the following alternative mission statement. It reflects that although reference to error is counter intuitive to present day best HF practice, it uses words that reflect the frontline reality and will attract forward thinking clinicians to our work:

**Humans come as a package, with both strengths and weaknesses. Human error is unfortunately inevitable. Our goal is to understand how humans interact with their environment and those around them, and to use this to improve patient safety by reducing the possibility and impact of errors.”**

The Clinical Human Factors Group supporters (who receive this report) are asked to comment on this alternative mission statement via email to Martin Bromiley. If the majority of the group prefer this alternative it will be taken forward as the CHFG's mission statement of choice and be used on all subsequent material, i.e. the CHFG website etc...

## 2.1 Potential work streams for the Clinical Human Factors Group

Four potential work streams or roles were identified for the CHFG:

- Developing an evidence-base to demonstrate the role human factors plays in patient safety.

- Engaging the broader NHS in human factors by raising awareness.
- Human factors training
- Acting in an advisory capacity, providing human factors expertise to clinicians, allied health professionals and managers throughout the NHS.

Each of these work streams or roles is discussed in more detail below:

### **2.1.1 Developing an evidence-base to demonstrate the role human factors plays in patient safety.**

Seminar participants identified a need to develop an evidence-base that would persuade stakeholders of the key role that human factors plays in patient safety. This evidence-base needs to be developed with a broad range of stakeholders in mind and therefore a detailed stakeholder analysis should be carried out at the outset. The stakeholder analysis will ensure that different formats and types of evidence-base are developed that are appropriate to different groups, for example, whereas many consultants may want research evidence that proves a relationship between human factors and clinical outcomes, patient champions and pressure groups may be persuaded by stories and/or case studies.

In terms of the evidence-base, the CHFG would like to develop a toolkit or database of case studies describing where human factors methods have improved patient safety. This would include evidence from research studies, near misses or 'saves of the week', human factors stories, safety solutions, testimonies of healthcare staff working in the field, case studies of departments or healthcare settings where human factors is embedded etc.. Both healthcare and non-healthcare examples could be collated to form part of this toolkit.

We believe that developing an evidence-base is one of the essential first tasks for the CHFG because it will equip the Group with an armoury of HF evidence that can be used to persuade healthcare staff of the importance of human factors in patient safety.

### **2.1.2 Engaging the broader NHS in human factors by raising awareness.**

The evidence-base that is developed as part of work stream 1 could be used to engage the broader NHS in human factors. By 'broader NHS,' the CFHG means all of those stakeholders that are identified in the stakeholder analysis as potentially playing a role in embedding human factors into the culture, training and practices of the NHS.

By speaking at conferences, having a human factors discussion forum on [www.saferhealthcare.org.uk](http://www.saferhealthcare.org.uk), writing media and journal articles and presenting to front-line clinical staff and managers, the CFHG can spread the message about human factors and patient safety.

One potential opportunity is to link this work stream with the national patient safety campaign that is planned in the recommendations of *Safety First*. Furthermore, in line with recommendation 13 of *Safety First*, patient champions, like Martin Bromiley could spread the message about human factors by describing their experiences to NHS staff.

At the seminar, a small group discussion on this work stream supported the need to develop an evidence-base for human factors in healthcare, as discussed in section 2.1.1.

### **2.1.3 Human Factors Training**

Many seminar participants either worked for commercial human factors training companies or had developed crew resource management (CRM) training in academic departments and delivered it to clinical teams. Seminar participants recognised that there are other types of human factors training, over and above CRM training, which could be used to improve patient safety. For example, Nikki Maran presented her work on simulator training in anaesthetics and Dr Allan Goldman presented the findings of a study which used a Formula 1 pit stop as a model for retraining operating theatre and intensive care unit staff to hand over patients safely.

A small group discussion on the work stream 'human factors training' discussed the need for the CHFG to decide on the scope and target areas. It was suggested that there is a need to develop a human factors training strategy for specific groups (recognising that the training needs will vary amongst different stakeholders, for example, healthcare managers versus clinicians). Further discussion is also needed on how to prioritise HF training; for example, should it only be focused on high risk clinical settings like obstetrics?

The small group discussion also recognised that there is a need to teach clinicians and non clinicians the non-technical skills (or tactics) that are embedded in crew resource management training. Two potential clinical settings to focus on were operating theatre teams and healthcare teams working on acute care wards (including obstetrics, general wards and ICUs). However, the CHFG realise that these clinical areas are huge in scope and some further prioritisation would need to take place.

The role of the CHFG in delivering HF training was also discussed; it was suggested that members of the CHFG would not actually deliver the training themselves. Rather the CHFG should act as a focus point for coordinating training efforts by campaigning about the benefits of HF training, learning from good practice and persuading policy makers, managers and other key stakeholders to invest in it.

It was also recognised that any form of HF training needs an evidence-base to persuade senior managers to invest in it and clinical staff to attend. This links to work stream 1 outlined above, i.e., 'Developing an evidence-base to demonstrate the role human factors plays in patient safety', because the CHFG will need to collate information on what has and has not worked in CRM (and other types of HF training) as one of the first tasks in delivering this work stream. Hence the first deliverables for this work stream should be to:

- Review the different types of HF training that have been developed and delivered for healthcare staff.
- Collate evidence on what has worked and what has not worked. Review training content, its relevance to different healthcare settings, and the delivery and evaluation methods that have been used.

- Appraise evidence on its effectiveness, i.e. has the training clearly demonstrated changes in culture and practice, and if so, have these been sustained over time?
- Identify opportunities to embed HF training in healthcare education curricula and consider retraining needs for different groups of staff.
- Identify and build a core-curriculum for HF/CRM Training.
- Collate the information above and use it to develop measures of training effectiveness. This would ensure a standardised approach to evaluating the outcomes of HF training.

The CHFG understands that the National Patient Safety Agency has carried out some work in this area and would like to build on this existing evidence-base.

#### **2.1.4 Acting in an advisory capacity, providing human factors expertise to clinicians, allied health professionals and managers throughout the NHS.**

The final role for the CHFG identified at the seminar on 8<sup>th</sup> June, 2007 relates to the Group having an advisory role; that is to say, providing human factors advice and expertise to healthcare staff. One possible role for the CHFG could be to support the proposed Patient Safety Leads in Strategic Health Authorities, as described in *Safety First*. This would ensure that although these staff are unlikely to be human factors experts, that they can use the CHFG as a resource and source of expert opinion for human factors-related issues. There is also a potential role for members of the CHFG to act as advisors to research commissioning bodies by appraising proposals from an expert human factors perspective.

### **3.0 Miscellaneous comments and observations**

This section of the report summarises additional comments and observations that were made throughout the day.

- It will be important to expand the CHFG group to ensure representation of other professional groups, for example, nurses, allied healthcare professionals etc...
- The CHFG has to focus on a few areas and do them well in order to persuade NHS policy makers and staff that it is an effective and worthwhile body.
- It will be essential to align the CHFG with the National Patient Safety Forum, ensuring synergy and understanding between the two groups.
- The CHFG needs to be inclusive and Martin Bromiley's email updates have been an effective way of keeping people engaged.
- The CHFG needs to act as the 'hub' to a broader group of human factors experts, including those who attended the seminar and others who were not represented on 8<sup>th</sup> June. Keeping the larger group engaged is essential to the long term success of the Group and moreover to coordinating human factors efforts in healthcare both nationally and internationally.

### **4.0 Highlights of the Richmond House meeting**

On 14 June Martin Bromiley, Jane Carthey, Tony Giddings, Allan Goldman, Marc de Leval, Stephen Ramsden and James Reason met with the DCMO, Martin Marshall. Also present were representatives of various significant patient safety organisations as follows: Helen Glenister (NPSA), Vin McLoughlin (The Health Foundation), Maureen Baker (NHS Connecting for Health), Tabitha Brufal and Wendy Harris (DH Patient Safety Team). Sir Ian Kennedy (Healthcare Commission) was unfortunately unavailable.

The meeting aimed to gain “emotional” support for the CHFG, and also to discuss and identify further funding routes. There was no doubt that all attendees were keen to see “human factors” progress in healthcare and welcomed the initiative. There was extensive discussion on the scope of “human factors” and as was discussed on the 8 June it was felt we need to widen our network to include ergonomics and equipment design (i.e. beyond what goes on in clinicians and leaders’ heads).

When it came to discussion of the CHFG itself, it was clear that some attendees were keen to “fit” the CHFG into existing structures, and wanted to encourage the Group to gain the recognition of the existing bodies, such as the Royal Colleges. However the nature of the discussion also highlighted precisely why the CHFG felt this was not appropriate, because it encourages organisational boundaries and politics to be played to the detriment of our goals.

It was obvious that Martin Marshall supports our work, and is keen to support the development of the CHFG. He is happy to provide us with his endorsement, or if we need the endorsement by a “higher level” within the DH, for example Sir Liam Donaldson or David Nicholson.

Regarding further funding, official bodies within the NHS need to see “deliverables” in a fairly short time span in order to be able to continue to support the CHFG. Whilst of course this is what we as a Group will do, we can’t run before we can walk. To quote Stephen Ramsden “we just need time to find our feet”. Martin Marshall suggested that a “business plan” would be very helpful to obtain further funding.

Following the meeting I emailed Martin Marshall to thank him and Tabitha Brufal for their support. A copy is attached at Appendix 3 and also provides a good sense of the meeting.

## **5.0 Summary of Funding So Far Offered**

To this point we have been offered two amounts of £5000 each. The first is from the Health Foundation and the only key restriction is that the money has to be spent before the end of 2007. Martin Bromiley will be making an approach soon for longer term funding on the same lines. The NPSA have provided the second offer, but it is tied to specific advisory work and a report to be produced by the CHFG for the NPSA on the “HF” issues within “Safety First” in a fairly short space of time. As it stands it’s unlikely to be mutually beneficial.

## **6.0 Recommendations for the Next Best Steps**

Our first priority is to capture the data from 8 June accurately. **Issuing this report achieves that (subject to any requested amendments).**

Our second priority is to reach out to as many people as possible who are involved or enthusiastic about HF. We need to continue developing our network of HF “champions”. This is a role we can all undertake, we want to make sure that anyone with a contribution or enthusiasm for human factors has the chance to be part of our wider network. This is particularly true of representation from Nursing and Allied professions. **You’ll be pleased to know that Linda Watterson will be joining the CHFG Main Group (representing Nursing).**

At the same time we need to clarify the smaller “Main” group, especially regarding strong representation from the nursing and allied healthcare professions. **The main Group has now been clarified and the final listing is at Appendix 4 along with information regarding the first meeting.**

Our third priority is to develop a DH/NHS -friendly business plan that will enable us to gain longer term funding. Jane Carthey has agreed to work on this and friends in high places have offered their advice! It’s likely we may need evidence of “proper” governance and/or accounting. To help, Peter Bryan, a qualified accountant and close friend of Elaine Bromiley, has offered his assistance in creating a suitable accounting structure and running it for us.

Our fourth priority, which links in to the above work is developing a website, an internet forum; and ideally gaining a permanent phone number and office. **The website has already been built by Elaine Bromiley’s younger sister Suzanne Meadowcroft and is currently on a test site. The domain name [www.chfg.org](http://www.chfg.org) is now owned by the Group along with a number of similar names (although you won’t be able to access this address for another couple of months).** The office and phone number will take a little longer to organise.

Our fifth priority is to actually gain longer term funding. Martin Bromiley will champion this although it’s an area where you all may be able to help.

While the above processes continue the agenda for the Main Group is to initially concentrate on two of the four work streams: Awareness and Evidence/Research. At a slightly later date we can then bring together a sub-group to work on the HF Training stream. In the longer term we can develop the advisory stream, although prior to this we need to identify a protocol for how the Group handles requests for advice. **This whole process will start on 13 Sept.**

**APPENDIX 1: CLINICAL HUMAN FACTORS GROUP MEETING, 8<sup>TH</sup> JUNE, 2007****LIST OF ATTENDEES**

	<b>Name</b>	<b>Title</b>	<b>Organisation</b>
1	Ken Catchpole	Human Factors researcher	John Radcliffe Hospital NHS Trust, Oxford
2	Dr Kim Gupta	Director of Critical Care	Royal United Hospital, Bath
3	Hugh Rogers	Associate, Service Transformation	NHS Institute of Innovation and Improvement
4	John Pickles	Medical Director	Luton & Dunstable Hospital NHS Trust
5	Harriet Nicholls	Consultant Anaesthetist	Luton & Dunstable Hospital NHS Trust
6	Phil Smith	Serving Officer, RAF.	Terema
7	Peter Mansell	Director of Patient Experience	National Patient Safety Agency
8	Tabitha Brufal	Deputy Branch Head, Patient Safety & Investigations	Department of Health
9	Dr Sally Adams	Honorary Lecturer	Imperial College, London
10	Gill Hastings	Assistant Director	The Health Foundation
11	Dr Tim Cook	Consultant Anaesthetist	Royal United Hospital, Bath
12	Dr Beverley Norris	Human Factors Specialist	National Patient Safety Agency
13	Stephen Ramsden	Chief Executive	Luton and Dunstable Hospital NHS Trust
14	Karen Taylor	Director	National Audit Office
15	Mr Michael Ocock	Director	Conspectus Project Management
16	Helen Hughes	Director	WHO Patient Safety Alliance
17	Dr Chris Frerk	Clinical Director Anaesthesia	Northampton General Hospital & Chairman Difficult Airway Society UK
18	Professor Rhona Flin	Professor of Psychology	Industrial Psychology Research Centre University of Aberdeen
19	Rick White	CEO	Afterburner Ltd.

20	Dheeraj Bhasin	Corporate Wingman	Afterburner Ltd
21	Chris Sadler	Consultant Anaesthetist/Director	Barts & The London Medical Simulation Centre
22	Nikki Maran	Consultant Anaesthetist	Scottish Clinical Simulation Centre Stirling Royal Infirmary
23	Karishma Chandaria	Policy Executive	Postgraduate Medical Education and Training Board
24	Simona Arena	Programme Manager	The Health Foundation
25	Jane Carthey	Human Factors and Patient Safety Specialist	Jane Carthey Consulting
26	Martin Bromiley	Pilot/Founder	CFHG
27	John Reynard	Consultant Urological Surgeon	John Radcliffe Hospital NHS Trust, Oxford
28	Professor Peter McCulloch	Consultant Surgeon	John Radcliffe Hospital NHS Trust, Oxford
29	Trevor Dale	Airline pilot/Airline training Captain	Attrainability Ltd
30	Dr Allan Goldman	Consultant Intensivist	Great Ormond Street Hospital NHS Trust
31	Mr Tony Giddings	Consultant Surgeon	Royal College of Surgeons of England
32	David Embrey	Director	Human Reliability Associates Ltd
33	Steve Cross	Human Factors Specialist	Human Reliability Associates Ltd
34	Tim Gustafson	Clinical Governance and Risk Manager	John Radcliffe Hospital NHS Trust, Oxford
35	Murray Devine	Safety Strategy Lead	Healthcare Commission
36	Phil Higton	Director	Terema
37	Rick Johnson	Director	Terema

## Appendix 2: Ten minute presentations, titles and speakers

Cluster	Presentation	Speaker(s)
Cluster 1	Royal Aeronautical Society Human Factors Group, Brief history, goals & keys to success.	Martin Bromiley
Cluster 1	Lessons from the neonatal arterial switch operation study	Dr Jane Carthey, HF Consultant
Cluster 1	Human factors and non-technical skills: learning lessons from medical simulators	Professor Nikki Maran, Scottish Simulation Centre and Stirling University.
Cluster 2	Applying human factors to healthcare teams at the John Radcliffe Hospital	Pr. Peter McCulloch, John Radcliffe Hospital & Trevor Dale, Atrainability.
Cluster 2	A Winning Formula? Human factors and team handovers	Dr Allan Goldman, Consultant Intensivist, Great Ormond Street Hospital NHS Trust.
Cluster 2	Implementing human factors training at Trust level (1)	Dr Phil Higton, Terema
Cluster 2	Implementing human factors training at Trust level (2)	Sue Norwood, Global Air Training
Cluster 3	National training initiatives to improve culture in healthcare; what has been learnt so far?	Dr Jane Carthey, HF Consultant
Cluster 3	HF Training delivery at undergraduate level, lessons for us.	John Reynard, John Radcliffe Hospital NHS Trust
Cluster 3	HF Training delivery at College level, lessons for us.	Tony Giddings, Royal College of Surgeons.

Cluster 4	IHI Initiatives at the SPI sites from a clinical perspective, and work around a safety culture	Dr John Pickles, Medical Director, Luton and Dunstable NHS Trust.
Cluster 4	Incident reporting and human factors work at Imperial.	Dr Sally Adams, Imperial College, London
Cluster 4	Organisational and Management issues: Engaging senior management in the patient safety agenda	Professor Rhona Flin, Aberdeen University

### Appendix 3 – Email to and from Martin Marshall, DCMO, post-meeting 14 June 2007

Martin

Many thanks. It is a great pleasure to have the opportunity to work with your group and I look forward to providing support in the future.

Best wishes

Martin

Message sent from a Blackberry handheld device.

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----- Original Message -----

**From:** "Martin Bromiley" [martinbromiley@onetel.com]

**Sent:** 16/06/2007 17:57

**To:** Martin Marshall; Martin Marshall

**Cc:** Tabitha Brufal; Cheryl Bunting; Marc de Leval"

<Marc.deleval@hcahealthcare.co.uk>; Allan Goldman" <goldmal@gosh.nhs.uk>;

Jane Carthey" <jcarthey\_gosh@yahoo.com>; Jim Reason"

<reason@redlane.demon.co.uk>; Nikki Maran" <njmaran@yahoo.com>; Stephen

Ramsden" <stephen.ramsden@ldh.nhs.uk>; Tony Giddings"

<tonygiddings@mac.com>; Tony Giddings" <tonygiddings@btinternet.com>

**Subject:** Our Meeting on 14 June regarding the Clinical Human Factors Group

Dear Martin,

I wanted to pass on my sincere thanks to you for giving up your time on Thursday to meet with myself and my colleagues to discuss the CHFG. I appreciate how busy you are and the fact that you were both prepared to commit that time and fund our initial Seminar communicates more than words.

After the meeting we had a chance to discuss our work in light of the comments made. It's clear that we have a difficult task, we must remain impartial and have the space to think freely about the issues, on a broad level, before moving to "deliverables".

However difficult the task though, it's a journey that will have to be made, either now or in the future. Getting so many influential people working together without politics, organisational boundaries and bureaucracy is in itself a sign that we have the ability to face up to the task. As Stephen Ramsden said, we just need time to find our feet.

I know I speak for others when I say that the fact you are prepared to endorse the Group is a very important moment for us. How that can be done in practical terms I shall take time to consider, although I appreciate you may have your own ideas which I'd love to hear.

Regarding our next steps, you facilitated us nicely on to this:

We do need time to formulate our process and plans, in short "we need to define the problem in healthcare regarding human factors". Remaining for the first year an informal network of enthusiasts is appropriate. During that time our network can build and we can consider the right way to achieve "official status"

The priorities for the CHFG are about the two work streams "Evidence" and "Awareness". In reality they go hand in hand initially. Our foundation work (i.e. over the next few months before the

September meeting) revolve around producing an acceptable Business Plan and building a good network with any organisation involved in HF.

Clearly the other key part for us will be achieving longer term funding and support. The Business Plan should enable us to do that. I will contact you when it is complete.

In the meantime could you also please pass my thanks to Cheryl Bunting, who clearly has a great deal of patience, and of course to Tabitha Brufal, who has really worked hard to support us, and personally has also been very encouraging which at times I do need!

With best wishes

Martin Bromiley

## **Appendix 4 – The CHFG Main/Steering Group**

Sally Adams

Jane Carthey

Murray Devine – representing The Healthcare Commission

Rhona Flin

Tony Giddings

Allan Goldman

Gill Hastings – representing The Health Foundation

Kate Jones – representing The NHS Institute

Nikki Maran

Helen Muir

Bev Norris – representing the NPSA

Stephen Ramsden

James Reason

Chris Sadler

Linda Watterson

Martin Bromiley will act as Chair for the next two meetings while discussions about a permanent Chair take place among the Group and Supporters.

1st Meeting Thurs 13 Sep approx 1000-1500, venue tbc

The purpose of the first meeting is to identify how the work from 8 June can be taken forward, specifically the two work streams on evidence and awareness.

2<sup>nd</sup> Meeting Thurs 6 Dec approx 1000-1500