AALBORG UNIVERSITY

Hvorfor evaluere ?

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Evaluation:
16 Powerful Reasons Why Not to Do It – And 6 Over-Riding Imperatives

Michael Rigby
Keele University, U.K.

MEDINFO 2001
V.Patel et al. (Eds)
Amsterdam: IOS Press. 2001

16 grunde til ikke at evaluere (I)

1. Intet nyt er godt nyt
2. Unødvendig opmuntring af oppositionen
3. Spild af værdifuld tid
4. Tab af troværdighed
5. Forlænge ventelisterne
6. Evalueringer redder ikke liv
7. Systemudviklingen vil blive reduceret
8. Det repræsenterer en professionel udfordring

16 grunde til ikke at evaluere (II)

9. Leverer brænde til konflikter mellem afdelinger
10. Udviklingen vil have overhalet resultater
11. Krav om hurtige omslagstider
12. Behov for indikatorer – ikke detaljerede redegørelser
13. Krydser etablerede grænser = ingen ejerskab
14. Evalueringer skaber ikke nogen kreditering
15. Et ansvarspådragende og injurierende minefelt
16. Evaluering er noget der trænger sig på

Seks underkendende imperativer

1. Organisationers pligt til behandling
2. Selv-kritik etik
3. Evidence-based behandling
4. Minimering af nedbrud
5. Forebyggelse
6. Udbygning og deling af viden og erfaring

Journal of the American Medical Informatics Association Volume 15 Number 5 September / October 2008

The Practice of JAMIA Informatics

Review Paper ■

The Effect of Electronic Prescribing on Medication Errors and Adverse Drug Events: A Systematic Review

ELSKE AMMENWERTH, PHD, PETRA SCHNELL-INDERST, PHD, CHRISTOF MACHAN, MSC, UWE SIEBERT, PHD

Abstract The objective of this systematic review is to analyse the relative risk reduction on medication error and adverse drug events (ADE) by computerized physician order entry systems (CPOE). We included controlled field studies and pretest-posttest studies, evaluating all types of CPOE systems, drugs and clinical settings. We present the results in evidence tables, calculate the risk ratio with 95% confidence interval and perform subgroup analyses for categorical factors, such as the level of care, patient group, type of drug, type of system, functionality of the system, comparison group type, study design, and the method for detecting errors. Of the 25 studies that analysed the effects on the medication error rate, 23 showed a significant relative risk reduction of 13% to 99%. Six of the nine studies that analysed the effects on potential ADEs showed a significant relative risk reduction of 35% to 98%. Four of the seven studies that analysed the effect on ADEs showed a significant relative risk reduction of 30% to 84%. Reporting quality and study quality was often insufficient to exclude major sources of bias. Studies on home-grown systems, studies comparing electronic prescribing to handwriting prescribing, and studies using manual chart review to detect errors seem to show a higher relative risk reduction than other studies. Concluding, it seems that electronic prescribing can reduce the risk for medication errors and ADE. However, studies differ substantially in their setting, design, quality, and results. To further improve the evidence-base of health informatics, more randomized controlled trials (RCTs) are needed, especially to cover a wider range of clinical and geographic settings. In addition, reporting quality of health informatics evaluation studies has to be substantially improved.

■ **J Am Med Inform Assoc.** 2008;15:585–600. DOI 10.1197/jamia.M2667.

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Baggrund: Der sker mange medicineringsfejl
En masse evalueringer gennemført
Kan CDSS reducere antallet af fejlmedicineringer?

Metode: Metaanalyser af 30 studier
Fundet gennem litteratursøgninger + Inklusionskriterier

Resultater: 172 studier identificeret – 27 inkluderet
majoriteten af studier fra USA
½ kommercielle ½ hjemmebyggede
sammenligner med papirbaserede

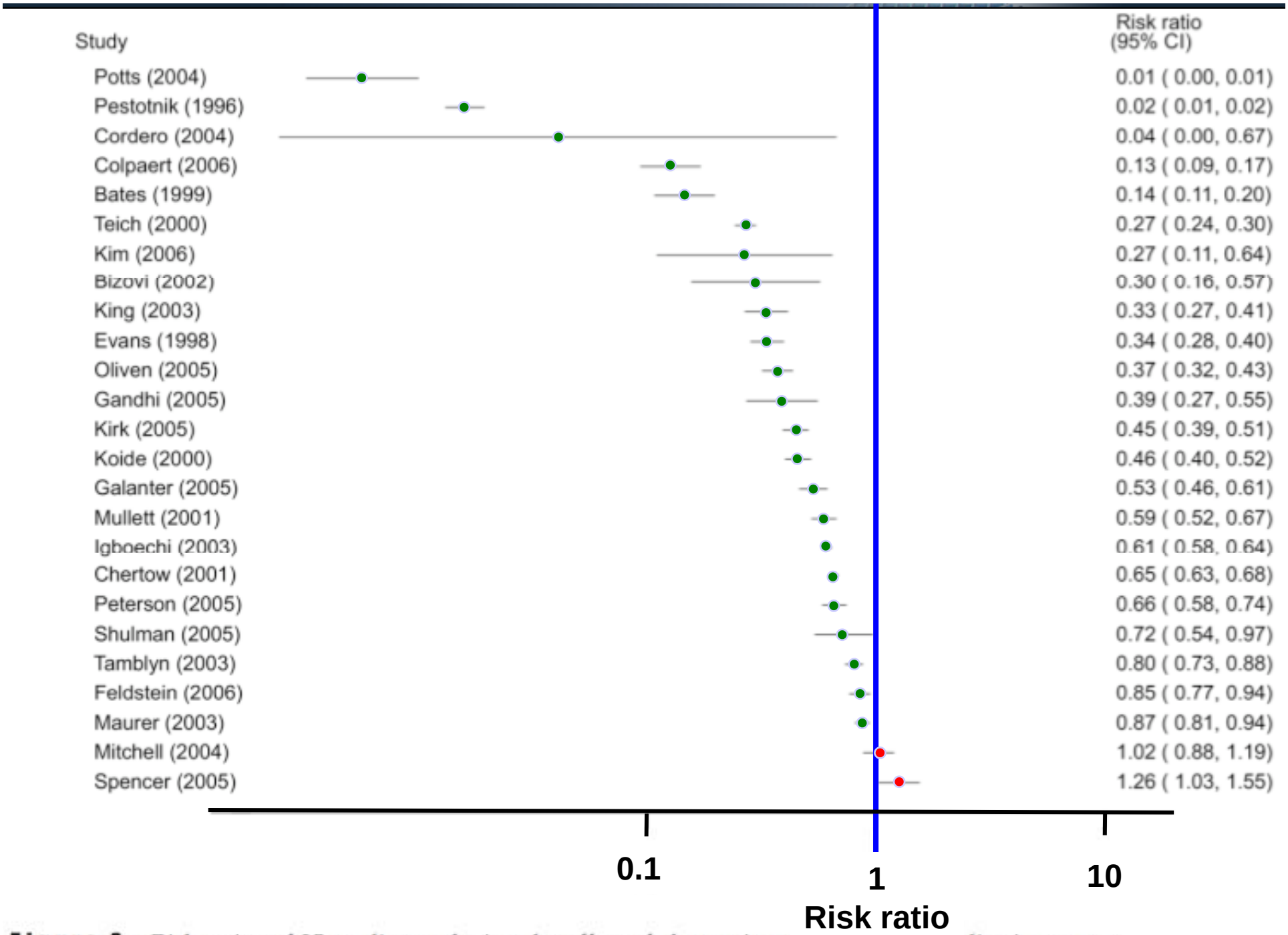


Figure 2. Risk ratios of 25 studies analyzing the effect of electronic prescribing on medication errors.

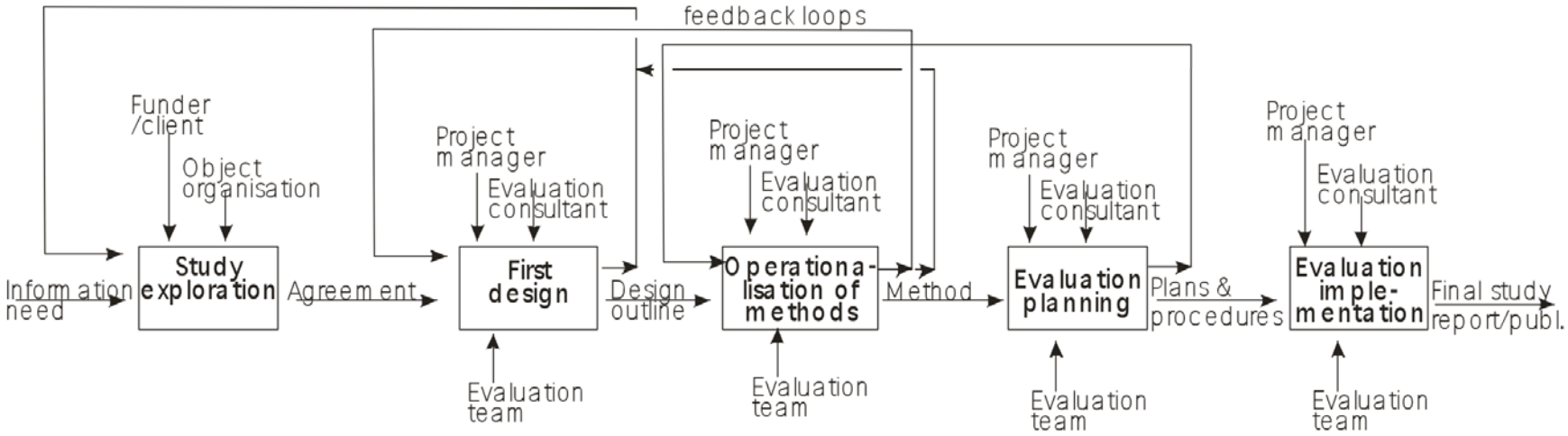
Hjælperedskaber til evalueringsprojekter

Guidelines for Good Evaluation Practices in Health Informatics (GEP-HI)
http://iig.umit.at/efmi/

Health IT Evaluation Toolkit.
Agency for Healthcare Research and Quality
http://healthit.ahrq.gov

Guidelines for Good Evaluation Practices in Health Informatics (GEP-HI)

http://iig.umit.at/efmi/



Flowchart of an evaluation study. The diagramming type is activity diagrams (boxes comprise activities/processes; arrows into a box from left are input; arrows out from a box are output; arrows downward into a box comprise mechanisms for control or the decision-making competence; and arrows upwards into a box are actors/performers)

Health IT Evaluation Toolkit.
Agency for Healthcare Research and Quality

http://healthit.ahrq.gov

- Clinical Outcomes Measures
- Clinical Process Measures
- Provider Adoption and Attitudes Measures
- Patient Knowledge and Attitudes Measures
- Workflow Impact Measures
- Financial Impact Measures

Table 1: Clinical Outcomes Measures

Measure	Quality Domain(s)	Data Source(s)	Relative Cost	Notes	Potential Pitfalls
Preventable adverse drug events (ADEs)	• Patient Safety	• Chart review • Prescription review • Direct observations • May also consider patient phone interviews	Very high: events are rare and likely need clinicians to perform reviews.	Errors can be divided by stage of medication use: • Ordering • Transcribing • Dispensing • Administering • Monitoring Can be assessed in both inpatient and outpatient settings.	• Preventable ADEs are relatively rare. • Will need to collect large amount of data to show statistical differences.
Inpatient mortality	• Patient Safety • Effectiveness	• Medical records • Billing data	Medium: (especially if risk adjustment tools are not readily available)		• Need to risk-adjust. • May be very difficult to find statistically significant differences in mortality rates, since death rates tend to be relatively low.
Hospital complication rates	• Patient Safety	• Some can be obtained from ICD-9 codes, although chart review (at least for a sample of charts) is preferable. • Some measures may already be collected for	Low: if data are already being collected. Medium: if chart review is needed.	Common targets: • Nosocomial infections • PE/DVT • Falls • Pressure ulcers • Catheter-related infections • Post-op infections • Operative organ/vessel/nerve injury • Post-op MI • Post-op respiratory	• Watch out for documentation effect (e.g., falls may become more reliably documented because the measure makes it easier to document falls).

Program – session C3

Evalueringer, effektmålinger og ledelse

v/ Kim Viborg Andersen, professor, Copenhagen Business School

Effekten af PDA-anvendelse i den kommunale ældrepleje

v/ Jeppe Agger Nielsen, ph.d.-studerende, Institut for Økonomi, Politik og Forvaltning, Aalborg Universitet

Evaluering af it-implementeringer på hospitalerne i region Hovedstaden

v/ Pia Kopke, implementeringschef, Koncern IT, Region Hovedstaden