Tony W. Shannon

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Consultant in Emergency Medicine, Leeds Teaching Hospitals

The Leeds Teaching Hospitals (LTH) NHS Trust is one of the largest hospital organisations in the UK, with over 14,000 staff, 3000 beds and over 500 Consultant medical staff. The trust has 2 major Emergency Department sites based at Leeds General Infirmary (LGI) and St James's University Hospital (SJH).

The Leeds General Infirmary is a large teaching hospital and a tertiary receiving hospital based in the city centre. The regional Trauma Centre is based at the LGI, as major surgical specialties (i.e Trauma & Orthopaedics, Neurosurgery, Cardiac Surgery, Vascular surgery) are all on site.

The Emergency Department at Leeds General Infirmary sees over 105,000 (70,000 adult and 35,000 paediatric) new patients a year. The Emergency Department at St James's Hospital sees over 85,000 new patients a year.

The EDs at the LGI and SJH have undergone regular reconfiguration and are now function as one of the largest combined departments in the UK and are acknowledged to be at the forefront of innovation in the delivery of Emergency Care in the UK.

Clinical Activities

I am one of twenty one consultants in Emergency Medicine based at Leeds TH, with my work involving clinical shifts on both LGI and St James's ED sites.
The medical staffing at the LGI ED site also includes 8 middle grade and 24 junior doctors in training.

My clinical shifts at the LGI/St James's involve the assessment and treatment of the broad variety of patients that present to a large city Emergency Department, including major trauma, medical and paediatric emergencies.
As a Consultant, much of my clinical work involves;

- maintaining overall control of activity in the department,
- close liaison with the ED Nurse in Charge, ED Floor Manager, Site Matron/Manager
- monitoring and coordinating the medical staff activities in the department,
- supervising and advising junior medical staff
- advising Emergency Nurse Practitioners as required
- balancing the goals of achieving the 4-hour standard whilst delivering high quality care.

We manage the delivery of patient care between arrival to discharge from both Emergency Departments in under 4 hours in over 95% of cases.

My clinical work also involve ward round reviews of patients on our Clinical Decisions Unit, where we have over 15 protocols available, to allow us admit and manage common time-limited conditions presenting to the Emergency Department.

In addition my clinical work involves Emergency Department Review Clinics, for both adult and paediatric return patients.

Chief Clinical Information Officer, Leeds Teaching Hospitals

After 5 years in NHS Connecting for Health, I moved onto this role on as Clinical Lead for Informatics in Leeds Teaching Hospitals. In order to better bridge the requirements of frontline health delivery with the solutions and standards in the current Health IT landscape, I was keen to take a lead in a new direction.

In this role I report to both the Medical Director and Director for Informatics within Leeds Teaching Hospitals. The work involves the usual challenge of healthcare change, towards aligning people, process improvement efforts and supportive information technology to deliver better value.

As Clinical Lead, I have been closely involved with the reorganisation of the Informatics Directorate within the Trust.
As Clinical Lead I am member of Trust Informatics Board and the wider cross agency Leeds Informatics Board, working with clinical, managerial and technical colleagues. I have set up and now chair the trust Clinical Informatics Reference Group which involves a group of clinical leaders from across the trust involved in change with informatics.

My early work involved leading on the development of a Strategic Framework and then the Leeds Teaching Hospitals Informatics Strategy. This 5-year 2011-2016 Informatics Strategy plans for £37million spend over that time, aiming to support the ambitions of our Managing for Success programme for service improvement with key informatics projects.

The Informatics Strategy development has involved the exploration of a number of options for the trust.
We now have a Clinical Portal and Systems Integration at the heart of our strategy, aiming to join up disconnected clinical teams and aligning processes with more integrated information systems.
Our Clinical Portal plans aim to offer our top clinical 5 systems (Patient Admin, Orders & Results, eMedication, Clinical Documentation, Scheduling) with an integrated user centred environment.

In order to better bridge our requirements with best practice in Informatics, I have led the development of the Clinical Portal within Leeds Teaching Hospitals, pioneering an innovative and collaborative open source approach, which is making steady progress.
This collaboration is opening up new avenues of healthcare improvement for Leeds Teaching Hospitals e.g.
-Enabling closer collaboration with the University of Leeds for clinical research
-Across the Leeds wide Health Economy as a hub for cross city information sharing
-Beyond Leeds and across Yorkshire as an enabler of clinical networks (e.g. Yorkshire Cancer Network)

Honorary Research Fellow, University College London
During my work within the NHS Connecting for Health, I became the main clinical advocate for an international standards based eHealth platform named openEHR.
Most recently, in collaboration with a team from University College London, I have clinically led the research, development and launch of a related open-source web-based clinical application framework named "Opereffa" which has been made internationally available by the openEHR Foundation.
In recognition of my ongoing contribution to international health informatics Research and Development, I currently hold an hononary personal appointment with University College London.

Director, Frectal Ltd
As part of my portfolio of work, I have set up my own company, Frectal Ltd, to be able to provide consultancy services in areas of clinical leadership, process improvement and information technology in healthcare.
My recent consultancy work has included the development of a strategic framework for the Irish Health Service Executive: National Clinical Programmes. Aligning Process Improvement with Information Technology.

Previous Research & Development

Chair, Clinical Review Board, openEHR Foundation (2008-2011)

The openEHR (open Electronic Health Record) foundation is an international not for profit foundation (based in UCL, London) aimed at producing a life-long patient-centred Electronic Health Records platform.
As part of my Informatics work I have been the main clinical advocate for openEHR in the NHS, whose introduction has had some influence on the strategic direction of NHS Connecting for Health and generated international interest. In August 2008 I was invited to chair the openEHR Clinical Review Board, to coordinate the input of an international clinical community into this effort.

Clinical Lead, NHS Connecting for Health (2004-2009)

NHS Connecting for Health National Programme for IT is the largest civil IT programme in the world (£12Billion programme over 10years) and aims to better support patients and staff with the NHS Care Record Service.
My work for Connecting for Health was initially based in the NorthEast Cluster (1/5 England) and evolved into a national role and can be explained as a series of Research and Development projects;

While healthcare staff often acknowledge that they need to collect, analyse and record large volumes of information during clinical practice, many have been poorly served by information systems to date. As we move forward into the 21st century and healthcare pressures mount, this must be addressed.
Some of the explanation for the current problem involves the differences in language and culture between clinical, technical and management staff, making it very difficult for clinicians to get what they need.
Another aspect of the problem is the poor fit between clinical processes and most current information systems, which often require "work-arounds" or "dual entry" of information by the staff into poor systems.
A third key part of the problem is the proprietary nature of health information technology today, as vendor systems often don't communicate or integrate with other systems without very considerable time and effort.

My work for Connecting for Health was aimed at addressing these issues by,
-researching and developing an approach that gives clinicians more control of the situation,
-ensuring that the main focus is on supporting clinical rather than administrative processes and
-using an open standard to ensure valuable clinical input can be used across all systems.

Clinical Lead, Clinical Content Service (July 2007 to November 2009)
This national work involved leading on the development of a national clinical content library - to give clinicians support for clinical processes with electronic clinical documentation using "lego-bricks" of clinical content.
This work involved several key projects including;

- Generic Medical Documentation
- Emergency Care Documentation

Clinical Content Lead, Northeast Midlands and East (3 Cluster) region (January 2007- June 2007)
Further to the recommendations from my earlier work, I clinically led NHS CfH to work with CSC and iSoft (commercial partners) in pioneering NHS owned clinical content development using openEHR.

Clinical Lead, Do Once and Share Urgent Care project (September 2005- April 2006)
As my work spans Emergency Medicine and Informatics, I was invited to lead a national "Do Once and Share" (DOAS) Action Team on Urgent Care , which researched the variety of NHS Urgent Care services, exploring the key processes shared across this domain, to identify related information/IT requirements.

Previous Research & Development (Continued)

Clinical Lead, NHS Connecting for Health (2004-2009) (continued)

Clinical Lead, NorthEast Cluster (December 2005 to June 2007)
My work as Cluster Clinical Lead involved direct liaison with NHS clinical staff, business analysts, technical architects and commercial suppliers on the requirements, design, build and test of related IT solutions. Working with clinical colleagues from all clinical disciplines at national, regional and local level, representing 1/5 England, I chaired the regional Clinical Advisory Group to coordinate clinical activity across 12 Clinical Reference Groups and direct the development work of the suppliers to the NHS.

Clinical Lead, Model Community, NorthEast Cluster (July 2004 – December 2005)
As part of my MSc in IT Management, I began work with NHS Connecting for Health (CfH) in developing a testing site for NHS frontline staff – a place to rehearse their "processes" in a safe environment and test new information technology to ensure it was fit for purpose, before going live in a clinical environment.

Fellowship in Informatics (2000-2001)
National Center for Medical Informatics/Emergency Department,
Washington Hospital Center, Washington DC, USA
This fellowship year gave me the opportunity to work with a leading international medical informatics group based out of the Emergency Department at Washington Hospital Center. The small team I worked with was developing a health information solution which was later acquired by Microsoft in 2006. This "Amalga Unified Intelligence System" solution is now a key part of Microsoft's Health Information platform.
My fellowship combined informatics with regular clinical shifts in the Emergency Department and an attachment to the MedStar Trauma Unit at Washington Hospital Center.
My fellowship was made up a number of projects including;

Data viewer module (inc. Prescription writing module)
This web based wireless handheld solution allowed users to roam the hospital while able to view patient details based on location, service, or Attending MD. The user was able to access a data repository to view patient demographics, dictations, past medical history, laboratory results, radiology reports, Xray and CT views and medications.
This application was tested in emergency room and inpatient settings (inc. neonatal unit).

Data entry module development
This web based application was also developed and tested on a handheld wireless device. It enabled users to input clinical data entry at the bedside with a degree of decision support. The application also provided a prescription writing function.

Recent Presentations

International Conference in Emergency Medicine, June 2012, Dublin "Emergency Medicine, Change & the role of Informatics" **(Invited Speaker)**

College of Emergency Medicine, Scientific Conference, September 2011, Newcastle "Informatics in Emergency Medicine" **(Invited Moderator)**

Smart Healthcare Conference, June 2011, London, "Healthcare Change Challenge & the role of open software" **(Invited)**

EHealth Insider Annual Conference, November 2011, Birmingham, "Healthcare Change Challenge & the role of open software" **(Invited)**

International Conference for Emergency Medicine, June 2010, Singapore
Technology in Emergency Medicine session **(Invited Moderator)**

HIQA Health Information Standards Workshop, June 2009, Dublin. "Healthcare Change: People, Process and the role of Information, Technology, Standards" (**Invited**)

World of Health IT 2008, Physicians' Symposium, November 2008, Copenhagen
Introduction to the NHS Clinical Content Service (**Invited**)

College of Emergency Medicine & Irish Association of Emergency Medicine, Scientific Conference, September 2008, Dublin,
"Improving the capture of patient diagnoses using SNOMED CT in an ED setting" (Poster)

MIE 2008, Medical Informatics Europe conference, May 2008, Gothenburg,
National Strategies for Clinical Process Orientation of Health Information Systems (**Invited**)

HC 2008, British Computing Society Health Informatics Conference, March 2008, Harrogate
The role of open source Clinical Content (**Invited**)

Healthcare Informatics Society of Ireland, November 2007, Dublin
Healthcare Change Challenge: People, Process, Technology & openEHR in the NHS (**Invited**)

National Standards Association of Ireland/CEN TC-251 EU Standards joint meeting, October 2007,. Dublin. NHS Change Challenge: People, Process, Technology & Building archetypes in practice. (**Invited**)

Health Level 7, Clinical Interoperability Council, Annual Plenary Meeting, September 2007, Atlanta
NHS change challenge: Clinical content work in the NHS (**Invited**)

College of Emergency Medicine, Scientific Conference, September 2007, Sheffield
The development of openEHR archetypes and templates to support Emergency Medicine in the NHS

Irish Association of Emergency Medicine Annual Conference, October 2006, Sligo
Supporting Change in Emergency Medicine with Informatics (**Invited**)

British Association of Emergency Medicine Annual Conference, May 2006, Cheltenham
People, Process, Technology- A guide to Emergency Medicine Service Improvement with IT (Poster)