

Room for improvement

Strong patient safety systems could limit health, social and economic harms from medical error

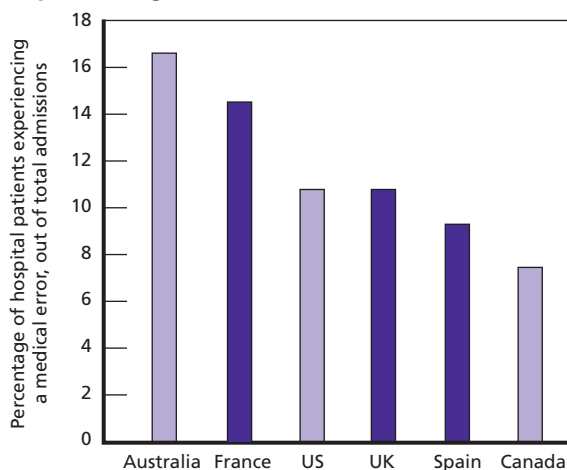
Patient safety incidents are a growing public health problem as healthcare delivery systems become increasingly complex. International studies indicate that between 7 and 17 percent of hospital patients in the developed world will experience an ‘adverse event’ or near miss during their stay (see figure). Within Europe, only a few countries currently collect information systematically on error levels; however, available data and expert estimates suggest that 8 to 12 percent of patients in EU countries will be harmed by the care they receive (or do not receive) in hospitals.¹ Evidence reviewed by RAND Europe shows that nearly half of these incidents are preventable.

Medical error typically stems from system-level problems rather than negligence or incompetence by individual healthcare professionals. RAND Europe was asked to assess three system-level approaches or ‘policy action areas’ to reduce levels of patient harm:

1. Establishing effective reporting and learning systems (RLSs)
2. Establishing fair redress mechanisms
3. Developing and using knowledge and evidence at national and EU level.

¹ Conklin et al., 2008

Percentage of Hospitalised Patients Experiencing a Medical Error



SOURCE: Based on independent country-specific studies referenced in full in Conklin et al., 2008.

Abstract

Patient-harm incidents due to medical error are acknowledged to be more widespread and more harmful than previously realised, putting patient safety high on the policy agenda. In 2008, the EU Directorate-General for Public Health and Consumer Protection asked RAND Europe to establish the scope of the problem in Europe and assess the potential impacts of three policy areas for action. RAND Europe reviewed international literature and interviewed 32 high-level experts in the field of patient safety. These insights informed quantitative analysis to estimate the potential health benefits of reducing harmful events. RAND Europe’s work suggests that strengthening patient safety systems across Europe would substantially reduce error-induced disability and death. Such improvements could also have considerable economic impact by reducing hospital stays, negligence claims and future care needs.

The opportunity: reducing harm, disability and death

To estimate the potential benefits of improving patient safety, RAND Europe modelled the impact of reduced error rates across the 24 EU member states for which data were available. This exploratory analysis indicated that if EU countries with the lowest error rates remained at current levels, and all other EU countries reduced error rates to the international average (10%), the estimated annual impact across Europe would be

- more than 750,000 fewer harm-inflicting medical errors
- 3.2 million fewer days in hospital
- at least 260,000 fewer incidents of permanent disability
- at least 95,000 fewer deaths.

This product is part of the RAND Europe research brief series. RAND research briefs present policy-oriented summaries of an individual peer-reviewed document or a body of published work; current or completed work; and innovative research methodologies.

RAND Europe
 Westbrook Centre
 Milton Road
 Cambridge CB4 1YG
 United Kingdom
 TEL +44.1223.353.329
 FAX +44.1223.358.845

37, Square de Meeus
 B-1000 Brussels
 Belgium
 TEL +32.2.791.7500
 FAX +32.2.791.7900

Annalijn Conklin
 aconklin@rand.org

© RAND 2009

These improvements assume that a 42.8 percent reduction in preventable errors is achievable, a figure based on the findings of the 2005 Spanish ENEAS report and consistent with studies in Australia and the UK. To establish baseline error levels, each country was allocated to one of five country groups by analyzing current performance against the three action areas defined above. Group 1 countries had (1) a national blame-free RLS covering several types of error (see table) and (2) collected or were collecting empirical evidence. Group 5 countries were those with no patient safety RLS at any level. Nomination of countries in top and bottom groups was made by the experts interviewed. RAND Europe researchers then assigned each country group with a hypothetical rate of medical-error prevalence based on ‘best’ case (7%) to ‘worst’ case (17%) international data. The figures were verified using EU country data where available.

Taking action: system-level approaches to improve patient safety

There was strong consensus among interviewed experts that all three action areas have strong potential for improving patient safety and providing good returns on investment. Potentially the highest-value policy initiative is RLS: establishing effective systems to collect and report data on the types, causes and prevalence of medical errors (and near misses), coupled

with dynamic learning systems to ensure that key findings are widely understood and acted upon by frontline clinical staff. If well managed, the RLSs would benefit both patients and care providers by increasing transparency and trust, knowledge sharing and accountability. The initial costs to set up RLS systems would be moderate to high, but would save money in the long term through the avoided costs of patient harms such as negligence claims and additional future care.

The interviewed experts also identified a number of other key drivers and pre-conditions for achieving the anticipated benefits. First, a strong patient safety ‘culture’ must exist or be created at all levels of the healthcare system. Second, the issue of patient safety must be a high priority on the political agenda. Third, the role of the media is crucial: Government efforts to improve safety may be hindered if the media focus is on negatives (levels of patient harm) rather than positives (initiatives underway and successes achieved).

Reaching decisionmakers and the public

The results of RAND Europe’s independent study on policy actions to improve patient safety at EU level informed the successful adoption of a Communication and a proposal for a Council Recommendation in December 2008. On 9 June 2009, EU member states adopted the Council Recommendation on patient safety, including the prevention and control of healthcare associated infections.

Types of Medical Errors

Category	Type
Diagnostic	Error or delay in diagnosis Failure to employ indicated tests Use of outmoded tests or therapy Failure to act on results of monitoring or testing
Treatment	Error in performance of an operation, procedure or test (e.g., wrong-side surgery) Error in administering treatment (e.g., wrong prescription) Avoidable delay in treatment or in responding to an abnormal test Inappropriate (not indicated) care
Preventive care	Failure to provide prophylactic treatment Inadequate monitoring or follow up of treatment
Other	Failure to communicate Equipment failure Other system failure

SOURCE: Leape, LL, et al. (1993) Preventing Medical Injury, *Quality Review Bulletin*, 19(5): 144–149.

Future learning: the need for a European evidence base

The evidence base for quantifying the expected impacts of proposed policy areas is under-developed in Europe. Many EU countries are missing basic information on the number of patient-harming events or near misses, as there is little routine data collection and reporting at a nationally representative level. This makes it difficult to quantify the direct and indirect costs to the health system and to society, or to measure the economic and social value of improvements. While some countries are making efforts to implement patient safety systems, these are mostly recent and their impact yet to be evaluated. RAND Europe’s work, based on analysis of quantitative and qualitative evidence, indicates a substantial potential return. An empirical assessment of the economic impacts of patient safety initiatives is needed to demonstrate this potential more conclusively, using a longitudinal cross-national study. ■

Further reading:

Conklin, A, A Vilamovska, H de Vries, and E Hatzianandreu (2008) *Improving patient safety in the EU: Assessing the expected effects of three policy areas for future action*. Cambridge, UK: RAND Europe, TR-596-EC.

Secretary of Health Quality Agency Administration National Health System. (February 2006) *National study on hospitalisation-related adverse events (ENEAS) 2005 Report*. Madrid: Ministry of Health and Consumer Affairs Technical Secretary Publications Centre.

Vincent, C, G Neale, and M Woloshynowych (2001) Adverse events in British hospitals: preliminary retrospective record review. *British Medical Journal*, 322(7285): 517–519.

RAND Europe is a not-for-profit research organisation providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND Europe’s publications do not necessarily reflect the opinions of its research clients and sponsors. RAND® is a registered trademark.

RAND Offices

Santa Monica, CA • Washington, DC • Pittsburgh, PA • New Orleans, LA/Jackson, MS • Boston, MA • Doha, QA • Cambridge, UK • Brussels, BE

RB-9472-EC (2009)



EUROPE

THE ARTS
CHILD POLICY
CIVIL JUSTICE
EDUCATION
ENERGY AND ENVIRONMENT
HEALTH AND HEALTH CARE
INTERNATIONAL AFFAIRS
NATIONAL SECURITY
POPULATION AND AGING
PUBLIC SAFETY
SCIENCE AND TECHNOLOGY
SUBSTANCE ABUSE
TERRORISM AND
HOMELAND SECURITY
TRANSPORTATION AND
INFRASTRUCTURE
WORKFORCE AND WORKPLACE

This PDF document was made available from www.rand.org as a public service of the RAND Corporation.

This product is part of the RAND Corporation research brief series. RAND research briefs present policy-oriented summaries of individual published, peer-reviewed documents or of a body of published work.

The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world.

Support RAND

[Browse Books & Publications](#)

[Make a charitable contribution](#)

For More Information

Visit RAND at www.rand.org

Explore [RAND Europe](#)

View [document details](#)

Limited Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law as indicated in a notice appearing later in this work. This electronic representation of RAND intellectual property is provided for non-commercial use only. Unauthorized posting of RAND PDFs to a non-RAND Web site is prohibited. RAND PDFs are protected under copyright law. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please see [RAND Permissions](#).