



## 9° Giornata della Ricerca della Svizzera Italiana Venerdì 15 marzo 2019

### Modulo per la sottomissione abstract di ricerca CLINICA

#### **Titolo** (massimo **15 parole**)

A novel method to assess data quality in large medical registries and databases

#### **Autori** (cognome e iniziali, es: Grassi L.)

Perren A (1), Cerutti B (2), Kaufmann M (3), Rothen HU (4).

#### **Affiliazioni** (ospedale o istituto, servizio o reparto, indirizzo, es: Ospedale Regionale di Lugano, Servizio di angiologia, Lugano)

- 1) Intensive Care Unit, Department of Intensive Care Medicine - Ospedale Regionale Bellinzona e Valli, Bellinzona
- 2) Unit of Development and Research in Medical Education, Faculty of Medicine, University of Geneva, Geneva
- 3) Department of Anaesthesiology, University Hospital, Basel
- 4) Department of Intensive Care Medicine, Bern University Hospital - Inselspital, Bern

#### **Testo** (massimo **250 parole**, preferibilmente in italiano (accettato anche in inglese), suddiviso in Introduzione, **Metodi, Risultati, Conclusioni e Finanziamento**)

**Introduction:** There is no gold standard to assess data quality in large medical registries. Data auditing may be impeded by data protection regulations. We thus explored the applicability and usefulness of funnel plots as a novel tool for data quality control in critical care registries.

**Methods:** The Swiss ICU-Registry from all 77 certified adult Swiss ICUs (2014 and 2015) was subjected to quality assessment (completeness/accuracy). For the analysis of accuracy, a list of logical rules and cross-checks was developed. Type and number of errors (true coding errors or implausible data) were calculated for each ICU, along with noticeable error rates (> mean+3 SD in the variable's summary measure, or > 99.8% CI in the respective funnel plot).

**Results:** We investigated 164'415 patient records with 31 items each (37 items: trauma diagnosis). Data completeness was excellent; trauma was the only incomplete item in 1495 of 9871 records (0.1%, 0.0% – 0.6% [median, IQR]). In 15'572 patients records (9.5%) we found 3121 coding errors and 31'265 implausible situations; the latter primarily due to non-specific information on patients' provenance/diagnosis or supposed incoherence between diagnosis and treatments. Together, the error rate was 7.6% (5.9% – 11%; median, IQR).

**Conclusions:** The Swiss ICU-Registry is almost complete and data quality seems to be adequate. We propose funnel plots as suitable, easy to implement instrument to assist in quality assurance of such a registry. Based on our analysis, specific feedback to ICUs with special-cause variation is possible and may promote such ICUs to improve the quality of their data.

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Andreas Perren

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NO Case report  
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