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Health Care Quality Indicators

HEALTH CARE QUALITY INDICATORS PROJECT

PATIENT SAFETY DATA SYSTEMS IN THE OECD: A REPORT OF A JOINT IRISH DEPARTMENT OF HEALTH – OECD CONFERENCE

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• Australia	• Korea
• Austria	• Latvia
• Belgium	• Malta
• Canada	• Mexico
• Cyprus	• Netherlands
• Czech Republic	• New Zealand
• Denmark	• Norway
• Finland	• Poland
• France	• Portugal
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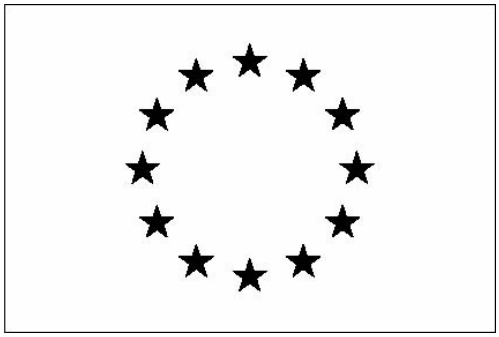

ABSTRACT

This report presents the findings of the first meeting of the HCQI Patient Safety Subgroup which met on June 29-30th in Dublin, Ireland. The conference was jointly hosted by the Irish Department of Health and Children and the OECD. Representatives from country governments and international experts met to discuss and evaluate the current situation in patient safety data systems throughout the OECD and barriers to improvement. From the initial findings of the OECD Health Care Quality Indicators (HCQI) Project, there are at present only a limited number of indicators available for cross- national comparison to provide information on the quality of care delivered. Patient safety has been identified by member countries as one of the five priority areas for improving data systems.

Reliable data on patient safety facilitates the improvement of the quality of health care. Given that adverse events should occur relatively rarely, these systems need to collect data in a standardised manner so that comparable data can be used for analysis and national policy relevance. Country experts shared their national experiences in implementing data systems for monitoring patient safety. National systems of coding patient safety events that do exist need cross walks across versions of ICD so that these systems are comparable.

Through discussion, a framework for improving patient safety data systems was proposed and opportunities for improvement identified. An international database of patient safety indicators is needed for national benchmarking and learning. Data that is currently nationally collected on adverse events and medical errors needs to be made comparable through translations of event coding. HCQI work on patient safety will continue through an initiative to examine data and coding issues in hospital administrative data systems to draw comparable patient safety indicators. Given the differences across countries in the legal and administrative contexts for adverse event reporting systems, future work initiatives will also focus on gathering information on medical errors and the structural and legal issues of measuring patient safety.

JEL Classification: I18

Keywords: patient safety; health care quality indicators

RÉSUMÉ

Dans ce rapport sont présentées les conclusions de la première réunion du Sous-groupe sur la sécurité des patients du Projet de l'OCDE sur les indicateurs de la qualité des soins de santé (HCQI), qui a eu lieu les 29 et 30 juin à Dublin (Irlande). Cette conférence a été organisée conjointement par le ministère irlandais de la Santé et de l'Enfance et l'OCDE. Elle a rassemblé des représentants des administrations nationales et des experts internationaux qui ont examiné et analysé la situation actuelle concernant les systèmes de données sur la sécurité des patients dans l'ensemble de la zone de l'OCDE, et les obstacles qui s'opposent à leur amélioration. D'après les premiers résultats du Projet HCQI, on ne dispose pour le moment que d'un nombre limité d'indicateurs pour effectuer des comparaisons internationales qui apportent des informations sur la qualité des soins dispensés. La sécurité des patients a été classée par les pays membres parmi les cinq domaines dans lesquels les systèmes de données doivent être améliorés en priorité.

L'existence de données fiables sur la sécurité des patients permet d'améliorer plus facilement la qualité des soins de santé. Étant donné que les événements indésirables devraient être relativement rares, la collecte de données dans le cadre de ces systèmes doit être réalisée de façon uniforme, afin de pouvoir disposer de données comparables pour effectuer des analyses qui soient utiles à l'élaboration des politiques nationales. Les experts nationaux ont partagé les enseignements qu'ils ont tirés de l'utilisation, dans leur pays, de systèmes de données pour la surveillance de la sécurité des patients. Des tableaux de correspondance entre les systèmes nationaux existants de codage des événements concernant la sécurité des patients et différentes versions de la CIM doivent être élaborés afin d'assurer la comparabilité de ces systèmes.

Lors des débats, un cadre pour l'amélioration des systèmes de données sur la sécurité des patients a été proposé et les possibilités qui s'offrent à cet égard ont été recensées. Il est nécessaire de mettre en place une base de données internationale contenant des indicateurs sur la sécurité des patients pour permettre l'étalonnage et l'enrichissement des connaissances au niveau national. La comparabilité des données actuellement recueillies à l'échelon national sur les erreurs médicales et autres événements indésirables doit être assurée à l'aide du transcodage de ces événements. Les travaux consacrés à la sécurité des patients dans le cadre du Projet HCQI se poursuivront à travers une initiative consistant à examiner les problèmes de données et de codage concernant les systèmes de données administratives des hôpitaux, dans le but de dégager des indicateurs comparables sur la sécurité des patients. Le contexte juridique et administratif dans lequel s'inscrivent les systèmes de notification des événements indésirables étant différent d'un pays à l'autre, les travaux futurs feront aussi une place privilégiée à la collecte d'informations sur les erreurs médicales et les questions d'ordre structurel et juridique qui se posent à propos de la mesure de la sécurité des patients.

Classification JEL : 118

Mots-clés : sécurité des patients ; indicateurs de la qualité des soins de santé

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EXECUTIVE SUMMARY

1. Following the release in the US of *To Err Is Human* by the US Institute of Medicine, in which the impact of patient safety problems in the US were presented in stark detail, patient safety measurement has been in the spotlight for data systems development. National administrations have begun to respond to the rising interest in patient safety and quality with efforts to improve measurement systems in these areas of health care performance.

2. To respond to country needs for information on indicators and data systems for quality, the OECD began the OECD Health Care Quality Indicator (HCQI) Project in 2001. The long-term objective of the HCQI Project is to develop a set of indicators that can be used to raise questions for further investigation concerning the quality of health care across countries. The first paper with data collected between 2003 and 2005on an initial set of quality indicators was released by the OECD in March 2006 (Mattke 2006). The results of this initial report from the HCQI Project showed clearly that there are at present only a limited number of indicators available for international comparisons in which there is both consensus on the importance and soundness of the indicators and available and comparable data. Therefore, the OECD embarked on a new phase of work with the HCQI Project to work with countries prospectively on improving data systems in five priority areas, including patient safety. A second round of data collection conducted in 2006 in support of this work confirmed the finding of shortfalls in the availability of data needed to track patient safety.

3. In part because of the results of the data availability survey and in part because of the very high level of interest across countries, the OECD formed an Expert Group on Patient Safety, which met for the first time in June 2006 in Dublin, Ireland, at a seminar hosted by the Irish Department of Health and Children. This seminar, the first multi-country conference organised in the OECD on patient safety data systems, attempted to address three issues: a) getting patient safety data systems on the agenda; b) developing a concrete work plan for improving patient safety data systems and international comparability of patient safety data; and c) addressing how countries should approach linking data to action to improve patient safety.

4. It is clear from experiences in the UK, US and elsewhere that national structures are needed to coordinate patient safety data efforts. Given that many patient safety "events" (adverse events, complications of care, etc.) are relatively rare events, it is important that data be collected in a uniform manner across hospitals, states, provinces and regions and centrally analysed. It is also clear that these data systems must be seen as useful to the stakeholders involved in producing the data. Feedback mechanisms and dissemination tools must be used to broadcast, in a timely fashion, patient safety problems and how they can be fixed. It is also apparent that the major area of the patient safety data agenda that has been entirely unaddressed, by virtually every country in the OECD, is the involvement of patients in patient safety data system development. Currently, virtually no country in the OECD has a uniform or official vehicle for incorporating patient reports of adverse events into their regular patient safety data systems.

5. The conference participants heard from international experts on a variety of types of data systems in use in OECD countries for measuring patient safety and their advantages and limitations in reporting across countries. In particular, the presentations focused on hospital administrative data systems, adverse event systems and then other systems for tracking, such as sentinel event systems.

- Based on the presentations made at the conference, it appears that the most readily available set of data systems for tracking patient safety are hospital administrative data systems. Efforts have been made in a growing number of OECD countries to adapt indicators developed in the US for hospital administrative data. However, important issues must be resolved before these indicators are widely applicable to OECD countries, including the construction of "translations" between different national approaches to data coding and the testing of indicators in the context of different country data systems.

- Adverse event systems are also in wide use in many OECD countries, however, there are large differences across countries in terms of the legal context for these data systems, the ownership of the data and the use of the data for improvement efforts. A better understanding of these issues is needed before indicators based on these systems can be used to analyze patient safety across countries. Sentinel event systems and medical practice surveys have been set up or conducted in a range of OECD countries, although data availability for these indicators (based on the OECD survey) is lower than for other types of indicators.

- Data from sentinel event systems could eventually provide more information for international comparability. Data from the literature on medical practice surveys/audits is currently available and shows similar levels of patient safety problems across countries. However, the cost and effort of conducting such surveys/audits on a national basis makes them prohibitive for any ongoing monitoring system for patient safety.

6. Presenters emphasized the need to link and develop data systems with an eye toward their national policy relevance and toward how these data systems could be used to shape quality improvement campaigns. Moreover, all the speakers highlighted current gaps in our knowledge, including data systems for ambulatory care, for medication safety and for care in disadvantaged areas, such as small and rural hospitals. More work is needed and international partners are making efforts to address current gaps. For example, work by the Global Alliance on an international patient safety taxonomy will support efforts in patient safety data systems across countries.

7. It is clear from the OECD's survey on patient safety data availability and from the presentations at this conference that there are a number of opportunities for improving patient safety data systems worldwide. In particular:

- No international database on patient safety yet exists - At the most basic level, there is no international database that is currently collecting data from countries internationally on an ongoing basis on patient safety that could serve as a tool for national benchmarking and learning.

- Very limited data is immediately comparable across countries - In areas such as adverse events and medical errors there are few countries that track these patient safety indicators in the same way. However, the OECD's patient safety data availability survey also shows that there are areas of promise, particularly in the potential use of hospital administrative data. Translations are needed to crosswalk national reporting systems for comparable data.

- Where there is available data, a range of factors inhibits their use for international benchmarking and learning – In some areas, such as hospital complications of care, there is a reasonable level of data availability. However, the specific data systems conventions and structures that are in use as well as the legal context for data systems inhibit any international comparability.

8. In order to begin to address these areas of improvement, the OECD Secretariat presented two specific work proposals that were proposed to the expert group and will be developed and implemented in

2007. The initiatives will focus on: a) adapting hospital administrative data systems for patient safety internationally and b) reviewing adverse event reporting systems in terms of their structures, legal issues and usability for analyzing patient safety across countries

1 PATIENT SAFETY AND ITS PLACE IN PERFORMANCE MEASUREMENT

9. Safety is attained when the system has the right structures, renders services, and attains results in ways that prevent harm to the user, provider, or environment (Veillard 2005, JCAHO 1997). The safety of health care provision is a new area of performance measurement relative to the areas of cost and quality of care (Arah 2006, Institute of Medicine 2001). However, it is one that has received significantly more attention in the past 10 years, following the release of a number of landmark studies on medical practice and on rates of medical errors in countries such as the US, Australia, Canada, the UK and others (Leape 2002, Institute of Medicine 1999, Runciman 1993, Wilson 1995, Zhan 2005, Thomas 2003.) These studies have shown, virtually universally, that gaps in patient safety in terms of adverse events, complications of care or surgeries and medication errors occur at very similar rates across countries.

10. These studies also have sparked widespread interest in the popular press and, more recently, in policy circles as national administrations work to address gaps in patient safety (Donaldson 2004). In the US, legislation has been recently passed that builds on past legislative efforts on patient safety. The Patient Safety and Quality Improvement Act of 2005 (Public Law 109-41), signed into law on July 29, 2005, was enacted in response to growing concern about patient safety in the United States. The goal of the Act is to improve patient safety by encouraging voluntary and confidential reporting of events that adversely affect patients (AHRQ 2006). In the UK, the National Patient Safety Agency was created in 2001 as a Special Health Authority to co-ordinate the efforts of the entire country to report to learn from mistakes and problems that affect patient safety (NPSA 2006). Many other countries have enacted legislation, created new organizational bodies or created new national reports to track patient safety in recent years, including Canada, Spain, the Netherlands, Italy, Finland, Sweden and others.

2 THE OECD PATIENT SAFETY AGENDA

11. OECD Health Working Paper No. 22 issued in 2006 outlines the data collected on 21 indicators from 24 countries after an extensive process of indicator selection and exploration of (national) data availability that is briefly described in the successive paragraphs. However, the results of this report show clearly that there are only a limited number of indicators available for international comparisons where there is both consensus on the importance and soundness of the indicators and available and comparable data. Therefore, the OECD embarked on a new phase of work within the HCQI Project. This work is focusing on addressing the key problem in international health care quality – the lack of comparable data that could enable benchmarking and best practices learning. With the availability of indicators that have broad consensus and available, and having nearly exhausted comparable data across countries outside the reported set of indicators for the HCQI Project, the OECD has commenced work on improving data systems. This work must be driven by member countries, as this is where data collection systems are managed, updated and improved. Consequently, the OECD has redesigned its HCQI work to focus on national governments' current priorities by setting up country subgroups of the now 32-country HCQI Expert Group.

12. The focus of these subgroups is the five priority indicator areas initially identified in 2004. The five priority areas are: cardiac care, diabetes care, primary care and prevention, patient safety and mental health care. Panels of international experts were commissioned in each of the five priority areas to review the current literature and recommend a set of indicators that met strict criteria of scientific soundness and clinical and policy importance. A total of 85 indicators were recommended across the five areas.

13. In order to focus its work on these five areas, the OECD developed a data availability questionnaire for the entire set of 85 indicators recommended in the five panel reports. Information was gathered from countries on data availability on the five areas in 2005. Based on the results of this data availability survey and on a review of the clinical and policy importance and scientific soundness ratings given to the indicators, the HCQI Expert Group at its 2005 meeting in Paris recommended that the initial focus areas would be patient safety and mental health.

14. The HCQI's findings in the review of available measures of patient safety were released in the OECD Health Technical Paper No. 18 in 2004 *Selecting Indicators for Patient Safety at the Health Systems Level in OECD Countries* (see below). Using a structured review process, the expert panel set out to select indicators to cover five key areas of patient safety: hospital-acquired infections, sentinel events, operative and postoperative complications, obstetrics, and other care related adverse events. This report proposed 21 indicators as follows:

Table 1. HCQI Recommended Patient Safety Indicators

Area	Indicator Name
Hospital-acquired infections	Ventilator pneumonia
	Wound infection
	Infection due to medical care
	Decubitus ulcer
Operative and postoperative complications	Complications of anaesthesia
	Postoperative hip fracture
	Postoperative pulmonary embolism (PE) or deep vein thrombosis (DVT)
	Postoperative sepsis
	Technical difficulty with procedure
Sentinel events	Transfusion reaction
	Wrong blood type
	Wrong-site surgery
	Foreign body left in during procedure
	Medical equipment-related adverse events
	Medication errors
Obstetrics	Birth trauma – injury to neonate
	Obstetric trauma – vaginal delivery
	Obstetric trauma – caesarean section
	Problems with childbirth
Other care-related adverse events	Patient falls
	In-hospital hip fracture or fall

15. A summary of the findings on the availability of data for the patient safety indicators is presented below. A key issue in the HCQI indicator work was that, while countries can construct many indicators, inherent differences in the methodologies and data sources used could render them incomparable. In other words, differences in indicators would reflect data differences rather than differences in quality of care. For this survey, the Secretariat has obtained the indicators as they were supplied by each country according to national definitions. No attempt was made at this stage to work with countries bilaterally to change national definitions to an international standard. The indicators shaded in grey met the Expert Groups' working criteria of at least 10 countries reporting that they could provide data on the indicator. The two patient safety indicators judged to be fit by the expert group for inclusion in the 2006 data collection on the grounds of data availability *and* high priority are postoperative hip fracture and transfusion reaction. (The results of this most recent round of data collection will be reported in a separate OECD working paper to be issued spring 2007.)

Table 2. Available Patient Safety Indicators

Panel Indicators ranked by decreasing number of responses by countries to Currently Available and Could be Constructed	Number of countries responding:		Total countries reporting	Prioritisation according to Panel Members recommendations at December 2004 meeting
	Currently available and could be constructed	Currently available only		
Patient Safety				
PS19: Problems with childbirth	13	7	14	
PS17: Obstetric trauma-vaginal	12	6	15	
PS18: Obstetrics trauma-caesarean section	12	5	14	
PS6: Postoperative hip fracture	11	4	15	High
PS15: Foreign body left in during procedure	11	3	15	High
PS16 Birth trauma-injury to neonate	11	7	15	
PS5: Complications of anaesthesia	10	3	15	
PS10: Transfusion reaction	10	5	15	
PS11: Wrong blood type	10	4	15	
PS4: Decubitus ulcer	9	3	14	High
PS7: Postoperative pulmonary embolism or deep vein thrombosis	9	3	15	
PS21: In-hospital hip fracture or fall	9	2	14	
PS3: Infection due to medical care	8	5	15	
PS8: Postoperative sepsis	8	6	15	
PS9: Technical difficulty with procedure	8	2	14	
PS20: Patient fall	8	3	15	
PS2: Wound infection	7	3	15	High
PS13: Medical equipment-related adverse event	7	3	15	
PS1: Ventilator pneumonia	6	4	15	High
PS12: Wrong-site surgery	5	1	15	High
PS14: Medication error	5	2	15	High

Source: HCQI Expert Group, 2004

3 DEVELOPING PATIENT SAFETY DATA SYSTEMS: LESSONS FROM THE OECD-IRISH DEPARTMENT OF HEALTH AND CHILDREN CONFERENCE

16. The first meeting of the OECD HCQI Patient Safety Subgroup was held in Dublin, Ireland and was co-hosted by the Irish Department of Health and Children. The meeting was held June 29-30, 2006. The HCQI Patient Safety conference in Dublin was the first meeting of the HCQI Patient Safety Expert Group and the first multilateral patient safety meeting focusing on data systems to be held in Europe since the release of the UK Report, "An Organisation with a Memory" and the US Institute of Medicine report, "To Err is Human." The meeting was jointly chaired by the OECD Secretariat and the Irish Department of Health and Children. This purpose of this conference, therefore, was threefold:

- Review progress and barriers in implementing national patient safety data systems within the OECD
- Discuss an agenda for improving patient safety data systems within a context of their use for guiding policy
- Create consensus on how to use the OECD HCQI safety indicators to encourage harmonisation of indicator sets for safety across the major international organisations active in patient safety

17. The conference was conducted over two days. The first day focused on learning from country and international experts on experiences in national patient safety data systems. In particular, the afternoon focused on specific operational barriers to achieving comparable international data in patient safety, including tested or potential solutions to those barriers. The lessons learned on the state of patient safety data systems therefore, were divided into three areas. These areas are listed below and the lessons learned are presented in the following sections.

- Leadership Lessons: Putting Safety Information on the Agenda – This session presented the need and the possibilities for getting patient safety data systems development on the agendas of policy makers in national administrations.
- Setting the Agenda: The Situation for Safety Data Systems in the OECD – This session summarized the state of the art in three different types of data systems and how they could be used to assess patient safety: a) hospital administrative data; b) adverse event reporting systems and c) medical practice and infection surveys.
- Safety Data for Safer Care: From Knowing to Doing – This session presented lessons from the Global Alliance on Patient Safety, from the US and from the host country Ireland on moving from monitoring to improving patient safety

3.1 Leadership Lessons: Putting Safety Information on the Agenda

18. The session on putting safety information on the policy agenda in national administrations provided a context for the discussion on data systems. It opened with a presentation on a patient and family

member's perspective on patient safety issues and the data systems that track them. The presentations then summarized lessons in moving forward with safety data systems from the national, regional and international perspectives. The speakers at the meeting were:

- Opening commentary – From the Patient Perspective: Ms. Margaret Murphy, Patient Advocate, Republic of Ireland

- National Perspective: Sarah Scobie, National Patient Safety Agency, UK

- Regional Perspective: Carlo Liva, Head of Quality and Accreditation; National Agency for Regional Health Care Services, Italy

- International Perspective and Conclusions: Gerard Schmets, WHO Regional Office for Europe

3.1.1 Patient-centred Care

19. The need for keeping the patient at the centre of patient safety is one which is easily overlooked as technical teams wrestle with data and legal issues. However, as Ms. Margaret Murphy, a patient advocate from Ireland argued in her presentation, it is only in learning from individual patient experiences that we can improve our data systems to the point that they support patient safety improvements. Ms. Murphy's son, Brian, was the victim of a series of missed diagnoses, lost opportunities and inappropriate medical care that ended up costing him his life in 1999. Kevin developed bone pain, trouble with his kidneys and eventually renal failure and hypercalcaemia. Test results were not recorded properly and were not seen or sought out by clinicians so that Kevin, who should have been diagnosed as having a parathyroid adenoma, grew weaker and eventually died. There were a wide variety of shortcomings in the care that Kevin received for his condition, including the selective and incomplete transfer of information between key caregivers, the absence of an integrated pathway, ignoring clear clinical signs that were not in line with the existing diagnosis (Kevin developed neurological symptoms) and the weekend environment of the hospital when Kevin was finally admitted where junior staff were left on their own all played a part. Ms. Murphy outlined a set of recommendations from her and her son's experience that are relevant for improving patient safety data systems:

- Acknowledging the reality as experienced by patients is key if patient-based data is to be used to solve safety problems. Patient-centred care is intended to be just that. Robust data collection needs to be inclusive for patient input.

- Patients therefore need to be included in targeted ways in the process of developing patient safety data tracking systems.

- More work is needed to move patient safety data systems to the point where they can reveal root causes of safety problems (i.e. the real issues that need to be addressed) and where they can drive quality assurance in relation to improved outcomes for patients.

- There is a need for improved patient safety data systems to result in measurable improved outcomes for patients.

20. Ms. Murphy showed a copy of Kevin's death certificate as an example of an "official" element of data. No where does it indicate that the cause of Kevin's death was a set of medical errors. Ms. Murphy's powerful call to the OECD experts was to move patient safety data systems to the point where errors, adverse events and complications of care are called as such and tracked openly. Only then, as she and other speakers pointed out, would progress be made in improving patient safety.

3.1.2 National, Regional and International Perspectives

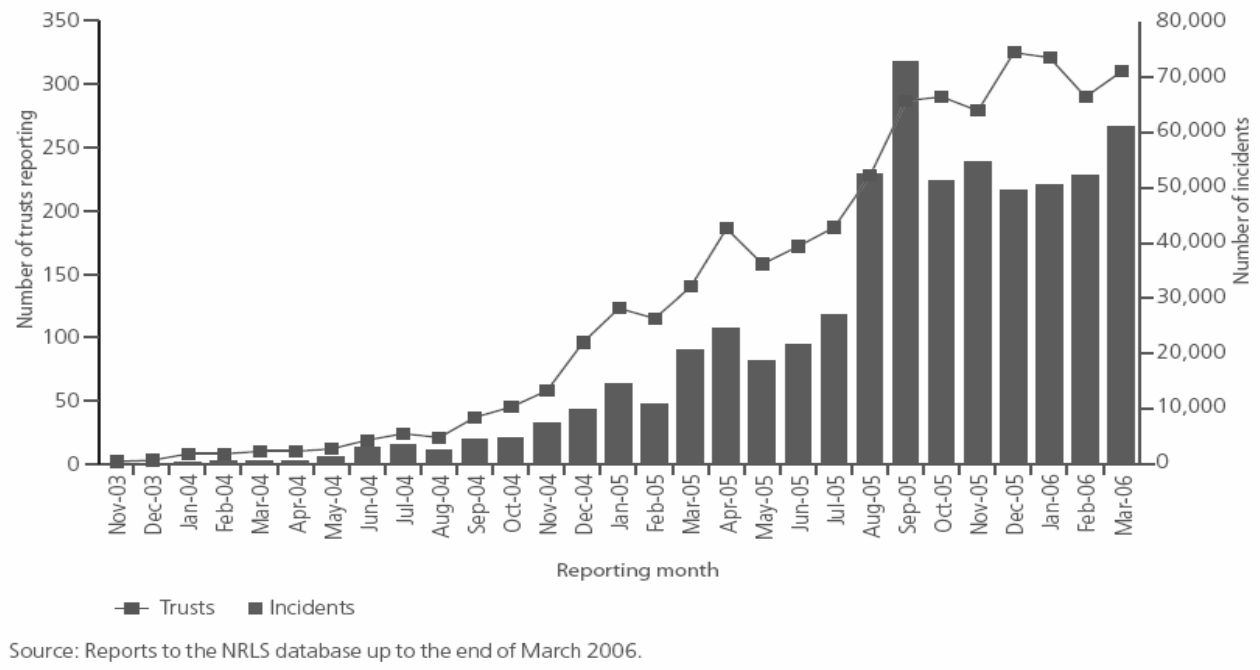
21. Ms. Murphy was followed by Sarah Scobie, Head of the National Patient Safety Observatory at the National Patient Safety Agency of the UK. Her talk illustrated how in the UK, the issue of patient safety has become such an important one that a national agency and a national reporting and learning system was set up to address the problem. Dr. Scobie addressed the development in the UK of the National Reporting and Learning System and the Patient Safety Observatory. Dr. Scobie emphasized the importance of high profile reports noting gaps in care in the UK as part of the impetus behind the development of these systems. However, she also noted that getting safety data on the agenda was also a matter of showing that it can be done and showing that the outputs of these data systems are useful in a practical sense for improving health care.

22. The National Reporting and Learning System (NRLS) in the UK is a confidential reporting database where adverse incidents are reported electronically. Virtually all of the events in the database come from local adverse event systems. Dr. Scobie highlighted how one of the reasons behind the success of the NRLS is that it provides a framework to leverage existing local efforts. The data are analyzed to:

- Identify trends and patterns
- Provide feedback for local action
- Inform NPSA work programmes

23. A summary of the progress of the NRLS is presented below in a graph showing the number of incidents and reporting trusts in the system. Dr. Scobie noted that getting safety data systems on the agenda can be one where initial strong interest is followed by a slow development as local buy in is generated and technical issues are addressed. If these are accomplished, as they were with the NRLS, expansion of the data system will expand quickly.

Figure 1. Number of Incidents and Reporting Trusts in the UK NRLS



Source: Reports to the NRLS database up to the end of March 2006.

24. The NRLS uses a range of analysis techniques, including routine monitoring reports, thematic analysis, ad hoc analysis and exploratory analyses (using reviews of selected incidents and data mining techniques). Despite the advances that the NRLS has made in terms of use and relevance to providers and policy makers in the UK, Dr. Scobie emphasized that the national agenda of patient safety data systems cannot be confined to incident reporting systems. Incident reporting systems are based on "looking backward" and trying to understand what happened. However, these systems do not capture all events and they do not map out how to use the data to improve care in the future. For these and other reasons, Dr. Scobie stated, the national Patient Safety Observatory was initiated with the tasks of overall leadership on surveillance and monitoring for patient safety as well as collaboration with other institutions and formative analysis of potential new monitoring tools. One such analysis was undertaken using the patient safety indicators from the US Agency for Healthcare Research and Quality where the indicators were adapted and applied to UK data. This work can serve as a source of information for the OECD initiative on this (discussed later in this paper).

25. After the UK presentation offered a picture of how issues play out at the national level in getting patient safety data on the agenda, Carlo Liva from the Italian National Agency for Regional Health Care Systems (ASSR in Italian) offered a perspective of how sub national, or regional, efforts should also be considered. The ASSR was founded in 1995 by national decree to support both national and regional health authorities in Italy. Currently, in Italy, most regions are taking measures to deal with patient safety problems in health organizations. Their main objectives are to reduce or stabilize lawsuits and costs for insurance and improve quality of services related to safety. While many hospitals and their regional health authorities are active in risk management and safety currently, the financing for this regional activity is complicated, with some funding coming from the national level, some from the regional level and some by

local hospital trusts. Areas of focus in several leading regions include risk management, and the development of regional databases for adverse events and regional systems for incident reporting.

26. Mr. Liva emphasized the need for regional activities in patient safety data systems to be undertaken with support from national entities. In Italy, there is a committee of the national Ministry of Health that focuses on clinical risk and which produced in 2004 a paper looking at systems of error classification and clinical risk management. In 2005, additional work by this committee has supported regional activities in the area of monitoring sentinel events.

27. Gerard Schmets from the WHO Regional Office for Europe offered the concluding remarks as well as an international perspective to the question of getting patient safety data systems on the agenda. Dr. Schmets noted that health care quality, as tracked in a number of sources from WHO using a variety of indicators, is generally improving internationally. However, he also noted that it is not improving in all places for all population groups at the same rate. This is true for safety issues as well as for more broad measures of quality and health, such as infant mortality.

28. In Europe, stated Dr. Schmets, data has shown that as many as 1 in every 10 hospital patients may suffer preventable harm during their hospitalization. In order to better understand the situation related to patient safety and where it stood on the agendas of European countries, WHO-Euro undertook a survey of member countries to raise awareness on patient safety, identify national focal points for measurement and action and evaluate major patient safety problems at national and regional levels. The survey was questionnaire based and targeted the 52 member states of Europe.

29. Forty of the 52 countries responded to the survey (76.9% overall response rate). Some of the key findings and the recommendations that came out of the survey were:

- Interventions in studying and improving safety are generally fragmented across countries. More is needed to develop a consistent approach within and across countries on measurement and improvement.

- There is a major gap between countries' stated policies and their implementation activities in patient safety. Support mechanisms are needed at the national level to support implementation activities.

- The systems for event reporting across Europe in patient safety are found to be generally unclear. The development of broad guidelines for reporting systems is needed, perhaps in part building on the Global Alliance for Patient Safety's work in this area.

- Most countries believe that patient expectations are high for improved patient safety. This creates both an opportunity for involving patients, as was discussed in the first presentation by Margaret Murphy of the day, in patient safety measurement and improvement efforts.

30. The key limitations to the development of patient safety data systems in Europe, according to surveyed countries, include:

- The lack of a culture of safety (individual and institutional)

- The lack of communication between professionals and between professionals and patients

- The weak pro-active risk assessment

- The limitation of funds and sometimes subsequent access to technologies

31. WHO-Euro is working through several vehicles to help address patient safety data and implementation problems. One key activity for WHO-Euro is the PATH Project (Performance assessment tool for quality improvement in hospitals). The PATH Project was initiated in 2003 and involves 51 hospitals from 6 countries. The Project focuses on measurement and improvement in a number of performance areas, including safety. Data collection on all of these indicators (51 hospitals took part in a pilot data collection in 2005) will be collected from more than 200 hospitals in 10 countries in 2006-07. The safety indicators are listed below:

- In-hospital mortality rates for tracer conditions: (acute myocardial infarction, community acquired pneumonia, hip replacement, stroke; hip fracture)
- Re-admission to intensive care unit
- Caesarean section
- Pressure ulcers
- Nosocomial infections
- Excessive working hours for staff
- Needle injury rates

32. Dr. Schmets concluded by stating that WHO-Euro's experience in the past several years has shown that patient safety data systems are on the agenda at the local, regional, national and international level. However, they are not on the agenda for all countries and not at all the levels listed. Moreover, the information agenda is not considered from the patient perspective in most countries. The key task in the coming years will be to define which "interventions" are most effective at promoting patient safety information needs.

3.2 Setting the Agenda: The Situation with Safety Data Systems in the OECD

33. Following the discussion of how to get patient safety data systems on the political and technical agenda, a set of presentations were made to review the current state of these data systems in OECD countries. The presentations were made in three groups that roughly corresponded to the main types of data systems in use in the OECD to monitor patient safety.

3.2.1 Assessing Patient Safety through Administrative Data

34. The use of hospital administrative data systems to assess patient safety has been a relatively recent development. Experience with using these systems and with adapting approaches across countries was presented by experts from the US and from Iceland.

35. Mr. Patrick Romano, from the University of California School of Medicine, led the development of the US Agency for Healthcare Research and Quality's (AHRQ) Patient Safety Indicators (PSIs) which were adapted for use in the OECD HCQI Project. While there is a lot of interest in these administrative data systems, they are only one of a range of methods that are in use to track patient safety, including:

- Analyze administrative data (adverse events, selected types of medical errors)

- Review medical records (adverse events, selected types of medical errors)
- Collect confidential provider reports of "incidents" or "safety events" (passive surveillance of medical errors or near misses)
- Conduct active surveillance or real-time observation (medical errors or near misses)
- Survey patients
- Survey employees or managers on organizational capabilities or climate ("culture of safety")

36. Mr. Romano noted that there were some key advantages and disadvantages to using hospital administrative data systems for measuring patient safety as summarized in the table below.

Table 3. Summary of Limitations and Opportunities in Using Administrative Data to Measure Patient Safety

Limitations	Opportunities
Limited/no information on processes of care and physiologic measures of severity	Data availability improving
Limited/no information on timing (comorbidities vs. adverse events)	Coding systems and practices improving
Heterogeneous severity within some ICD codes	Large data sets optimize precision
Accuracy depends on documentation and coding	Comprehensiveness (all hospitals, all payers) avoids sampling/selection bias
Data are used for other purposes, subject to gaming	Data are used for other purposes, subject to auditing and monitoring
Time lag limits usefulness	

37. The AHRQ PSIs, which were directly adapted for use in OECD HCQI Project, use existing hospital discharge data, based on readily available data elements. They incorporate severity adjustment methods wherever possible and the software for the indicators is offered free of charge through the US Government and AHRQ. The definitions are based on ICD-9-CM diagnosis and procedure codes with inclusion and exclusion criteria based upon DRGs, sex, age, procedure dates and admission type. There was an extensive review of the literature and a detailed process for the validity checking of these indicators empirically and through national and international experts. Mr. Romano pointed that the process of developing the indicators was very similar to that of the HCQI Expert Panel review of the patient safety technical working paper.[1]

38. In the US, the PSIs are used as a patient safety data system in a variety of ways. They are used internally or provide external hospital accountability to the community. They are also used for national,

[1] Millar J, Mattke S and Members of the OECD Patient Safety Panel. Selecting Indicators for Patient Safety at the Health Systems Level in OECD Countries. OECD Technical Working Paper no. 18. October 2004

state and regional analyses and are presented in the US National Healthcare Reports produced by AHRQ. Finally, Mr. Romano pointed the importance of this data source for its use at the individual hospital level in hospital safety improvements in order to:

- Trigger case finding, root cause analyses, identification of clusters
- Evaluate impact of local interventions
- Monitor performance over time

39. A key issue in the use of the PSIs in any data system is their ability to track changes over time. Mr. Romano pointed out that there had been some changes over time in the US national rates, in both the observed and the risk adjusted rates from 1999-2000 to 2002-2003 (data years were pooled to provide more reliable samples.) In the US at present, only a subset of these indicators is used to track trends over time, as the estimates are deemed to be unreliable. There are a number of reasons for this, including that improved coding and recording of adverse events and complications, which should be seen as a positive development from a data system perspective, will result in the short term in increasing rates solely due to improved data. The results shown by Mr. Romano from AHRQ's analysis are summarized in the table below.

Table 4. Relative change from 1999-2000 to 2002-2003 in observed and risk-adjusted AHRQ PSI rates, US national estimates

Patient Safety Indicator	2003 rate per 1000	% change in PSI observed
Complications of anaesthesia	0.775	14.70%
Decubitus ulcer	23.365	12.10%
Foreign body left in during procedure	0.086	4.50%
Infection due to medical care	2.052	13.80%
Postoperative hip fracture	0.279	-8.40%
Postoperative PE or DVT	9.883	25.30%
Postoperative sepsis	10.463	15.60%
Accidental puncture/laceration	3.574	3.10%
Transfusion reaction	0.005	13.20%
Birth trauma	5.412	-8.30%
Obstetric trauma – vaginal with instrument	189.576	-10.00%
Obstetric trauma – vaginal without instrument	45.219	-15.30%

Source: AHRQ (Agency for Healthcare Research and Quality) 2003

40. The primary issue in the use of the PSIs internationally has to do with hospital administrative data system structures and the availability of the key data elements. Many OECD countries use the 10th version of the international classification of diseases (ICD-10) versus ICD-9-CM. The coding structure differs substantially between these two coding systems, including three new chapters of codes resulting in 12,640 codes versus 6,969 codes in ICD-9-CM. In addition, there are a number of nation-specific adaptations of ICD-10 systems in use in countries like Canada, Australia and Germany dealing mainly with procedure codes. Currently, there is no internationally accepted system for crosswalking these two systems

and no international system for procedures. An additional issue is that countries differ in how they code secondary diagnoses and the criteria they use. Other practical issues across countries include:

- Variation in documentation and coding practices
- Variation in other data definitions
    - Principal versus primary diagnosis
    - Number of diagnosis codes
    - Procedure dates
    - External cause of injury codes
    - Type of admission (elective, urgent, emergency)
- Variation in how administrative data are collected and used, in particular DRG-based payment versus global budgeting versus service-based payment

41. Mr. Romano pointed out that there are a number of small international initiatives underway to address the above issues, but that there is no overall coordination of such efforts. In particular, there is a need to conduct a meta-analysis of current coding improvements and international efforts at harmonizing administrative coding. Moreover, a "translation" is needed that is validated across multiple countries for going between ICD-9-CM and ICD-10 coding systems.

42. Mr. Leifur Bardarsson presented the experience of the Nordic Patient Safety Group. The Nordic Council of Ministers convened a Working Group on Quality Indicators in Health Care in 2004 following several years of work developing a quality declaration. One of the key areas highlighted was patient safety. Mr. Bardarsson described the process of choosing the indicators as being at a buffet with many attractive choices. Various international working groups have compiled versions of patient safety indicator lists that are scientifically validated. In this context of abundance the selection of indicators may not be the key factor in monitoring patient safety. Safety culture and the difference in culture have a serious effect on patient safety. The awareness of this impact is well illustrated by the work on patient safety culture at the AHRQ's Hospital Survey on Patient Safety Culture (HSPSC) that included indicators to evaluate the investigations of programs for evaluation of safety culture at national, regional and international levels.

43. Mr. Bardarsson used several examples of patient safety indicators to highlight to the refinement of patient safety indicator development: postoperative pulmonary embolism or deep vein thrombosis after knee or hip replacement; cases of sepsis with an operating room procedure; obstetric vaginal trauma; and foreign body left during procedure.

44. The current state of patient safety data systems is partly reflective of the inadequate documentation in our administrative data systems. It also relates to differing institutional reporting culture by health professionals and their perception of the utility of these data. Mr. Bardarsson summarized that advancements in patient safety data systems require a detailed examination of indicators to verify that existing administrative data are reflective of the actual state of patient safety.

3.2.2 Adverse Events Systems Experience in OECD Countries

45. A review of adverse event systems and studies followed the discussion of administrative data and focused on three particular countries: Spain, Ireland and Italy. These countries were presented by Yolanda

Agra and Enrique Terol from the Ministry of Health of Spain, Ailish Quinlin and Tim Delaney from the Clinical Indemnity Scheme of Ireland and Tallaght Hospital, Dublin respectively, and Giuseppe Murolo from the Italian Ministry of Health.

3.2.2.1 Spain

46. The Spanish National Health System has made a priority of improving patient safety. A retrospective cohort study was undertaken in 2005 to assess the incidence and impact of adverse events in the hospital setting. By identifying the underlying mechanisms of adverse events, strategies of prevention and risk management would then be able to be developed. The National Study on Hospitalization Related Adverse Events conducted in 2005 within the framework of healthcare quality improvement laid the foundation to understand the epidemiology of adverse events. The strategy to improve patient safety in Spain included the goals: to improve the awareness and culture of patient safety; to develop an information system on patient safety; and to perform best practices of care in all health regions.

47. Using mandatory administrative data, a Minimum Basic Data Set of adverse events was compiled. The MBDS provides greater utility through agreement at the national level of the adverse event data collected. Other advantages of the data set include: common ICD-9-CM codification; availability of hospital resources; high coverage in public hospitals; and the high expertise in codification available in public hospitals. The construction of this data set in its wide coverage and exhaustive codification is seen to be useful for long-term analysis of adverse events. Some limitations of the data include: less complete diagnosis of comorbidity and elderly patients; only public hospital data is included; and variability of data among regions.

48. The use of administrative data for reimbursement purposes may mean that the data is primarily oriented to assess cost rather than quality of care. Preliminary analysis of the data set reveals differences in the quality of codification among hospitals as well as underreporting of complications as compared to specific studies of adverse events. Currently national specific software is in development, but for the moment, there is some delay in data reporting. Current plans to improve patient safety include the continued strengthening of the data set through the participation of private hospitals as well as increased quality control for all clinical records to be used in the MBDS. Improved professional awareness would also include more feedback to improve the quality of care as well as training to codification of clinical records. One of the key findings from the recent work on estimating levels of adverse events and complications of care in Spain was that it would be difficult to say what rising numbers might mean (e.g. is it improved tracking of data and recording of complications or is it actually rising rates of adverse events and complications?).

3.2.2.2 Ireland

49. A part of the Irish experience has been focused on medication error reporting. From these investigations, organizational culture has been seen as a hindrance to accurate reporting of medication errors. Fear of reporting arises under legislation that may protect information but is still discoverable in the event of civil litigation. Differences in patient populations served by various health care organizations can lead to significant differences in the number and severity of medication errors occurring among organizations. Differences in the definition of a medication error among health care organizations can lead to significant differences in the reporting and classification of medication errors. Differences in the types of reporting and detection systems for medication errors among health care organizations can lead to significant differences in the number of medication errors recorded. The current state of patient safety reporting systems may not be fully representative of all patient safety issues in health systems, but provides a starting point for changing the culture, metrics and structures in which patient safety occurs so that incidence of these events can be reduced and prevented.

50. The Clinical Indemnity Scheme established by the State Claims Agency to cover professional medical services in Ireland has a threefold objective: to drive and support a patient safety culture; to reduce the number of clinical claims; and to manage clinical claims in a cost-effective and timely manner. Enterprises covered by the CIS work to develop and promote a culture that supports clinical risk management. A web based reporting system, STARSweb, has been developed as a risk identification tool for these enterprises to report occurrences of adverse events through a secure system thereby promoting accurate data collection. Information collected and models of best practices will then be disseminated as the understanding of the epidemiology of adverse events increases.

3.2.2.3 Italy

51. In line with the selection by the HCQI Patient Safety panel of six sentinel event indicators, the Italian Ministry of Health has undertaken work to improve health care quality concerning these events that cause serious harm to patients and potentially undermine public confidence toward health care delivery and service. Since 2001, the Italian Ministry of Health has established a list of "Guaranteed health services to citizens." These national services are provided and paid for by the government based on citizen need. Moreover, the Ministry monitors their uniform and appropriate provision particularly where patient safety is crucial. The Italian Ministry of Health has been firmly committed to ensuring safe and high quality health care service. The National Health Plan 2006-2008 promotes the implementation of clinical governance policies, along with patient safety measures and clinical risk management, through integrated approaches covering the institutional levels of health care (central, regional and local).

52. The Italian Sentinel Event Reporting System is based upon a voluntary reporting process, which aims: 1) to collect information on sentinel events; 2) to investigate and identify factors that may have contributed or caused the clinical incident; 3) to set and monitor preventive actions and recommendations to avoid the recurrence of similar events; 4) to feedback regions, hospitals and professionals; 5) to monitor the implementation of recommendations at local level.

53. The Italian experience confirms the need for preventing sentinel events given the serious and unfavourable outcomes. Education on clinical risk management and patient safety are seen as essential to improve the quality of collection of data supporting the analysis of contributing factors. The results of the study furthermore emphasize the need to promote an overall culture of safety and prevention.

54. Further efforts will be directed towards the implementation of an electronic reporting system, to be carried out incrementally, focused on outcome and severity of sentinel event. A recent proposal for legislation ensuring protection of reporting has shown to be a complex process that may require a long period of time for approval. Coordination will also be needed to ensure and facilitate the flow of information between central, regional and local levels of the health care system. Prompt feedback from the Ministry of Health to hospitals and professionals will also play an important link in the continued improvement of patient safety reporting systems.

3.2.3 Medical practice, infection surveys and assessing systems for safety

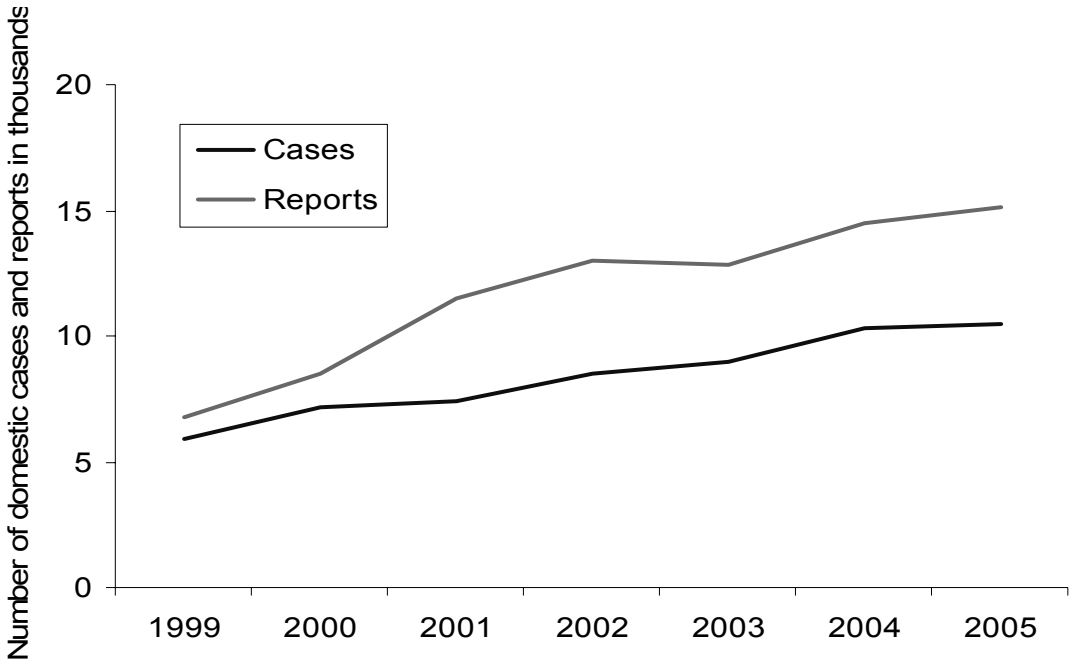
55. A review of other systems for measuring patient safety outside of adverse event systems and hospital administrative data was presented using examples from the Canadian experience and the US Joint Commission for Accreditation of Healthcare Organizations. Ms. Jennifer Zelmer, Vice President at the Canadian Institute for Healthcare Improvement, presented the Canadian experience with patient safety data systems. Ms. Zelmer cited that one quarter of Canadian adults state in surveys that they or a family member have experienced an adverse event. Ms. Zelmer presented a set of questions that she felt the OECD and its Patient Safety Expert Group needed to ask itself in considering work on improving patient safety data systems:

- How do we identify for follow-up:
    - Patients at risk of adverse events
    - Patients who may have experienced an adverse event
- How do we know the extent of the problem and how it is changing?
- How do we know which changes to try?
- How do we know that change is an improvement?
- How can we demonstrate accountability?
- How do we learn and spread lessons from adverse events or near misses?

56. In order to address these questions, there is a need to think of different levels of action and therefore different levels of informational needs, including at the national health system level to assess outcomes, the intervention level to assess process implementation and caregiver team level to assess team "systems" for providing safer care. The evolution of the electronic health record is one area that many experts have pointed to as the overall solution for improving patient safety data systems. However, as Ms. Zelmer pointed out, there are different "generations" of electronic health records, from the most basic system where patient and provider demographics only are tracked, to the most complex where decision support to avoid errors and complications is a feature. It is clear that many years of implementation, testing and re-implementation lie between these two ends of the electronic health record development continuum. Many countries in the OECD have only just begun the first phase of implementation of the electronic health record.

57. Canada has some experience with national pharmaceutical use and prescription tracking through the Canadian Pharmanet system. In 2003, out of 35 million prescriptions recorded in the system, 7.9 million potential interactions were "flagged" as being potentially dangerous and requiring closer inspection. Of these 12% were deemed "most significant" where follow up was required. This system also provides learning in that reasons for drug prescription problems are examined. Other systems used in Canada include a hospital-based adverse event reporting system that is presented in annual hospital reports, an example of which is shown in the figure below. Ms. Zelmer provided a concrete example of how Ontario had taken action at a provincial level to address adverse events documented in these reports.

Figure 2. Trends in Hospital-Based Adverse Events in Canada

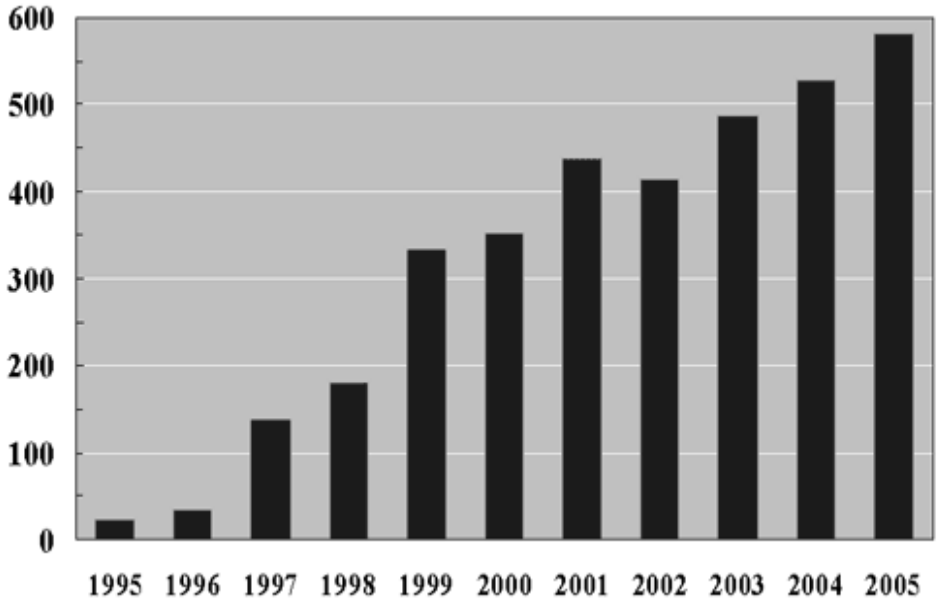


Source: CIHI (Canadian Institute of Healthcare Improvement)

58. The experience of the Joint Commission on Accreditation of Healthcare Organizations provides a counterpoint to the Canadian system highlighted. Peter Angood, Vice President and Chief Patient Safety Officer and Co-Director of the Joint Commission International Center for Patient Safety presented the Joint Commission's approach to patient safety data systems, its history in the US and its use in other OECD countries. The Joint Commission's mission is "to continuously improve the safety and quality of care provided to the public through the provision of health care accreditation and related services that support performance improvement in health care organizations." This mission is accomplished through work in accreditation, measurement activities, patient safety, information provision and public policy work. In terms of patient safety, the Joint Commission sees its work on data systems as tied intimately to developing systems for improving patient safety. In particular, work in the US and in other OECD countries led by the Joint Commission is progressing in several technical areas of patient safety data systems, especially sentinel event systems,

59. The Joint Commission's sentinel event policy in the US was established in 1996. There has been an increasingly rapid rise in sentinel event reporting since that time, as shown in the figure below. The key to the success of this system, stated Dr. Angood, is that the sentinel event tracking system is linked to a system of sentinel event alerts, which are produced and distributed nationally by the Joint Commission on key patient safety problems that the system identifies. These events include alerts on wrong site surgery, transfusion errors, kernicterus, look-alike/sound-alike drugs and ventilator associated events to name only a few. Currently there are over 35 sentinel event alerts published.

Figure 3. Frequency of Sentinel Events, US, 1995 – 2005



Source: Joint Commission on Accreditation of Healthcare Organizations

60. Dr. Angood highlighted the importance of linking patient safety data systems to patient safety improvement systems and accreditation processes by explaining the Joint Commission's National Patient Safety Goals. There are currently eleven goal areas in the set, each with specific goal targets and systems for measurement tied to the goals. These goals are updated and revised annually with guidance from an expert external advisory panel and are designed to highlight or profile specific topic areas of concern for patient safety issues. Organizations that wish to be accredited by the Joint Commission must implement all the applicable goal areas and be evaluated on their efforts to achieve these goal targets and the associated requirements of the goals. Some of these same areas are part of the Joint Commission International's Collaborating Centre for Patient Safety scope of work for the development, dissemination and implementation of the Patient Safety Solutions that is a component of the World Health Organization's Alliance for Patient Safety initiative. This Centre is concentrating its initial work on several patient safety issues that includes data and improvement systems in the areas of wrong site surgery, hand hygiene, medication reconciliation, removal of high concentration intravenous solutions and hand-over communications. Dr. Angood pointed out how these areas overlapped with the OECD's patient safety indicator areas.

3.3 Safety Data for Safer Care: From Knowing to Doing

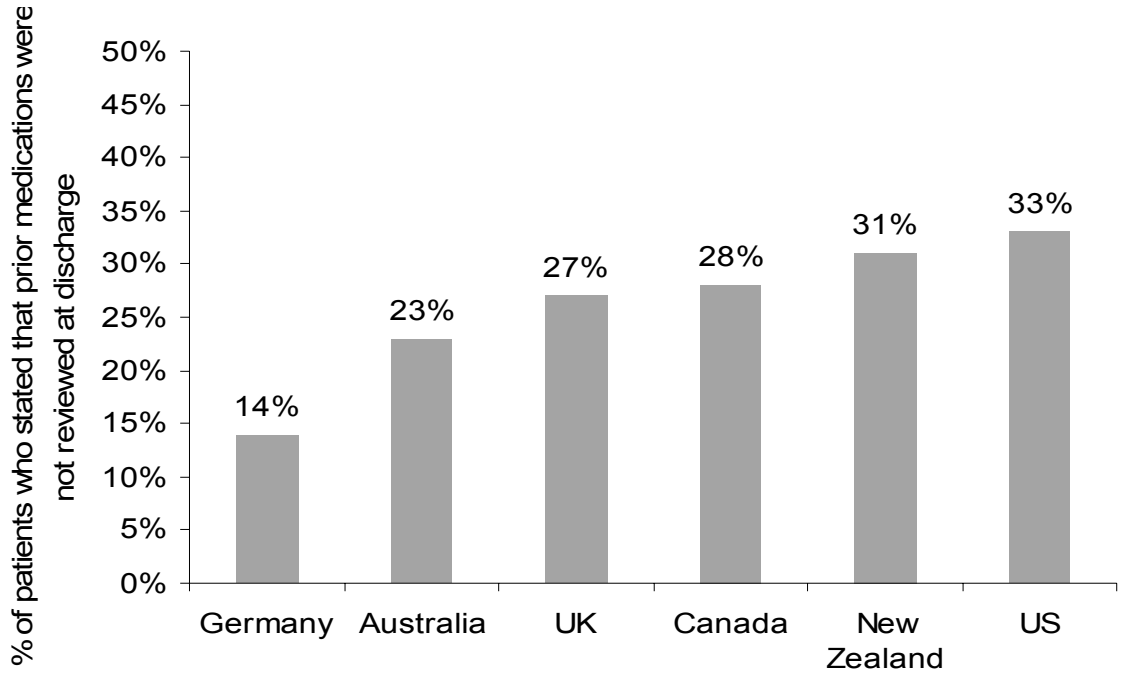
61. The second day of the conference concentrated on discussing how to move to improved patient safety, based on the first day's review of promise and barriers in patient safety data systems. The day's key note speeches were delivered by Deputy Prime Minister and Minister for Health and Children of Ireland, Mary Harney, Dr. Carolyn Clancy, Director of the US Agency for Healthcare Research and Quality and Sir Liam Donaldson, UK Chief Medical Officer and President of the Global Alliance for Patient Safety. This session was chaired by Dr. Jim Kiely, Chief Medical Officer for the Ireland. This keynote session was followed up by a presentation by OECD staff that took the results of the previous day's presentations and working group discussions and developed two concrete work proposals for the OECD.

62. The themes of these presentations centred on three areas:

- The consensus on common levels of safety problems across countries based on one-time studies
- The role governments have taken in studying and attempting to improve safety
- The role of Health Information Technology (HIT) in future safety improvements

63. It is clear from the literature that there is a growing consensus across OECD countries on the level of the safety problem. As cited earlier, medical practice studies have shown that the rates of medical errors across countries that have undertaken such studies is between 8-15% of all admissions. In many cases, instances of "near misses" or medical errors that almost occur, are not recorded or taken account of in these studies. Moreover, different studies account for "harm" in different ways so that the rate of medical errors may not match the level of harm (i.e. medical error rates do not provide, strictly speaking, the true impact of patient safety problems. Dr. Carolyn Clancy cited figures published by the Commonwealth Fund that show that across a range of countries, patients state frequently that medical personnel did not review their prior medications with them at discharge. The figures range from 14% of patients in Germany to 33% of patients in the US and are presented in figure below (Commonwealth Fund, 2005) [2].

Figure 4. Patients' Experience of Medication Safety



Source: Commonwealth Fund, 2005

64. However, national and international efforts are underway to address safety gaps. Efforts to address patient safety internationally led, in October 2004, to the creation of the World Alliance for Patient Safety. The Alliance raises awareness and political commitment to improve the safety of care and

[2] The countries surveyed include: Germany, Australia, Canada, the United Kingdom, New Zealand and the US.

facilitates the development of patient safety policy and practice in all WHO Member States. Each year, the Alliance delivers a number of programmes covering systemic and technical aspects to improve patient safety around the world (WHO, 2006).

65. The World Alliance has attempted to raise awareness of patient safety problems and the need for better data on patient safety through two "global challenges." The first global challenge was termed "Clean Care is Safer Care" and was aimed at raising awareness of the impact of health care associated infections, gain commitment from countries at launching national efforts to improve care cleanliness and at implementing international guidelines from WHO on clean care. The second global challenge will be launched in January 2007 and is termed Safe Surgery Saves Lives. It aims to improve the safety of surgical care around the world. While its activities in patient safety data systems are more limited, the World Alliance is working with national institutions to develop research programs and local capacity for monitoring patient safety at a national and local level. As part of this effort, the World Alliance worked with Professor Lucian Leape in the preparation of *WHO Draft Guidelines for Adverse Event Reporting and Learning Systems* to help countries develop or improve reporting and learning systems in order to improve the safety of patient care.

66. Building on findings from the US National Reports, the US Agency for Healthcare Research and Quality (AHRQ) has four main areas of patient safety improvement work:

- Identify medical errors and other threats to patient safety and understand why they occur
- Advance knowledge of practices that will reduce or eliminate the occurrence of medical errors and minimize risk of patient harm
- Develop, assemble and disseminate information on how to implement best practices for patient safety
- Enable providers to monitor and evaluate threats to patient safety and the progress being made

67. Dr. Clancy emphasized the need to work on multiple fronts in improving patient safety. AHRQ's work is targeted to providers with its web-based tool that simulates morbidity and mortality "rounds" as they are known where issues on particular patient safety cases can be discussed by professionals. At the same time, Dr. Clancy emphasized the need to educate patients, and AHRQ produces patient materials designed to empower patients to ask and interact with health professionals on issues concerning their own safety.

68. As with a number of countries, the US has worked on the legal context for the national patient safety program. Recent legislation in the US, entitled the Patient Safety Act of 2005, establishes a new category of health care organization known as a patient safety organization (PSO). These PSOs can be hospitals, doctors' offices, etc., but their common element is that they are developing patient safety data that can be commonly reported and which will be "protected" for purposes of legal proceedings.

69. All three keynote speakers addressed the role of advances in health information technology in terms of improving patient safety. Internationally, health information technology improvements are behind some of the growing programs in medication safety as expansion continues in the use of computerized physician order entry in countries such as Spain. All three speakers emphasized the importance of leadership and vision in national health information technology development. Dr. Clancy cited three "goal" areas that should be monitored by countries as they attempt to improve safety through the expanded use of HIT:

- Improvements in medication safety
- Improvements in decision-making for patients and providers
- Improvements in high-risk transitions

70. AHRQ currently has over 100 grants to hospitals, providers, and health care systems to promote access to health information technology. There is a special need in the US and other countries to ensure that HIT programs reach those hospitals who could benefit heavily from such programs, namely small and rural hospitals where funding for HIT investments are more limited.

71. A particular area for future work in patient safety improvement is in the area of ambulatory care safety. As work in the OECD HCQI Project has shown, there is limited data and consensus on ambulatory care quality and safety worldwide. The need to shift a focus to the ambulatory care arena is evident: more and more health care services are being shifted there; ambulatory care settings (with the interaction of patients, multiple care providers, etc.) create a complex environment with complex information needs.

72. Finally, as Sir Liam Donaldson underscored in his remarks, future work will need to develop lessons learned from other industries in the health care industry. More work is needed on teaching techniques of systems-level error proofing, such as those techniques practiced in the Toyota corporation, and in conducting simulation research that can help develop techniques already common in other, high complexity, high risk industries.

4 NEXT STEPS IN PATIENT SAFETY DATA SYSTEMS DEVELOPMENT

73. It is clear from the OECD's survey on patient safety data availability and from the presentations at this conference that there are a number of opportunities for improving patient safety data systems worldwide. In particular:

- No international database on patient safety yet exists. - At the most basic level, there is no international database that is currently collecting data from countries internationally on an ongoing basis on patient safety that could serve as a tool for national benchmarking and learning.

- Very limited data is immediately comparable across countries - In areas such as adverse events and medical errors there are few countries that track these patient safety indicators in the same way. However, the OECD's patient safety data availability survey also shows that there are areas of promise, particularly in the potential use of hospital administrative data. Translations are needed to crosswalk national reporting systems for comparable data.

- Where there is available data, a range of factors inhibits their use for international benchmarking and learning – In some areas, such as hospital complications of care, there is a reasonable level of data availability. However, the specific data systems conventions and structures that are in use as well as the legal context for data systems inhibit international comparability.

74. In order to begin to address these gaps, this meeting generated two specific work proposals that are now being carried forward by the patient safety expert group on improving safety data systems. These work proposals are presented in detail below

75. Work Initiative 1 is focused on adapting hospital administrative data systems for patient safety internationally: This initiative would solicit a set of volunteer collaborators through OECD Patient Safety Expert Subgroup for "data". A target of 10 countries would be fixed, although fewer country volunteers would not necessarily mean that the initiative could not go forward. The effort would be a data-based research project examining in particular data and coding issues. The effort would build on work already done and presented at the conference in Italy, Germany, Canada and Belgium in particular. In particular, the Secretariat would design a questionnaire for the volunteer countries that would gather information on the following two research questions:

- What are the structural differences in hospital administrative data systems across countries that could influence their use as tools for tracking patient safety?

- Based on estimates across a set of sample countries, what hospital administrative data-based indicators from the OECD PSI set seem to be relatively comparable across countries?

76. Work Initiative 2 would collect information on patient safety adverse event reporting systems. Again, a set of volunteer countries from the HCQI Patient Safety Expert Subgroup would be solicited. Given the differences across countries in the legal and administrative contexts for these systems, this initiative would help gather information that could be used to judge the reporting systems-based indicators

and to adjust for different contexts across countries. It would also allow the OECD to collect information prospectively that could be used for future data comparability analyses. This effort would build on work by WHO-Euro in this area. The focus of the information gathering would be on medication errors, hospital infections and blood product-related events. We expect to be able to use secondary data as well as primary data responses from countries in order to lessen the data burden on participating countries. In particular, the Secretariat's questionnaire and secondary data gathering would focus on the following issues related to patient safety adverse event recording systems:

- Types of events and medications recorded
- Completeness of recording
- Confidentiality issues
- Ownership of the data and use of the data for feedback

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ANNEX 1. LIST OF SPEAKERS

Gerard Schmets	WHO Regional Office for Europe
Margaret Murphy	Patient Advocate Republic of Ireland
Sarah Scobie	Head of Observatory National Patient Safety Agency United Kingdom
Carlo Liva	National Agency for Regional Health Care Services Italy
John Devlin	Irish Department of Health and Children
Patrick Romano	University of California Davis, Division of General Medicine United States
Leifur Bardarsson	Nordic Council of Ministers Working Group on Quality Measurement Chief Medical Doctor Department of Quality Assurance Landspitali – University Hospital Iceland
Yolanda Agra Varela	Spanish Ministry of Health Conseiller technique du Bureau de Planification Sanitaire et de Qualité Agence de Qualité du S.N.S. Ministère de la Santé et de la Consommation
Enrique Terol	Spanish Ministry of Health Subdirector de la Oficina de Planificación Sanitaria y Calidad. Agencia de Calidad del SNS Ministère de la Santé et de la Consommation
Ailis Quinlin	Clinical Indemnity Scheme, Ireland
Tim Delaney	Tallaght Hospital Republic of Ireland
Giuseppe Murolo	Italian Ministry of Health
Jennifer Zelmer	Canadian Institute for Health Information

Peter Angood	Chief Patient Safety Officer & Co-Director Joint Commission on Accreditation of Healthcare Organizations Joint Commission International Center for Patient Safety United States
Jim Kiely	Irish Department of Health and Children
Carolyn Clancy	Director Agency for Helathcare Research and Quality Department of Health and Human Services United States
Mary Harney	Deputy Prime Minister and Minister of Health and Children Republic of Ireland
Sir Liam Donaldson	World Alliance for Patient Safety
Peter Scherer	OECD
Edward Kelley	OECD
John Devlin	Irish Deparmtment of Health and Children
Hans Rutberg	Senior Adviser National Board of Health and Welfare Sweden