

**WS 2**    **Developing indicators  
to measure pharmaceutical care  
across nations**

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Tommy Westerlund*

PCNE BLED 2017



# Progam

Sessions	Topics	Learning objectives
Wednesday 15.30 – 18.00	Introduction Scope, content	Get to know each other QM of relevant processes affecting patient safety Formulate research question and aims
Thursday 10.00 – 13.00	Examples for QI development (Sweden) Strategies to develop indicators Stakeholders	Have some idea on QIs and how they are used by different parties – consequences on QI development <b>General principles for QI development</b>
Thursday 15.45 – 18.00	Define critical steps in hospital discharge and transfer Define measurable aspects	Practice how to formulate QIs for a guideline / proces <b>1. version QI set</b>

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Friday 15.30 – 18.00	Publication of QI scores; Sustainability of QIs	Learn different possibilities to present QIs to stakeholders; Get an idea what happens with repeated measurement of QIs General principles for QI use
Saturday 9.00 – 10.30	How to continue Workshop report, PCNE website	Discuss whether we measure our indicators Present our results Final workshop report

# Introduction



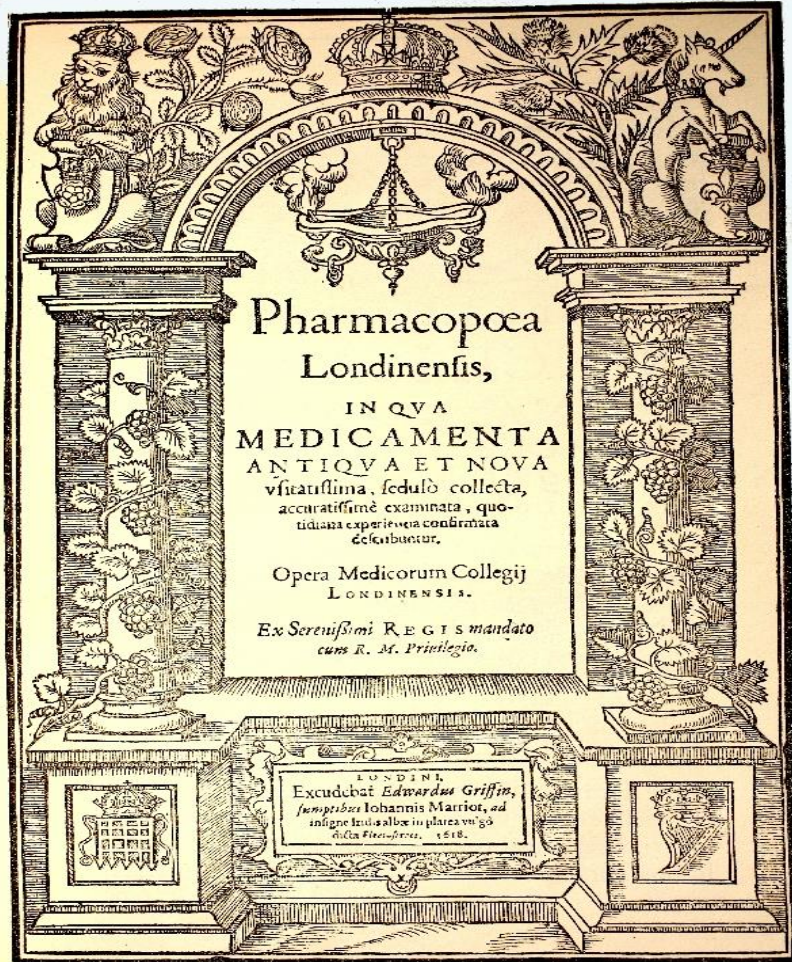


# Hippocrates



The responsibility of a medical  
Doctor – and pharmacist:  
‘Primum Non Nocere’  
and  
‘In Dubio Abstine’.

# Pharmacists: compounding



## EUROPEAN PHARMACOPŒIA

7.0





# Patient safety



- Registration of drugs
- Qualification and allowance to drugs
- Good manufacturing practice
- Risk programs
- Pharmacovigilance

# Pharmaceutical care

## ORIGINAL REPORT

PHARMACOEPIDEMIOLOGY AND DRUG SAFETY 2008; 17: 365–371

Adverse drug reaction-related hospitalisations:  
a population-based cohort study

Cornelis S. van der Hooft MD, PhD<sup>1,2,3</sup>, Jeanne P. Dieleman PhD<sup>4</sup>, Claire Siemes MD<sup>1</sup>,  
Albert-Jan L.H.J. Aarnoudse MD<sup>1,2</sup>, Katia M.C. Verhamme MD, PhD<sup>4</sup>,  
Bruno H.C.H. Stricker MB, PhD<sup>1,2,4</sup> and Miriam C.J.M. Sturkenboom PharmD, PhD<sup>1,4\*</sup>

## ORIGINAL INVESTIGATION

### Frequency of and Risk Factors for Preventable Medication-Related Hospital Admissions in the Netherlands

Anne J. Leendertse, PharmD; Antoine C. G. Egberts, PhD; Lennart J. Stoker, PharmD;  
Patricia M. I. A. van den Remt, PhD for the HARM Study Group

*Arch Intern Med.* 2008;168(17):1890-1896

- About 5-8% of all unplanned hospital admissions are drug related
- About 50% of them are potentially preventable

## HARM-WRESTLING

Een voorstel van de Expertgroep Medicatieveiligheid  
m.b.t. concrete interventies die de extramurale  
medicatieveiligheid op korte termijn kunnen verbeteren



# Increased risk for drug induced hospital admissions

**Risk patients**

**Decreased cognition**

**Decreased renal  
function**

**Risk processes**

**Medication transfer  
(e.g. hospital  
discharge)**

**Risk drugs**

**NSAIDs**

**Coumarines**

**Sulfonylureumderivatives**

# Increased risk for drug induced hospital admissions



# Quality of care

“The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.”

IOM (Institute of Medicine), 1990

# Pharmaceutical care is ...

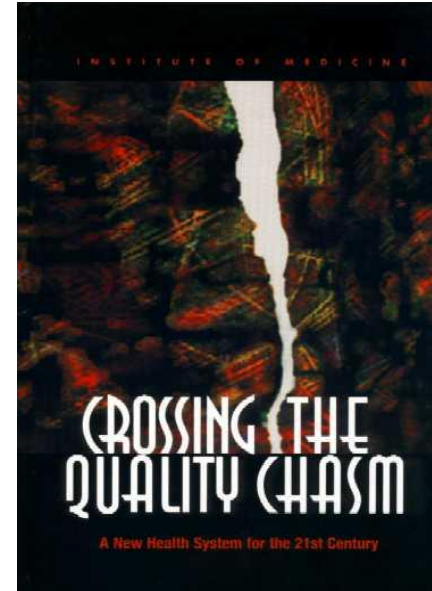
Pharmaceutical Care is  
the pharmacist's contribution  
to the care of individuals  
in order to optimize medicines use  
and improve health outcomes.

PCNE: Position Paper on the definition of Pharmaceutical Care (2013)



# Domains of indicators

1. Effective
2. Safe
3. Patient centered
4. Timely
5. Efficient
6. Accessible



Institute of Medicine, Crossing the quality chasm, 2001

Indicators on drug safety are about avoiding harm, complications and medication errors.

# What is a guideline?

A guideline is a document with recommendations for clinical practice to improve the quality of care.



Dutch Guideline for guidelines (Regieraad 2010)

Grol, Wensing et al. Improving patient care: the implementation of change in health care. 2nd edition 2013. ISBN: 2012044641

## Guidelines: when are they needed?

Uncertainty about appropriate practice and scientific evidence can provide an answer.

Improvement in the organization of care (cooperation between different disciplines) is needed (multidisciplinary guidelines).

## Discuss

Exchange with your neighbour (groups of two) your opinion on:

1. What are benefits of guidelines?
2. What are pitfalls for guidelines?



# Guidelines:

## Benefits

## and

## Pitfalls

- Review of scientific evidence
- Recommendations on good or optimal care
- Basis for implementation
- Improvement of care and reduction of unwanted practice variation
- Basis for monitoring of the quality of care
- External accountability
- Identification of role in multidisciplinary cooperation
- Basis for academic teaching
- Identification of knowledge gaps leads to future research

- Fear of cookbook care
- Unrealistic expectations
- Fear for legal consequences
- Misuse by governmental authorities, (policy makers inspectorate), health insurers
- Lack of implementation instruments
- Uncertainty about budget impact for the pharmacy organizations
- Strategic motives (e.g. to use guidelines in competition to other professionals)



## Workshop objectives

- To understand the concept of maintaining and improving pharmaceutical care;
- To develop measurable indicators for pharmaceutical care;
- To understand why indicators need to be valid;
- To become proficient with the evaluation of indicators.





Think of relevant pharmaceutical care topics in your country that contribute to patient safety.

- Think of hot topics in newspapers, journals

Pharmacy practice research

etc

- Write these down.
- Discuss them with your neighbor.  
What topic has your specific interest?
- They will be collected in plenum.





# Guidelines and indicators:

Discuss in small groups:

- Are there guidelines in your country available for pharmacists on the topics mentioned?

Who develops the guidelines and acknowledges them?

- Are there indicators available?

Who develops them?

Is information on them collected?

And available?

- What are the experiences with quality measurement of the participants?

Which needs are there for QIs?

Which pro's and con's?



# Dutch guidelines pharmaceutical care: status 2017

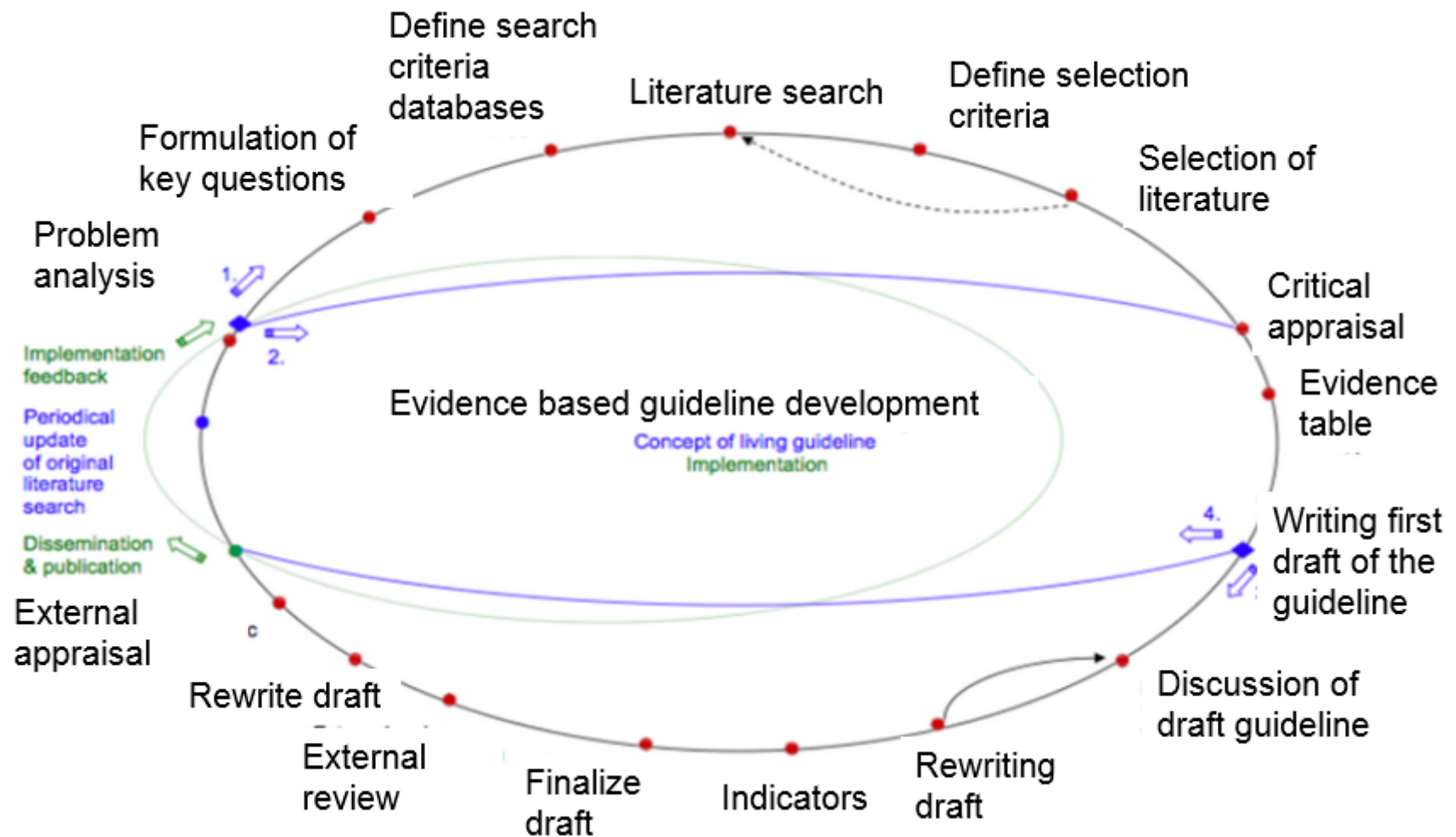
## Generic pharmaceutical care

- Dispensing of medication (authorised in 2013)
- Medication review (authorised in 2013)
- Care for patients with individual dosage forms (authorised in 2013)
- Compounding (authorised 2008)
- Patient record (published 2013 )
- Medication surveillance (published 2016)
- Pharmaceutical consultation (prescription drugs, OTC) (in development)
- Pharmaceutical care 'refer from hospital to primary care' (in development)

## Pharmaceutical care in disease specific integrated care programmes

- COPD (authorised March 2014)
- CVRM (published 2013)
- Diabetes (published 2016)
- Asthma (published 2016)

# Indicators in evidence based guideline development



Grol, Wensing et al. Improving patient care: the implementation of change in health care. 2nd edition 2013. ISBN: 2012044641

# Measuring quality of care

## *Quality indicator is*

‘a measurable element of practice performance for which there is evidence or consensus that it can be used to assess the quality, and hence change the quality of care provided’, Lawrence, 1997

Often expressed by a numerator / denominator.

Denominator: describes the target group in absolute numbers

Numerator: actual performance on the eligible target group.



# Quality measurement



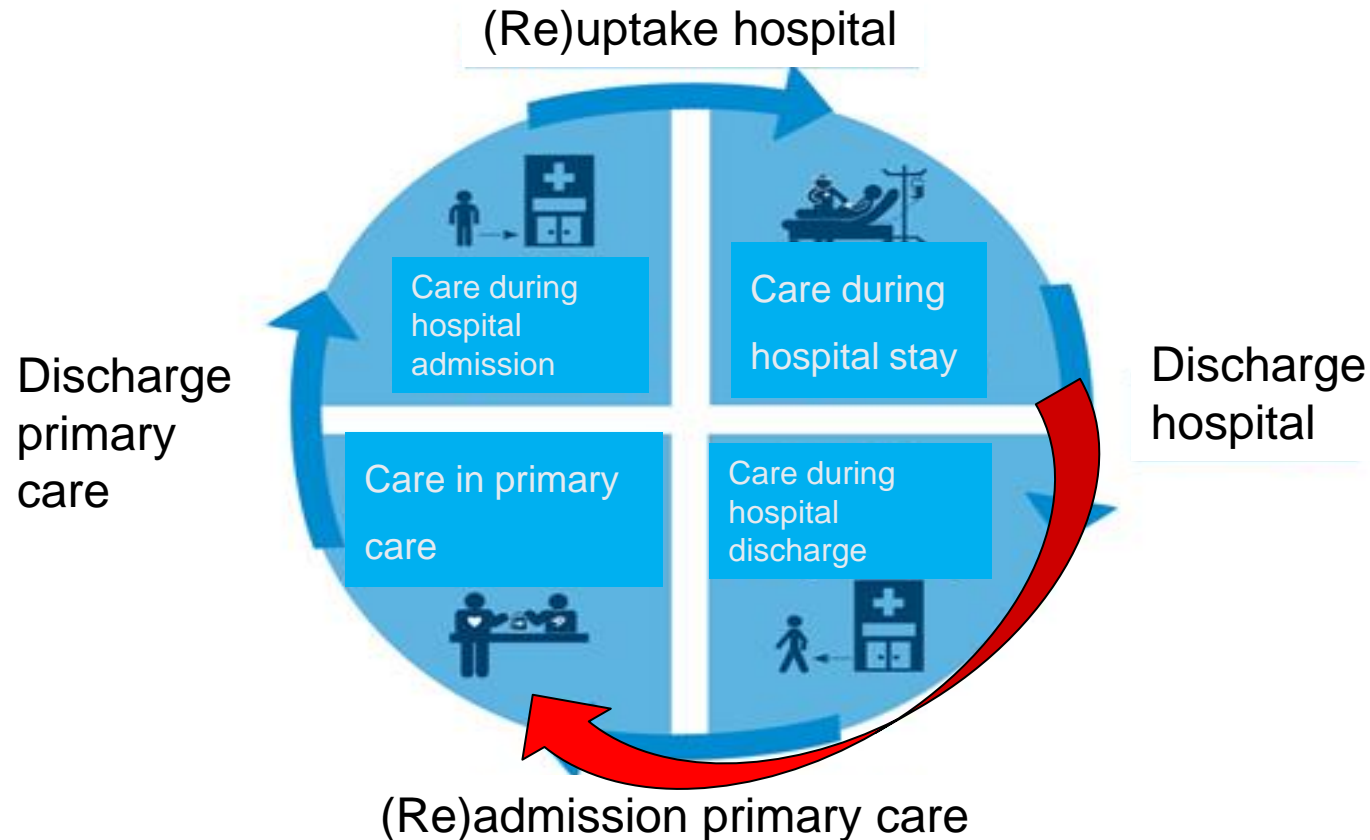


# The role of Quality Indicators

- Measurement depends on the **purpose of evaluation**:  
1. internal improvement, 2. external accountability, 3. scientific interest in effective innovations / implementation strategies.
- A rigorous and systematic process is needed to **develop and test the validity and reliability**.
- They should be **integrated** within implementation and quality improvement programs.
- New developments address **patient reported outcomes** and patient values in relation to costs.
- They play a role in **internal** as well as **external performance evaluations**.  
However: knowledge about quality of care should **not be restricted** to indicators only, because they only **indicate** possible problems.

Use QIs within multiple strategies incorporating external assessment and intrinsic quality improvement!

# Motivation for a guideline on hospital discharge & transfer into primary care



# Hospital discharge & transfer



- Pharmacotherapy related problems, patient safety, adverse events, hospital re-admissions
- Different health care providers involved in different settings
- Information transfer between different (ICT) settings



# Wrap up day 1

Workshop objective and research question:

To define quality indicators for hospital discharge and transfer  
for different stakeholders

and to test them for validity and reliability.







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## Worksheet 1

1. What should Quality Indicators describe?
2. What are crucial properties of Quality Indicators?
3. What should we take care of when developing Quality Indicators in general and for hospital discharge & transfer?

## A definition of quality?

Quality is the **achieved** in relation with the **possible**,  
**related** to the **desired**.

### Example?

The number of medication reviews performed by a pharmacist during the recent year for patient >65 with >5 drugs in chronic use conform the guideline.

Numerator: number MRs for patients >65 & >5 chronic drugs

Denominator: number of patients >65 with >5 chronic drugs

$$\frac{60}{234} = 25.6\% \text{ (the achieved in relation with the possible)}$$

Desired?



# Indicator typology

## Structural indicators

Focus on the availability of organisational aspects

## Proces indicators

Focus on the actual care delivered to patients as well as communication with patients

## Outcome indicators

Specify the ultimate goal of the care given and can relate either to health status or patient evaluations of care.

## Why Do We Need Information on Health Care Quality?

**Access the complete publication at:**

<http://dx.doi.org/10.1787/9789264094819-en>

- Improving the coherence and co-ordination of care;
- Preventing illness and disease;
- Ensuring people receive care they need;
- Ensuring care is effective;
- Making sure care is safe;
- Rewarding health care providers for good quality care;
- The current shift of health care systems towards outcomes-based, quality-led governance.

# Purposes

**Summative** assessment: assessment of learning  
(pass or fail)

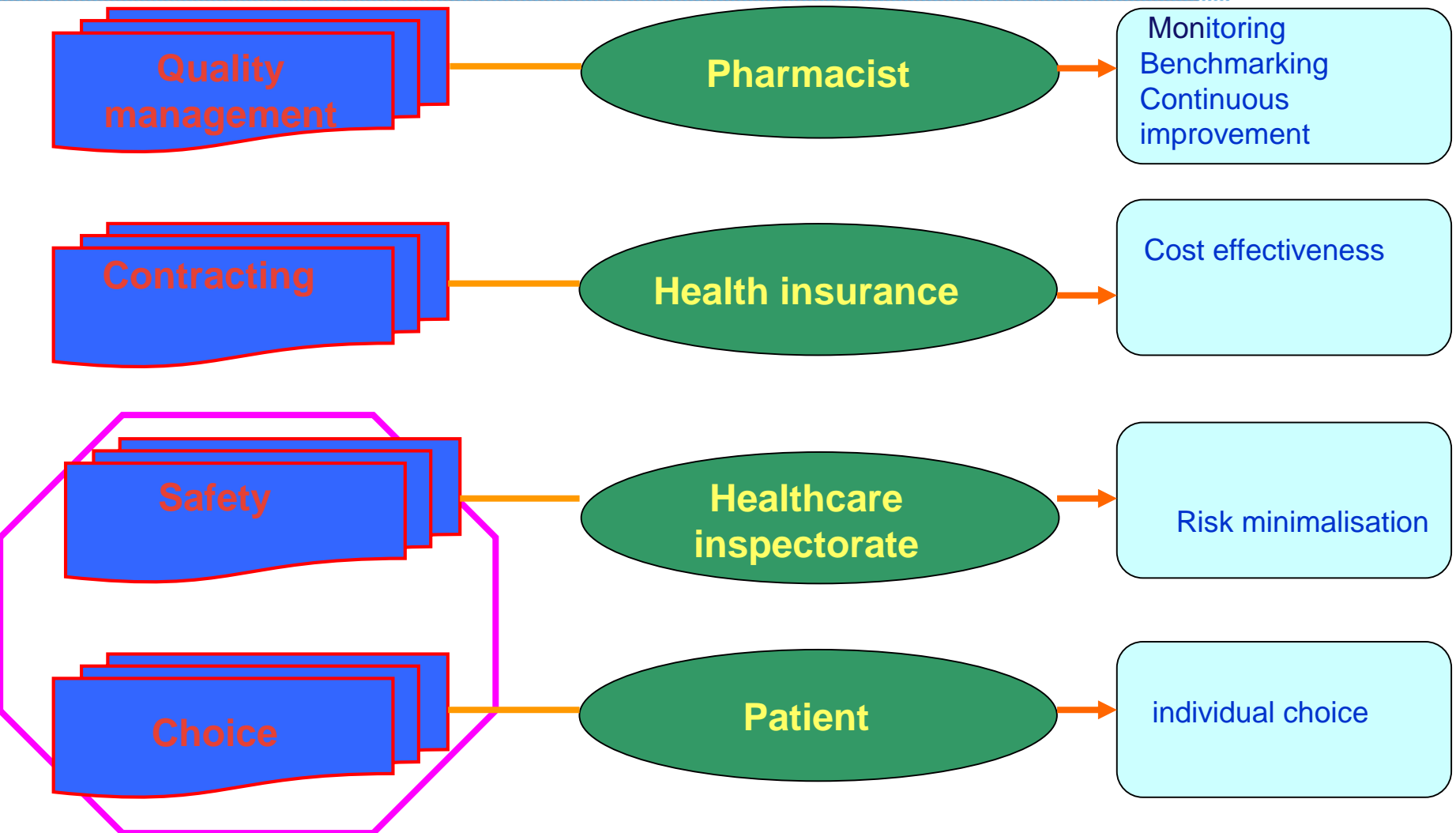


*contrasted with*

**Formative** assessment: assessment for learning  
(non-judgmental & educational)



# Who wants to know about quality?



Responsible for transparency in the end: government

Healthcare professionals responsible for public availability of their quality information



## Worksheet 2

Who should initiate / organize the development of Quality Indicators?

Who should contribute to the development of Quality Indicators?  
In what role or function?

Who should use Quality Indicators?  
For what aims?

# Hospital discharge and transfer

**Drug interaction causing hospital admissions (1.12 minutes)**

<https://www.youtube.com/watch?v=uMkiTeVqvSg>

**The ideal situation for discharge: an example (0.45 minutes)**

<https://www.youtube.com/watch?v=luxbaPBk7N4>

**Discharge medication service offered (0.43 minutes)**

<https://www.youtube.com/watch?v=Z1U9kXonUFg>

**Transferred to the community (2.46 minutes)**

<https://www.youtube.com/watch?v=hPgQ24VMbNw>

**Refer to pharmacy: ICT solutions (2 minutes)**

<https://www.youtube.com/watch?v=PKuGi21eF1k>

**The whole story: discharge MR (2.22 minutes)**

<https://www.youtube.com/watch?v=2fnmkEvGd1o>

Please take notes: worksheet 2a

# Identify critical steps in hospital discharge & transfer

## Fill worksheet 3

1. List proces steps on hospital discharge & transfer.

- What steps does the patient take when being discharged and transferred?
- Which information is needed for these steps?
- What pitfalls are there concerning patient safety?

Use your notes (workhseet 2a), the articles supplied, own information...

2. List structures needed and outcomes (of proces steps).

3. Think of where to find information to measure the structures, processes and outcomes.







# Define Quality Indicators per group

Use worksheet 4.

Each groups takes a set of steps and formulates measurable aspects for them.

Present your indicators after the break.

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## Wrap up:

General principles QI development

First draft of our QI set



**FRIDAY**  
IS MY SECOND FAVORITE  
**F WORD**  
MY FIRST IS FOOD  
**DEFINITELY FOOD**



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# Indicators

Light



Visual check



# Indicators are not:

- Always highly accurate and reliable measures
- Comprehensive measures of quality and safety of healthcare (they are only *indicators*)
- *Unbiased* estimates of quality and safety of healthcare (important domains of healthcare are systematically excluded)
- Always easy to interpret –100% is rarely the best score (due to complexities of individual patients)

# Attributes of good indicators

**Acceptable:** findings are acceptable to both those being assessed and those undertaking the assessment

**Discriminative:** between practices etc otherwise why bother?

**Feasible:** routinely available, reliable, comparable & consistent data

**Reliable:** compare like with like, reproducible

**Sensitive to change:** detect changes in quality

**Valid:** does the indicator measure what it is intended to measure? Does adherence to the indicator improve or definitively predict quality?



### SMART indicator goals:

- **Specific:** concrete and unambiguous definitions, who are involved, what has to be achieved, where has it to take place, which conditions are necessary, which profit is yield
- **Mesurable:** progress of the activities
- **Acceptable:** enough support for the activities, attitude, skills, capacities and resources
- **Realistic:** planned activities are feasible, providers what it, are able to do it and think they can achieve the goals
- **Time restricted:** clear description who does what at which moment, measurement moments and period for goals to be achieved.





# Example for cardiovascular indicators

**Table 5** Vitale Vaten set of clinical indicators

Clinical indicators	
1	Percentage of patients with established CVD with a record of smoking status
2	Percentage of patients with established CVD with anticoagulant or antiplatelet drugs prescribed
3	Percentage of patients with established CVD in the practice population at the end of the reporting period (denominator is the practice population)
4	For patients with CVD (CHD, stroke, TIA or PVD) there is a record of smoking status in the past 15 months except those who never smoked
5	For patients with diabetes there is a record of blood pressure at least once in the last 15 months
6	For patients prescribed antihypertensive medication for diagnosed hypertension there is a record of blood pressure at least once in the last 15 months
7	For patients with established CVD (CHD, stroke, TIA or PVD) there is a record of blood pressure at least once in the last 15 months
8	For patients with diabetes there is a record of their cholesterol (general/total, high-density lipoprotein and low-density lipoprotein) at least once in the last 15 months
9	For patients with CVD (CHD, stroke, TIA or PVD), there is a record that antiplatelet therapy (aspirin, clopidogrel or equivalent) at least 75 mg daily has been offered unless contraindicated
10	CVD risk assessment includes smoking status
11	CVD risk assessment includes blood pressure
12	CVD risk assessment includes personal history of diabetes
13	For patients with CVD, blood plasma glucose is tested at diagnosis
14	For patients with diabetes, there is a record of smoking status in the past 15 months except for those who have never smoked whose smoking status should be recorded at least once
15	For patients with diabetes, there is a record of their weight or body mass index at least once in the last 15 months
16	For patients with CVD (CHD, stroke, TIA or PVD), there is a record of their weight or body mass index at least once in the last 15 months
17	For patients with diabetes, there is a record that diet advice has been offered at least once in the last 15 months
18	For patients with CVD (CHD, stroke, TIA or PVD), there is a record of their cholesterol (general/total, HDL and LDL) at least once in the last 15 months
19	All patients with CVD (CHD, stroke, TIA or PVD) should have their systolic blood pressure controlled to <140
20	All patients with CVD (CHD, stroke, TIA or PVD) are offered a statin
21	For patients who have had a myocardial infarction, there is a record that a $\beta$ blocker has been offered (unless a contraindication or side-effects are recorded)
22	CVD risk assessment includes age
23	CVD risk assessment includes gender
24	CVD risk assessment includes diabetes status
25	For patients with diabetes, there is a record that specific advice about lifestyle was offered at least once in the last 5 years

CHD, coronary heart disease; CVD, cardiovascular disease; PVD, peripheral vascular disease; TIA, transient ischaemic attack.

J. v. Lieshout  
2010

- QI development started with emphasis on professional performance and process measures.
- Since 2008 shift towards patient outcomes, patient's view.
- PROMS do not ask about patient's satisfaction with or experience of care but seek how successful their treatment was.
- Started on surgery, now expanded on diabetes, asthma, stroke, COPD etc.



# Some inspiration

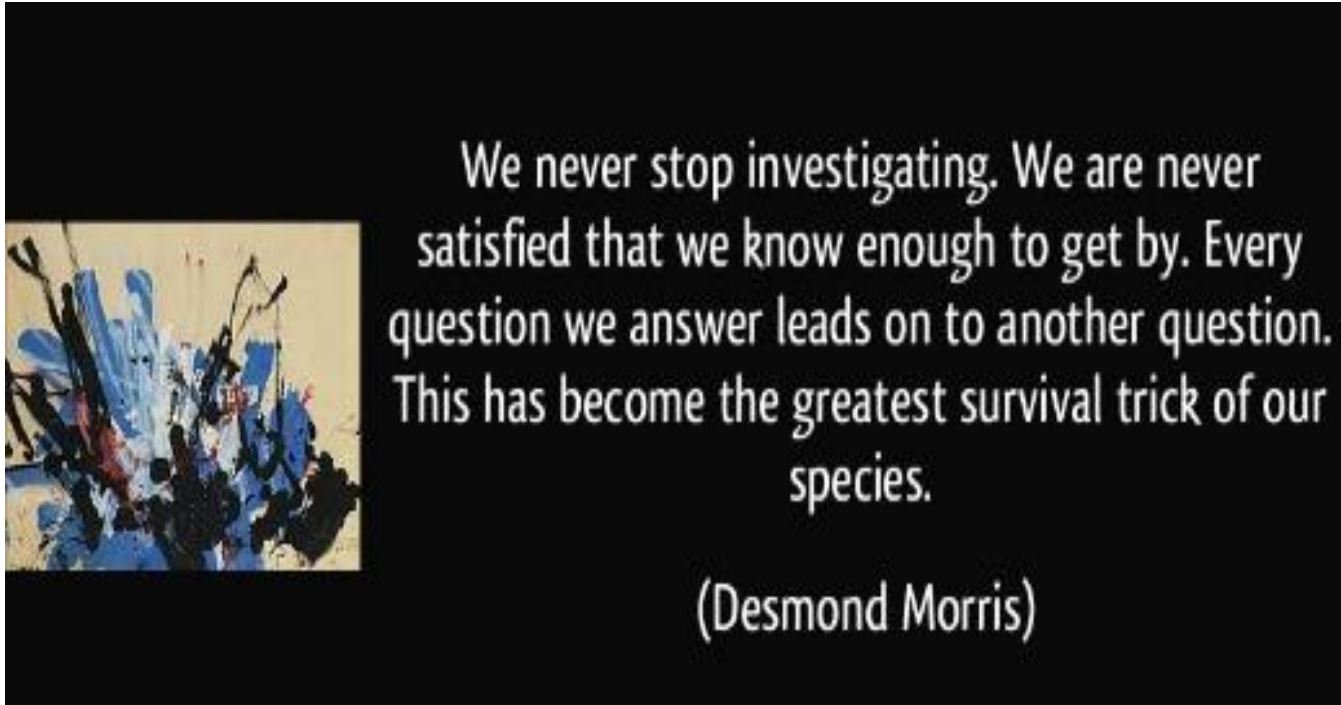
- ☐ ☐ **Patient Safety**
  - ☐ **Foreign body left in during procedure**
  - ☐ **Post-operative pulmonary embolism**
  - ☐ **Post-operative pulmonary embolism after hip or knee replacement**
  - ☐ **Post-operative deep vein thrombosis**
  - ☐ **Post-operative deep vein thrombosis after hip or knee replacement**
  - ☐ **Post-operative pulmonary embolism or deep vein thrombosis**
  - ☐ **Post-operative pulmonary embolism or deep vein thrombosis after hip or knee replacement**
  - ☐ **Post-operative sepsis**
  - ☐ **Post-operative sepsis after abdominal surgery**
  - ☐ **Post-operative wound dehiscence**
  - ☐ **Obstetric trauma vaginal delivery with instrument**
  - ☐ **Obstetric trauma vaginal delivery without instrument**

- ☐ ☐ **Patient experiences**
  - ☐ **Consultation skipped due to costs**
  - ☐ **Medical tests, treatment or follow-up skipped due to costs**
  - ☐ **Prescribed medicines skipped due to costs**
  - ☐ **Waiting time of more than four weeks for getting an appointment with a specialist**
  - ☐ **Patients reporting having spent enough time with any doctor during the consultation**
  - ☐ **Patients reporting having spent enough time with their regular doctor during the consultation**
  - ☐ **Patients reporting having received easy-to-understand explanations by any doctor**
  - ☐ **Patients reporting having received easy-to-understand explanations by their regular doctor**
  - ☐ **Patients reporting having had the opportunity to ask questions or raise concerns to any doctor**
  - ☐ **Patients reporting having had the opportunity to ask questions or raise concerns to their regular doctor**
  - ☐ **Patients reporting having been involved in decisions about care or treatment by any doctor**
  - ☐ **Patients reporting having been involved in decisions about care or treatment by their regular doctor**

OECD: healthcare quality indicators

## First QI set

Are we satisfied?



## What QIs are missing?

From the perception of:

- Pharmacist / patient / health insurance / healthcare inspectorate / government / other healthcare professionals

# Stakeholders

The subject of the quality measurement (what is to be measured) relies strongly on the perspective of the stakeholder. (Donabedian, 1980)

- **Health professionals** usually focus on professional guidelines, health outcomes and efficiency.
- **Patients** naturally relate quality to a pleasant demeanor and good communication skills and clinical performance.
- **Managers** are more interested in data on efficiency, patients' satisfaction and their accessibility to care.
- **Health insurance companies** are interested in health outcomes and costs.
- The **healthcare inspectorate** is interested in detecting risks.

# Instead of developing new QIs – use existing sources!

[www.ahrq.gov](http://www.ahrq.gov) (VS)

[www.rand.org/health/projects/acove](http://www.rand.org/health/projects/acove) (VS)

[www.nice.org.uk/aboutnice/qof/indicators.jsp](http://www.nice.org.uk/aboutnice/qof/indicators.jsp) (UK)

[www.cihi.ca](http://www.cihi.ca) (Canada)

[www.health.gov.au](http://www.health.gov.au) (Australia)

<http://www.aihw.gov.au/> (Australia)

<http://www.coag.gov.au/> (Australia)

[www.zichtbarezorg.nl](http://www.zichtbarezorg.nl) (The Netherlands)

<http://www.skl.se/> (Sweden)

<http://www.oecd.org/els/health-systems/hcqi-primary-care.htm> (OECD)



## Worksheet 5: validate our QI set

Fill in the last three rows in worksheet 5 for the different aspects.

**Third version of QI set.**



# Program

Sessions	Topics	Learning objectives
Friday 15.30 – 18.00	Publication of QI scores; Retirement of Qis	Learn different possibilities to present QIs to stakeholders; Get an idea what happens with repeated measurement of QIs <b>General principles for QI use</b>

## Example

# % opioid users with concomitant laxatives

Indicatie	Pijn
Rapportageperiode	Voorafgaande 3 maanden
Medicatie	<b>Opioid:</b> Definition of opioids and laxatives (ATC code) <b>Laxans:</b> A06A zonder A06AC, A06AA of A06AG (laxantia zonder volumevergroeters) A02AA02 (magnesiumoxide) A02AA03 (magnesiumperoxide) A02AA04 (magnesiumhydroxide) <b>Motiliteitsremmende middelen:</b>
Gebruiker	Definition 'user'
Aflevering motiliteitsremmende middelen	Definition on periods of drug use
Gecorrigeerde gebruikperiode	How to deal with missing information on daily drug use?
Standaard gebruikperiode	Definition of 'concomitant'
Gelijktijdig gebruik 3 dagen	Exclusion of patients passing by
Passant	Definition numerator / denominator
Selecties	



Systematic  
error

Precision  
problem



## Validity

- **Construct validity:** strongly related to the method of development (evidence-based data on best practice)
- **Content validity:** established by relating the measurement to actual quality of care, able to discriminate between different aspects and target groups with different levels of quality.

## Reliability

- Expresses the extent to which measurement results are a true reflection of the variables measured;
- Reflects the error, both random and systematic (inherent in any measurement)



Dutch institute of the quality of care

'Is there a clear relationship between the care delivered and the scores measured?'

- Outcome indicators:  
The outcome measured can be influenced by the health care provider
- Structure- and proces indicators:  
The structures and processes measured can influence the desired health outcomes.

# Example content validity

Pharmacist (Determinant) → Outcome

→ Pharmacist's care influences the outcome

Percentage NSAID users >70 years with a concomitant proton pump inhibitor

Extra attention of the pharmacist for concomitant PPI use in NSAID users with risk for gastro intestinal damage increased the score for this indicator.

Evidence from trials – database studies – expert opinion





PHARMACOEPIDEMIOLOGY AND DRUG SAFETY 2014; **23**: 382–389

Published online 18 February 2014 in Wiley Online Library (wileyonlinelibrary.com) DOI: 10.1002/pds.3587

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ORIGINAL REPORT

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## Effectiveness of interventions by community pharmacists to reduce risk of gastrointestinal side effects in nonselective nonsteroidal anti-inflammatory drug users

Martina Teichert<sup>1,2\*</sup>, Fabienne Griens<sup>3</sup>, Edgar Buijs<sup>2,3</sup>, Michel Wensing<sup>1</sup> and Peter AGM De Smet<sup>1,2</sup>

At the start 86% of ns-NSAID users with increased risk for GI damage had PPIs. At follow up ns-NSAID users without PPI in the intervention group had a 7% higher chance to receive a PPI compared to the control group.

# Example content validity

Pharmacist (Determinant) → Outcome

→ Pharmacist's care influences the outcome

Percentage of patients with longer than 24 months continuous use of a selective serotonin reuptake inhibitor



- No literature available that proved that pharmacists' intervention could reduce SSRI use in the general population.
- From expert opinion too many other aspects were relevant such as indication (not known by pharmacists), prescribers' and patients' preferences.

# Population comparability

'Are differences between health care providers due to differences in the quality of the care delivered,  
- or are they due to differences in the populations of the health care providers?'

On what aspects could patient populations of pharmacists' differ – with meaningful consequences on indicator scores?

- Age, sex
- Socio economic status
- Indications
- Adherence to one pharmacy

# Population comparability



**Population differences** → **Pharmacist** → **Indicator score**

➔ Not valid when differences in indicators scores are likely to depend on differences in the population.

Do you register the actual drug use of all patients?

➔ Type of indicator?



Percentage of patients with longer than 24 months continuous use of a selective serotonin reuptake inhibitor





# Registration comparability

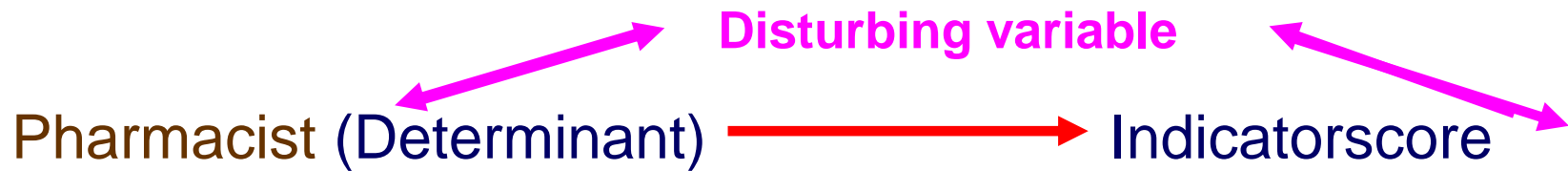
'All pharmacists register the structures, processes and outcomes in the same way.'

If everybody misses some (~5%) registrations in the OTC – then there is no lack in registration comparability.

If some pharmacies dispose on the total information on patients' dispensings and others only on some information – this can lead to a lack in registration comparability.

If some pharmacies can register patients' refusal to receive concomitant medication and use this for the indicators score while others don't – this can lead to a lack in registration comparability.

# Registration comparability



→ Mistakes during measurement, registration, storage of analysis of data

Two sorts of measurement errors:

1. Independent error (general carelessness in registration).
2. Dependent, differential error (one pharmacist registers laxatives in the OTC, the other does not).

Percentage of patients with longer than 24 months continuous use of a selective serotonin reuptake inhibitor



# Example

How to you judge the following indicator on op

1. Content validity

2. Registration comparability

3. Population comparability?



Dutch expertpanel 2012

“Percentage of chronic users of benzodiazepines >65 years”

## Evaluation of Quality Indicators for Dutch Community Pharmacies Using a Comprehensive Assessment Framework

Tim W.A. Schoenmakers, PharmD; Martina Teichert, PharmD, PhD; Jozé Braspenning, PhD;  
Lydia Vunderink, MSc; Peter A.G.M. De Smet, PharmD, PhD; and Michel Wensing, PhD

# Feedback and Behaviour





SATURDAY IS  
**SO GOOD.**

# Validation of our indicators

## CONTENT VALIDITY

'Is there a clear relationship between the care delivered and the scores measured?'

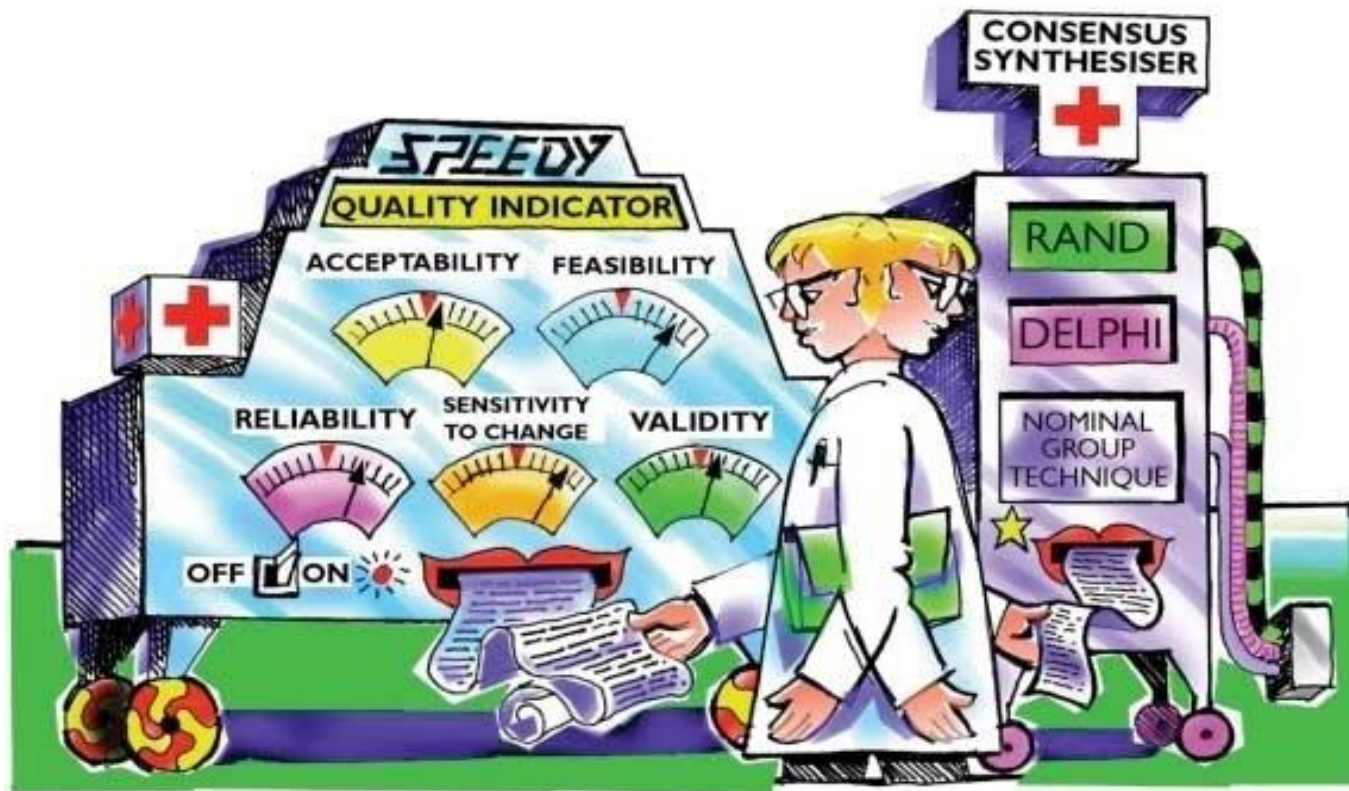
## POPULATION COMPARABILITY

'Are differences between health care providers due to differences in the quality of the care delivered,

- or are they due to differences in the populations of the health care providers?'

## REGISTRATION COMPARABILITY

'All pharmacists register the structures, processes and outcomes in the same way.'





# Five steps in QI development

Step 1: Define aim and target users



Step 2: Selection of potential indicators



 Step 3: Consensus procedure with target users

 Step 4: Empirical test

 Step 5: Feedback report



# Feedback and Behaviour



It was a great pleasure for me to work with you! 😊

