Ten years later in France third AE national incidence survey

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MINISTÈRE DES SOLIDARITÉS ET DE LA SANTÉ

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Preventable harm to patients resulting from their healthcare is unacceptable at any time

Wilson RM, Michel P, Olsen S et al on behalf of the WHO Patient Safety EMRO/AFRO working group. Patient Safety in Developing Countries: Estimating the scale and nature of harm to hospitalised patients.
BMJ 2012;344:e832

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Objective of the 2019 AE survey

- To estimate the incidence of adverse events in medical and surgical wards in acute care public and private healthcare organisations
- To compare with 2009 results
- Two groups of AE
  - AE causes of admission
  - AE occurring during hospitalisation

Methods

- Two longitudinal, prospective studies
- Open populations of hospitalised patients
- Follow up for a period of 7 days maximum
- Survey leader and technical team, design, definitions, tools, investigator profile and data collection process were strictly identical
- Two independent randomizations of participating hospitals

Michel P et al. Comparison of three methods for estimating rates of adverse events and rates of preventable adverse events in acute care hospitals. BMJ 2004;328(7433):199-202

Definitions

- Harm to the patient consecutive to medical management rather than to pathological process
- associated with death or life-threatening conditions, or liable to lead to disability or to an extension by (or caused the occurrence of) at least one hospitalisation day
- preventable if they would not have occurred if the care provided had complied with recommended or, in the absence of guidelines, commonly accepted practice at the time of the occurrence

Data collection: staff interview

- **Investigating nurse** detecting the presence of AE with the nurse supervisor + medical record
  - Structured interview with 17 criteria
- **Investigating physician** defining presence of AE and analysing preventability with the doctor responsible for treating the patient
- **Questionnaires** similar to those of retrospective record review method

Quality controls

- Unexpected visits by survey team
  - verification of the exhaustivity, exactitude and coherence of information collected
- Each questionnaire verified by survey team and completed if needed with the investigators before data entering
- Coherency tests on the database
- All AE verified by one single physician from survey team
- All cases related to a healthcare product and HA infections were reviewed by at least three experts under the coordination of two national bodies

Sampling
Three-stage stratified cluster survey

- 16 departments (random)
- 56 hospitals (random)
  - 2 academic, 29 public, 24 private
- 154 care units (random) in two clusters
  - 85 in medicine
  - 69 in surgery

Sample

- 4,825 patients
- 21,686 days of observation, 143 AE
  - Medicine : 11,658 days, 80 AE
  - Surgery : 10,028 days, 43 AE
- Preventability of AE
  - AE during hospitalization: 33.8 %
  - AE cause of admission: 53.5 %

4.4 SAEs (95% CI [2.9 – 6.8]) were observed in 2019 for 1,000 days of hospitalization

« 4 AEs per ward of 30 beds and per month »

« 160,000 to 375,000 SAEs occurred in 2019 during hospital stay in medicine or surgery in France »

between 55 000 et 130 000 were consisdered as preventable AE (34%)

(*95,000 to 180,000 in 2009*) »

2.6% [1,9-3,7] of admissions caused by an AE

« 1 admission out 40 »

« 176,000 and 372,000 stays annually caused by an AE in primary care or due to a rehospitalization »

93,000 to 197,000 preventable

Economical consequences

- if we take into account the number of days attributable to AE
  - a median of 5.5 days for AEs occurring during hospitalization
  - all the days for events causing hospitalization (median 4 days)
- 680 000 to 1,500,000 days of hospitalization would have been avoidable

AE reporting

AE with mandatory reporting (R. 1413-67 du décret du 25 novembre 2016) (n=61)	N (%)
AE declared in the hospital reporting system	11 (18,0)
AE reported in the national system	1 (1,6)

Comparisons 2009 - 2019 preventable AE

Same data collection method

No statistical difference between samples

Except age and mean length of stay

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During hospitalization

- Incidence density **decreased statistically** between 2009 and 2019, while it had remained stable between 2004 and 2009.
- In medicine, downward trend in all specialties, except **critical care**
- In surgery, decrease only in the academic hospitals
  - Except in wards with diverse types of surgery (multiple specialties)

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According to AE severity

- **Significant decrease** on the risk of vital prognosis, disability and death,
- Not on the prolongation of hospitalizations

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According to mechanism

- Preventable AEs linked to invasive procedures decreased in the interventional sectors overall
  - not for **surgical procedures**
- Healthcare products mainly concerned drugs, with a similar classification of drugs most at risk in 2009 and in 2019.
  - Stability of incidence of events associated with **implantable medical devices**

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Contributory factors

- pejorative evolution of contributory factors
- related to working conditions in healthcare establishments
  - Human error (statistically significant difference)
  - Poor definition of the organization and tasks, the composition of the team not adequate, premises and equipment or products not adapted
- Communication and supervision
- conjunction of a collection bias and the reality of the difficulties of the working conditions in hospitals

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2009 – 2019 comparison

Preventable events causing hospitalization

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Frequency

- decrease regardless of the type of hospital, of sector (medicine and surgery) and mechanism (invasive procedure, health product or infection associated with the treatment)
  - Percentage of rehospitalizations increases from 26% to 42%.
  - An increase in AEs following surgery (p=0.04),
  - more often following rehospitalization than primary care (p=0.04)

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Discussion

- A third survey in France
- No difference between the two first surveys
- Statistically significant differences 2-3rd surveys
  - surely shows that changes in preventable AE can be detected
  - Health systems should monitor AE rates over time
  - provide a very general sense of the 'burden of disease' - the degree to which safety problems cause measurable impacts on morbidity and mortality

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Literature review

- Very few patient safety interventions have shown significant improvements in patient outcomes
- Only one country with 3 measurements, The Netherlands
  - Same trend: statistically significant reduction in preventable AEs and their severity between 2008 and 2012 (after a stable period 2004-8)
  - Probable link with patient safety programs

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Link with patient safety programs in France?

- Long-term national policies
  - Hospital accreditation
  - Healthcare-acquired infections
  - Antibiotic resistance
- New policies between 2009 and 2019
  - Surgical check-list (2010)
  - Medication safety (2011)
  - National Patient Safety Program dedicated to safety culture improvement (2013-17)
  - National reporting system of most severe AE (2016)
  - Accreditation of doctors (2016)

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Recommendations

- The evaluation of the National Patient Safety Program (PNSP) 2013-2017 by the High Council for Public Health (HCSP) in 2018 indicated that France was "half-way«
  - a strong framework (regulations, tools and methods) but poorly known and little integrated into the practice
- Recommendations
  - Define targeted objectives on operating theatres, critical care and management healthcare-associated infections
  - Pursue a strong public policy devoted to safety culture
  - Strenghten the governance of the patient safety policy

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2022 actions plan

- Promoting and facilitating teamwork
- Improving skills in mitigating actions
- Improving reporting systems and safety culture (professionals and patients education, safety culture measurement, information campaigns)
- Improving the quality of root cause analyzes and feedback
- Analyzing for improving, role of simulation
- 4 specific areas (surgical theaters, critical care, implantable devices, discharge organization)
- An indicator of interest: rehospitalization rate

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