Strategy & Policy

Submission to the Consultation by the National Patient Safety Agency on patient safety and electronic prescribing (and other health information) systems

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The remarks in this submission arise from conclusions drawn from work I was commissioned to undertake by the Policy Research Group, Department of Health, London, on the social impact of the electronic transmission of prescriptions. The views expressed and conclusions are mine alone, and not necessarily those of the Department of Health.

My report ("The Social Implications of Prescribing Using Digital Technologies", 2003) identified a range of social impact issues, including on patient safety, specifically with respect to the electronic transmission of prescriptions. I am writing to share with NPSA my understanding of these issues in the context of NPSA priority-setting and jurisdiction.

There are two areas that I wish highlight as part of your consultation process:

1. the public/private distinction focusing on the jurisdiction of the NPSA;

2. new sources of risk to patient safety arising from electronic health information systems and the need for this to be a priority area.

If NPSA finds these of interest, I would be pleased to expand further upon them.

The public/private distinction

The focus of the NPSA is primarily the NHS. I think it would be a general weakness of a patient safety system to respond to jurisdictional boundaries of public and private health care when it will be necessary to take an inclusive view of the determinants of patient safety, many of which arise from the interface between public and private practitioners and providers.

Based on my research, patient safety and prescribing within an electronic environment will need to take account of all medicines issued to or used by patients, regardless of source, and not just medicines issued through the NHS. It is suggested that NPSA will need to review its approach to patient safety to ensure that all potential sources of risk are taken into account; medicines themselves open up a complex and difficult area of jurisdiction, but patient safety in the context of electronic prescribing points to the need for an agnostic approach to the various providers and sources of medicines.

One benefit of an ETP system is the opportunity to create a single record of a person's medicines. It would make little sense from a patient safety perspective to focus solely on safety issues of NHS prescribing when many important safety issues arise from the failure of one type of practitioner to share information about medicines with another across jurisdictions and provider types. Dental prescribing is just the most obvious example where there is researched concern about antibiotic prescribing, and where integration of these prescriptions within a single medicines record would be important, but, under the present approach to ETP, unlikely. Additional areas where similar considerations exist are:

- the progressive substitution of Prescription-only medicines with Over-the-counter medicines and Pharmacy-only medicines, and which would be excluded from an ETP system since no prescription is issued, but which raise important patient safety issues if an integrated approach to medicines is not taken;

- polypharmacy for residents of nursing homes, and residential care homes;

- prescribing and medicines issued by the Independent Sector Treatment Centres and other contracted-in 3rd parties to the NHS;

- medicines used by individuals with complex health requirements and where patient compliance is important over long periods of time;

- cross-border health care within the European Union, where prescriptions or medicines are issued outside the UK (or between the devolved health administrations of the UK); EU healthcare will be a more salient concern when the European Smart Card for Cross-border Healthcare is issued, and while the cross-border patient numbers are currently small (but not to ignore tourism), the potential for risk to patient safety is greater given the different approaches to clinical care within the EU.

New risks to patient safety from electronic health information systems such as electronic prescribing

My research identified that electronic prescribing systems are giving rise to new sources of prescribing and medical error. I believe, therefore, that NPSA should identify a priority area on patient safety and electronic health information systems. Given the proposed speed of implementation for new health information systems within the NHS, and the investment in comparable systems in the private, independent and contract-in sectors, this is an area where some urgency would be appropriate.

ETP is just one example where international experience is already highlighting new risks to patient safety. It would be remiss not to include, therefore, other health information systems, such electronic health records, electronic dispensing systems, and electronic booking systems where novel sources of error and therefore risk can have an impact on patient safety. In addition, effective electronic prescribing systems will require integration with clinical decision-support systems used by the prescriber with shared access by pharmacists.

While the sources of risk to patients are increasingly being understood, there are many other considerations to take into account with digital systems, including transposing risk into these automated systems, plus the emergence of new risks as a result of the operation of health information systems. In addition, as electronic systems move health care into 'real-time' service delivery, there will be less time delay between initiation of an action and the delivery of a service to a patient, meaning in effect that patient safety will increasingly need to be a real-time feature of health service delivery, and not an after-the-fact activity and review. Electronic systems must be patient-safety-proofed, and supported by rigorous vigilance systems as part of this.

Annex: electronic transmission of prescriptions

The English Department of Health is proposing to procure an information system which will permit GPs to electronically send prescriptions to Pharmacists bypassing the use of a paper prescription; this is called "electronic transmission of prescriptions" [ETP]. There are considerable efficiencies to be gained from automating this process, as the existing process is cumbersome, time-consuming, lacks good management information.

Known risks in prescribing processes include:

- adverse drug reactions, adverse drug-drug interactions
- choosing an incorrect medicine by the prescriber or dispensing the wrong dose or medicine by the pharmacist
- illegible prescriptions.

Three pilot projects have been run over the past few years, from which considerable learning has occurred, but at present, no ETP system is currently in place in the UK.

There are many factors which support the introduction of a system of electronic prescribing:

- A significant number of health problems arise from avoidable medication errors. This is compounded by the increasing potency of medicines. Better management of medicines is needed, starting with more efficient capture of prescribing data.
- Doctors and pharmacists are busy and ways to improve productivity are badly needed. This means we need to look at ways to speed up and improve prescription processing, eliminate steps which consume time and resources without adding any benefit.
- The ageing population is known to be at greater risk from medication error, complex prescribing and polypharmacy. Significant opportunity exists to reduce avoidable health problems through better management of prescribing just for this group of people.
- Boundaries between professionals are changing and prescribing authority is being extended to other health professionals. This points to the need to ensure much greater integration of information on prescriptions and prescribing.
- Patients are demanding more and better service from public health providers. This reflects the public's experience of their wider world, where choice, individual service and convenience prevail.

Other countries have had such systems in place for some time; Sweden and Denmark are notable within the European Union, along with the US, with well-developed and advanced systems.

Annex: About the author

Mike Tremblay, PhD, is a partner in Tremblay Consulting, a specialist consultancy focused on health policy and business strategy, and providing advice internationally.

Mike has over 20 years international health experience (including Spain, Malta, France, Netherlands, Hungary, the UK and his native Canada), and established Tremblay Consulting in 1997. International clientele include governments, health providers, payers, pharmaceutical, medical device and information technology companies, retailers, and professional organisations.

Mike is an expert advisor on health matters to the *Council of Europe*, and former visiting research fellow at the *London School of Economics*. He is an Associate of the *Woodrow Wilson Center*, Washington D.C. He is on the editorial board of the journal *Disease Management and Health Outcomes*.

He has held academic appointments at the Health Services Management Centre, University of Birmingham, UK, where he was Senior Lecturer, Director of the Masters in Quality, Deputy Director of the Public Service MBA and Associate Dean.

He also led the UK healthcare consulting practice for EDS, and was a Principal at A.T. Kearney, EDS's management consultancy division.

Mike was formerly Director of Education at Hamilton Health Sciences Corporation, one of the largest vertically-integrated teaching hospitals in Canada, and adjunct assistant professor in the Faculty of Health Sciences, McMaster University.

His PhD is from the University of Toronto. He is a specialist in policy development, implementation and evaluation.

Selected advisory work for clients…

Completed work for the UK Department of Health on the social implications of electronic prescribing.

Worked with the WHO and the European Space Agency on the introduction of the European Electronic Health Card for cross-border health.

Developed high-level policy position papers for the UK Department of Health on digital interactive television, and telehealth.

Advised a Fortune 100 pharmaceutical company on its global e-business strategy.

Advised an FT100 company on the feasibility of establishing an e-pharmacy.

Provided regulatory advice to a health e-procurement company.

Authored the regulatory and policy sections of a study of the structure of the European biotechnology industry.

Co-authored a report for a Japanese investment company on the success factors of the UK's Private Finance Initiative.

Advised Spanish authorities on independent hospitals.

Selected publications…

Democracy and Governance: Submission to the (UK) House of Commons Health Committee on Foundation Trusts, January 2003

E-procurement and health in Europe, **Eurohealth** 6(4-2000)35-37.

Health on the web, **Eurohealth** 6(3-2000)4-16 (guest editor of issue).

Exploding health care myths – the real threats to public health. **British Journal of Healthcare Management**, 5(3-1999)89-91.

Freedom of Information and Public Health: submission on proposed Freedom of Information Act, February 1998.

Selected presentations…

European cross-border health, Department of Health, UK, 2003.

The citizen is the real Minister of Health, Nortelemed Conference, Norway, 2002.

European health policy, INSEAD, France, 1999.

Collaborative working, Partnership in Action Conference, UK, 1999.

Freedom of information in health, Association of the British Pharmaceutical Industry, 1998.

Building partnerships with government, Chairman, Conference on Exporting Managed Care to Europe, Washington, D.C., 1997.

The patient's perception of care, Telemedicine in Wales Conference, 1996.