Content validation of a modified translated version of the medication discrepancy tool

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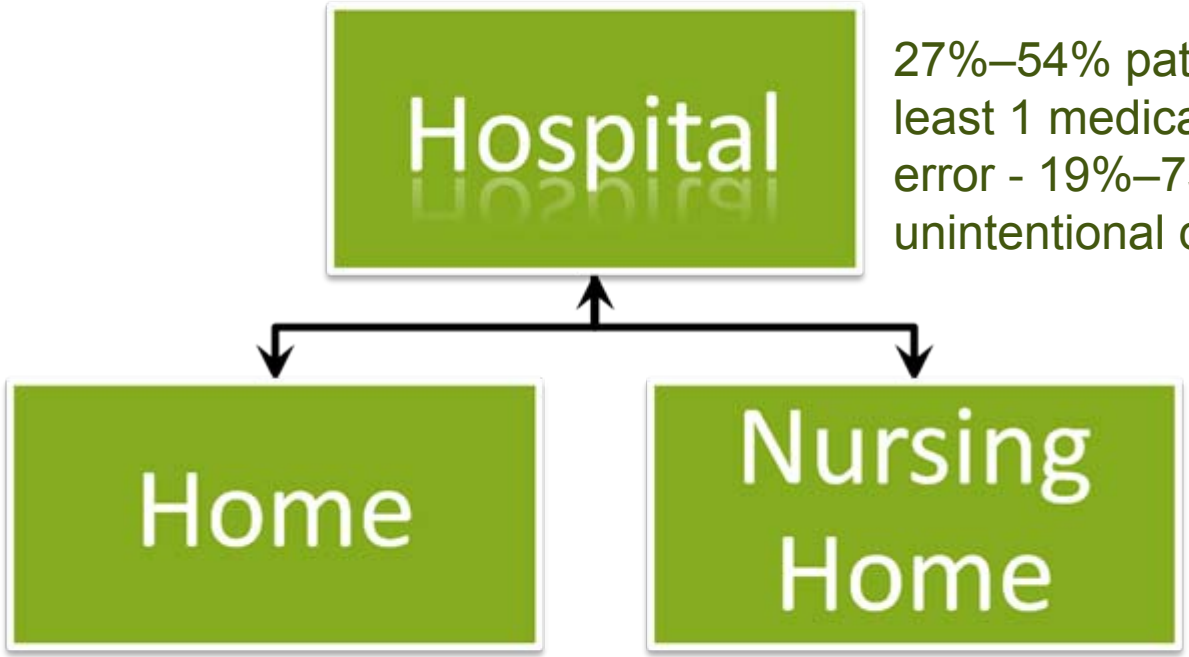
Background

Moving patient between different health care settings is a high risk period for medication related problems



27%–54% patients had at least 1 medication history error - 19%–75% unintentional discrepancies

Tam 2005

14% patients have 1 or more unexplained medication discrepancy after discharge at home

Coleman 2005

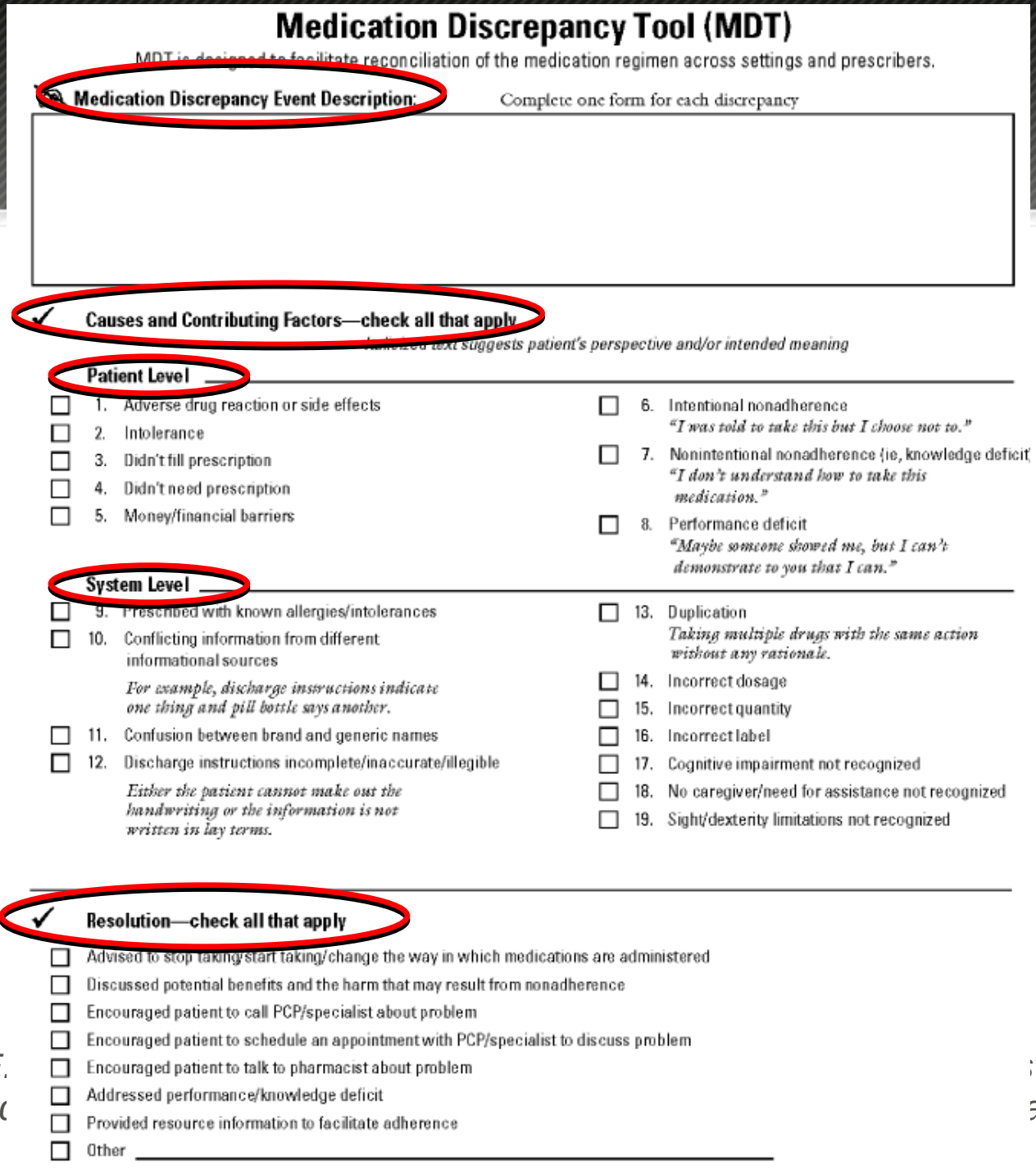
Medication errors/patients were: 2,4 at admission and 1,8 at discharge

Midlöv 2005

Background

Unintentional medication discrepancies are:

- unexplained differences among documented regimens across different sites of care
- medication errors related to the transfer of patients between different settings of care



Medication Discrepancy Tool (MDT)

MDT is designed to facilitate reconciliation of the medication regimen across settings and prescribers.

Medication Discrepancy Event Description: Complete one form for each discrepancy

Causes and Contributing Factors—check all that apply

Italicized text suggests patient's perspective and/or intended meaning

Patient Level

1. Adverse drug reaction or side effects
2. Intolerance
3. Didn't fill prescription
4. Didn't need prescription
5. Money/financial barriers
6. Intentional nonadherence
   "I was told to take this but I choose not to."
7. Nonintentional nonadherence (ie, knowledge deficit)
   "I don't understand how to take this medication."
8. Performance deficit
   "Maybe someone showed me, but I can't demonstrate to you that I can."

System Level

9. Prescribed with known allergies/intolerances
10. Conflicting information from different informational sources
    For example, discharge instructions indicate one thing and pill bottle says another.
11. Confusion between brand and generic names
12. Discharge instructions incomplete/inaccurate/illegible
    Either the patient cannot make out the handwriting or the information is not written in lay terms.
13. Duplication
    Taking multiple drugs with the same action without any rationale.
14. Incorrect dosage
15. Incorrect quantity
16. Incorrect label
17. Cognitive impairment not recognized
18. No caregiver/need for assistance not recognized
19. Sight/dexterity limitations not recognized

Resolution—check all that apply

- Advised to stop taking/start taking/change the way in which medications are administered
- Discussed potential benefits and the harm that may result from nonadherence
- Encouraged patient to call PCP/specialist about problem
- Encouraged patient to schedule an appointment with PCP/specialist to discuss problem
- Encouraged patient to talk to pharmacist about problem
- Addressed performance/knowledge deficit
- Provided resource information to facilitate adherence
- Other _____

Smith, J.D., E… in postacute mec… acother, 2004. 2(2): p.

Background

Limitation of MDT

- Inter-rater reliability was modest (Kappa=0,56)

0,81 ≥ K v 1,00 : excellent
0,61 ≥ K ≥ 0,80 : good
0,41 ≥ K ≥ 0,60 : fair
K ≤ 0,40 : poor

Fermanian, J., *[Measurement of agreement between 2 judges. Qualitative cases].* Rev Epidemiol Sante Publique, 1984. **32**(2): p. 140-7.

Solution ?

- Addition of detailed specifications

  definitions & examples

Objectives

Improve inter-rater reliability of the instrument with definitions and examples

➔ New content validation of the instrument

Design

1. Translation of MDT in French
2. Addition of specifications based on
   - MDT's authors specifications
   - Literature review
   - Local adaptation

Incorrect label: a misprint of the pill bottle conflicts with the prescription in dosage, name or directions. Mainly for pharmaceutical forms prepared in pharmacy or directions for use specified by pharmacist on the drug packaging.

Design

3. Content validation

Two-stage process [*] :

- Development-stage : literature review to determine if additional items or sections should be included
- Judgment quantification stage : recruitment of a panel of experts to assess different aspects of the content of the tool

➔questionnaire sent by mail

** Lynn, M.R., Determination and quantification of content validity. Nurs Res, 1986. 35(6): p. 382-5*

Design

Participants have to rate on scales different content aspects:

Design

Determination of the Content Validity Index (CVI)

CVI = proportion of members who endorsed an element as content valid at item-(I-CVI) and tool-level (S-CVI) → CVI ≥ 0,78[1]

Determination of Average deviation mean index (ADm) to evaluate inter-rater agreement[2]

→I-CVI, S-CVI, ADm and free comments to determine items to revise or to discard and items to add to the instrument.

A second round was conducted to assess modifications of the instrument resulting from the first validation round

1. *Polit, D.F. and C.T. Beck, The content validity index: are you sure you know what's being reported? Critique and recommendations. Res Nurs Health, 2006. 29(5): p. 489-97.*
2. *Burke MJ and D. WP, Estimating interrater agreement with the average deviation index: A user's guid. Organizational Research Methods, 2002. 5: p. 159-172*.

Design

Content validation of the item «incorrect label »

NAME OF ITEM	REPRESENTATIVENESS OF ITEM (n = 11)				CLARITY OF THE NAME OF ITEM (n=11)				CLARITY OF DEFINITION (n=11)				UNIQUENESS OF ITEM (n=11)		COMMENTS OF EXPERTS
Score	1	2	3	4	1	2	3	4	1	2	3	4	1	2	
Incorrect label	0	0	3	8	1	0	3	7	1	1	0	9	5	6	E1 : I don't very well understand the sense of item. E2 : Scarce E3 : Is this item is not covered by item «conflicting information from different informational sources» ? E4 : the name of item could be replace by « inaccurate information done to patient ». But this is the same that item «conflicting information from different informational sources»... E5 : included in item « delivery error »?
CVI	1				0,9				0,81				0,45		Conclusion : item "incorrect label" will be pooled with another item of the section "cause of medication discrepancy at system level"
ADm (p-value)	0,39 (0,02)				0,69 (0,1)				0,74 (0,16)				0,49 (1)		

n: number of participants

Setting

1st round : 11 health care professionals (HCPs) (nurse, doctors and pharmacists) interested in the field of patient transfer or having clinical experience in managing patient transition

2nd round : 3 HCPs (nurse, doctor, and pharmacist)

Results

1. Translation of the instrument in French
2. Addition of specification
   - ✓ Definition to each section
   - ✓ Definition + example to item
   - ✓ Addition of example describing the use of the tool
3. Content validation
   - 3.1. Development-stage
     - ✓ 45 items included in 3 sections

- Type of unintentional medication discrepancy identified
  e.g.: omission, frequency of administration
- Cause at patient level
  e.g.: financial barriers, self-medication
- Cause at system level
  e.g.: instruction to patient inaccurate/incomplete/illegible, instruction to doctor inaccurate/incomplete/illegible
- Intervention to solve medication discrepancy
  e.g.: advise the patient to refer to an HCP

Results

3.2. Judgment quantification stage

- Sections: CVI ≥ 0,78 & ADm NS for clarity of definition of “intervention”
- Items

Content aspect	Number of item with CVI ≥ 0,78	ADm Stat.Signif. (5%)
Representativeness	42/45	41/45
Clarity of name	43/45	36/45
Clarity of definition	32/32	27/32
Helpfulness of example	24/25	11/25
Uniqueness of item	31/45	21/45

- Completeness : 2 items suggested for section « intervention »

Results

- Modification resulting from the first round:

  - ✓ Modification of definitions of the three sections modified
  - ✓ 9 items pooled with another item
  - ✓ 2 items added
  - ✓ 30 items modified at title-, definition- or example-level

- Validation of modifications during the second round: S-CVI accepted

Conclusion

- Content validation of the modified translated MDT was realized.

Next objective : calculate the inter-rater reliability of this new version of the instrument

Thank you for your attention

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