



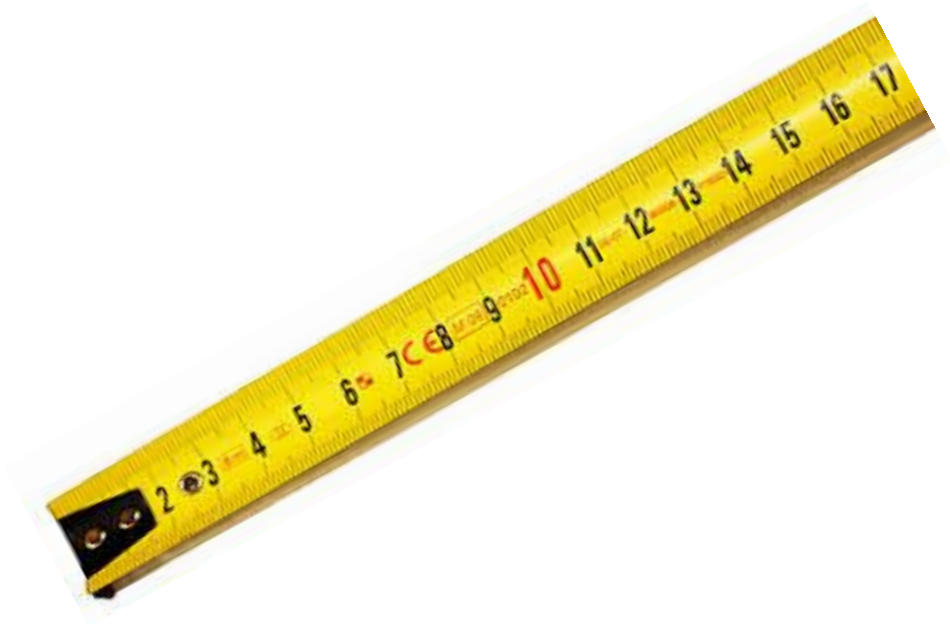
**10th PCNE Working Conference**  
**Workshop 2: Developing indicators to measure**  
**pharmaceutical care across nations**  
**Bled Slovenia 1-4 February 2017**

# Developing and introducing patient-oriented quality indicators for Swedish community pharmacy practice – experiences from two Government Commissions

**Tommy Westerlund, PhD, Associate Professor**  
Swedish Medical Products Agency, Uppsala; University of Gothenburg,  
Göteborg; and Malmö University, Malmö, Sweden

# Quality indicators

- Items that are
  - defined
  - measurable
- aimed at
  - assessing
  - comparing
  - improving
- the quality of different
  - structures
  - processes
  - outcomes



Campbell SM et al. Research methods used in developing and applying quality indicators in primary care. *Qual Saf Health Care*. 2002 Dec;11(4):358-64.

# The Donabedian Model as a framework

- A conceptual model that provides a framework for examining health services and evaluating quality of care
  - *Structure*: the context in which care is delivered
  - *Process*: the transactions between patients and providers
  - *Outcomes*: the effects of healthcare on the health status of patients and populations

Donabedian A. Quality assessment and monitoring. Retrospect and prospect. *Eval Health Prof.* 1983 Sep;6(3):363-75.

# Quality indicators, an example



- Structure indicator:  
*Does the pharmacy have written guidelines on patient counseling? => yes/no*
- Process indicator:  
*Proportion of the pharmacy's patient encounters, where the pharmacy practitioners comply with the written guidelines => X%*
- Outcome indicator:  
*Proportion of patients satisfied with the counseling given, according to the written guidelines => Y%*

# Literature review of publications on community pharmacy quality indicators 1(6)

- ~ 20 publications => ~ 450 indicators
- Indicators primarily developed by pharmacy organizations and university researchers
- **The Netherlands**, UK, Finland, Portugal, Bulgaria, USA, Canada, Brazil, Argentina and Taiwan
- Most indicator use limited in geography, scope or time



# Literature review of publications on community pharmacy quality indicators 2(6)

- Majority of indicators vaguely phrased  
=> difficult to measure
- Majority of indicators context-dependent  
=> usable in the country of origin but of limited use abroad
- Some indicator sets validated by Delphi-technique or other consensus methodology



# Publications on community pharmacy quality indicators 3(6)

- **Nau DP.** Measuring pharmacy quality. *J Am Pharm Assoc* (2003). 2009 Mar-Apr;49(2):154-63

Methods for measuring health care quality and how these methods can be applied to the measurement of pharmacy quality described. A Pharmacy Quality Alliance (PQA) created to coordinate efforts of numerous pharmacy stakeholders in developing measures of pharmacy quality.

- **Doucette WR et al.** Pharmacy Quality Alliance: Five phase I demonstration projects: descriptions and lessons learned. *J Am Pharm Assoc* (2003). 2011 Jul-Aug;51(4):544-50

A report of PQA demonstration projects in community pharmacies in five states in the USA. Considerable variation in pharmacy performance scores. Use of website to report scores feasible.

# Publications on community pharmacy quality indicators 4(6)

- **Nigam R et al.** Development of Canadian safety indicators for medication use. *Health Q.* 2008;11(3 Spec No.):47-53

A set of 20 consensus-based indicators for the safe use of medication for both in-patient and out-patient settings developed by a panel of national experts through a Delphi survey process via e-mail.

18 process indicators and 2 outcome indicators, such as

- Number of prescriptions/medication orders with “take as directed” as the only instruction for use as a percentage of all prescriptions/medication orders (*process indicator*)
- Number of ADE-related hospitalizations as a percentage of all hospitalizations (*outcome indicator*)



# Publications on community pharmacy quality indicators 5(6)

- **De Bie J et al.** The development of quality indicators for community pharmacy care. *BMJ Qual Saf.* 2011 Aug;20(8):666-71

A set of 42 indicators were

- developed by the Dutch Healthcare Inspectorate and the Royal Dutch Pharmacists Association (KNMP)
- validated by pharmacy practice experts and practicing pharmacists
- field tested by a random sample of 30 community pharmacists
- composed of 13 structure indicators, 18 process indicators and 11 outcome indicators

The set contained indicators on patient counseling (6), clinical risk management (10), compounding (7), dispensing (3), monitoring of medication use (11) and quality management (5).

# Publications on community pharmacy quality indicators 6(6)

- **Schoenmakers TWA, Teichert M et al.** Evaluation of quality indicators for Dutch community pharmacies using a comprehensive assessment framework. *J Manag Care Pharm* 2015;21(2):144-52

Aimed to assess the validity of the current set of 52 community pharmacy quality indicators, using the Indicator Assessment Framework (IAF).

IAF criteria: content validity, absence of selection and measurement bias, statistical reliability.

An expert panel applied the IAF criteria to the set of indicators collected in 1 807 Dutch community pharmacies on their performance.

25% of indicators judged as meeting the requirements for all criteria.

## Pharmaceutical Care Policies and Practices for a Safer, More Responsible and Cost-effective Health System. Report 2012.

<http://www.edqm.eu/en/pharmaceutical-care-1517.html>

### *Examples:*

- Number of pharmaceutical care interventions delivered per standardised denominator, such as 1000 prescriptions dispensed or 1000 patients.
- Number of patients counselled about their medicines per standardised denominator, such as 1000 prescriptions dispensed or 1000 patients.
- Number of adverse drug event reports (to include both adverse drug reactions and medication errors) per year.

# The Swedish Government Commission

- Medical Products Agency (MPA) in collaboration with
  - the National Board of Health and Welfare
  - the Swedish Association of Local Authorities and Regions
  - the Swedish Pharmacy Associationplus consultation with other appropriate stakeholders
- to develop national indicators for
  - patient safety
  - accessibility
  - qualityin community pharmacy practice



# The Swedish Government Commission

- public tool for comparing different pharmacies
- inspired by the Swedish version of the FIP/WHO Good Pharmacy Practice (GPP)
- a platform for implementation, including
  - collection
  - publication
  - follow-up of quality indicator data



Indicators abroad according to publications and study visits and suggestions from collaboration and consultation groups

450 indicators

Indicators abroad according to publications and study visits, and suggestions from collaboration and consultation groups

450 indicators

Elimination of foreign, context-dependent indicators, duplicates and indicators difficult to measure

200 indicators

Indicators abroad according to publications and DK and NL study visits, correspondence with Estonia and suggestions from collaboration and consultation groups

450 indicators

Elimination of foreign, context-dependent indicators, duplicates and indicators difficult to measure

200 indicators

Categorization, translations, prioritization and adjustments to Swedish conditions

80 indicators



Indicators abroad according to publications and study visits and suggestions from collaboration and consultation groups

450 indicators

Elimination of foreign, context-dependent indicators, duplicates and indicators difficult to measure

200 indicators

Categorization, translations prioritization and adjustments to Swedish conditions

80 indicators

Elimination of indicators not fulfilling the validation requirements of the Swedish National Board of Health and Welfare

40 indicators

# Validation requirements of the Swedish National Board of Health and Welfare 1(2)

The indicator should...

- ...set direction, that is express whether a high or a low value reflects good or bad quality
- ...be relevant and illustrate an area important to the operation and mirror a dimension of outcome quality
- ...be valid, that is measure what it is supposed to measure in a reliable way



# Validation requirements of the Swedish National Board of Health and Welfare 2(2)

The indicator should...

- ...be established and be based on knowledge, such as guidelines, science, a legal foundation, proven experience, consensus or knowledge obtained from whom the indicator may concern, such as the patient
- ...be responsive, that is its outcome should be possible to be affected by the actual performers
- ...be measurable och be possible to measure by nationally available and continuously collected data

Indicators abroad according to publications and study visits and suggestions from collaboration and consultation groups

450 indicators

Elimination of foreign, context-dependent indicators, duplicates and indicators difficult to measure

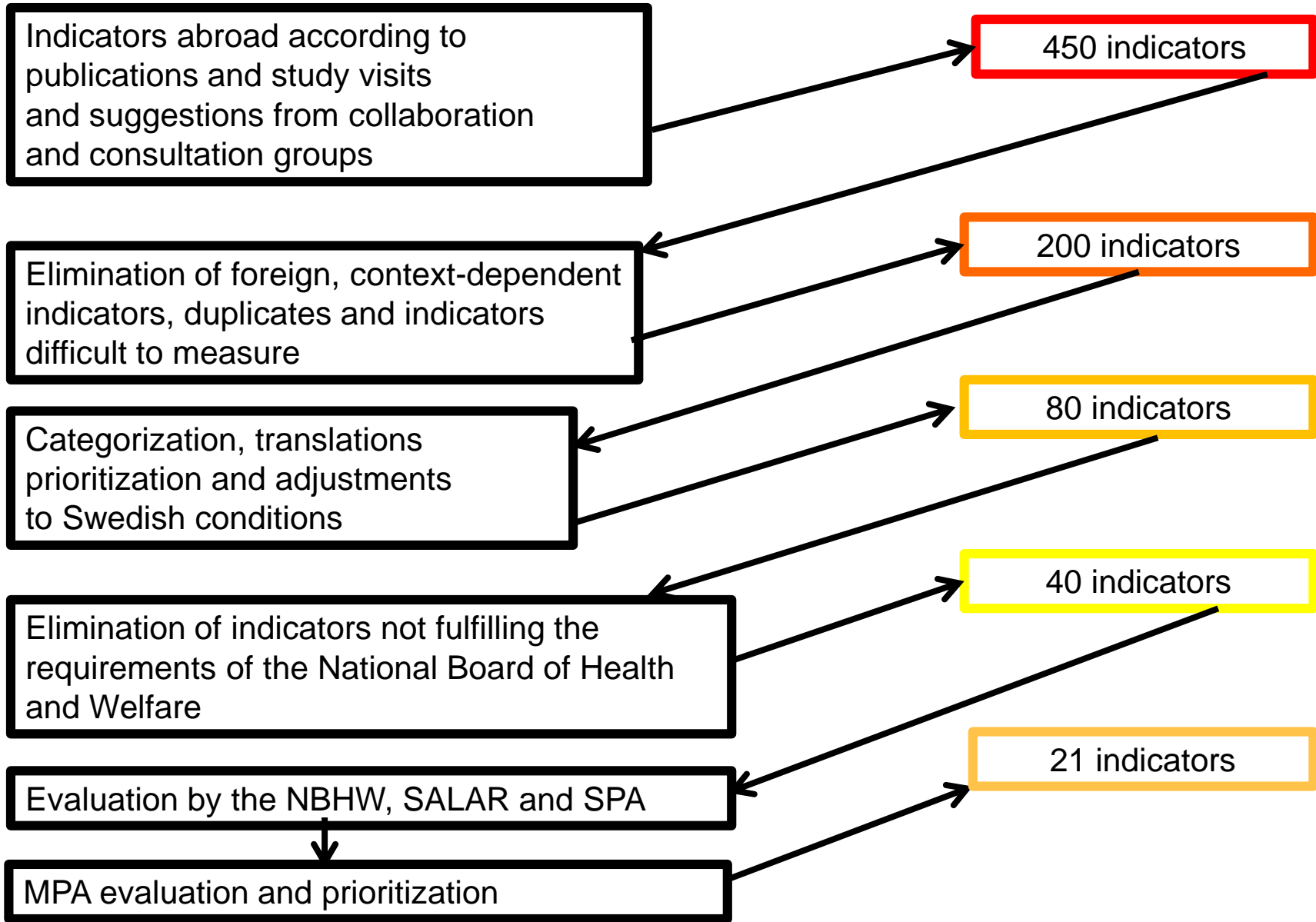
200 indicators

Categorization, translations prioritization and adjustments to Swedish conditions

80 indicators

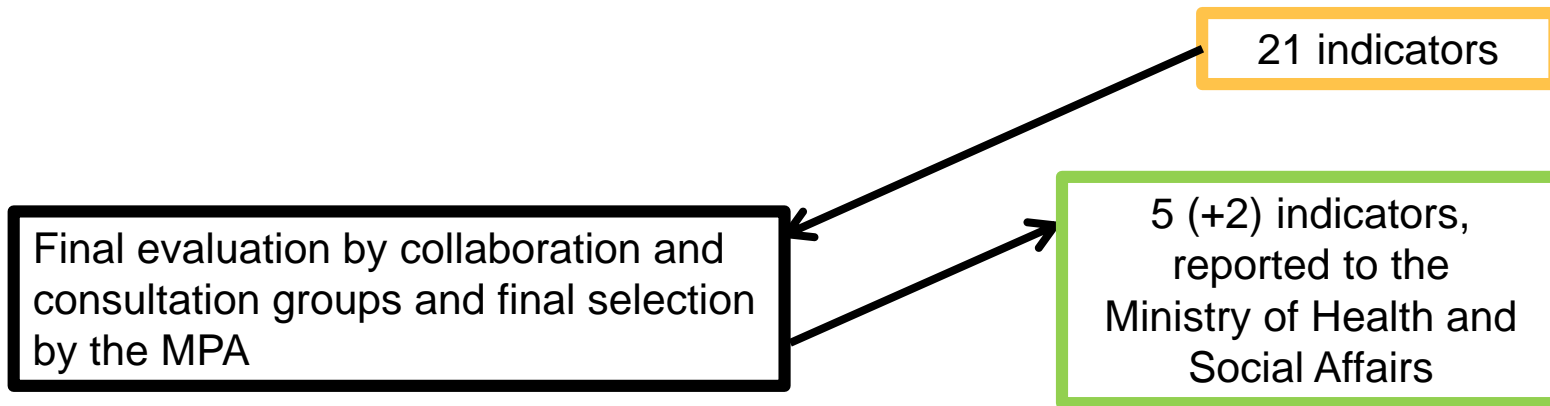
Elimination of indicators not fulfilling the validation requirements of the Swedish National Board of Health and Welfare

40 indicators



21 indicators

Final evaluation by collaboration and consultation groups and final selection by the MPA



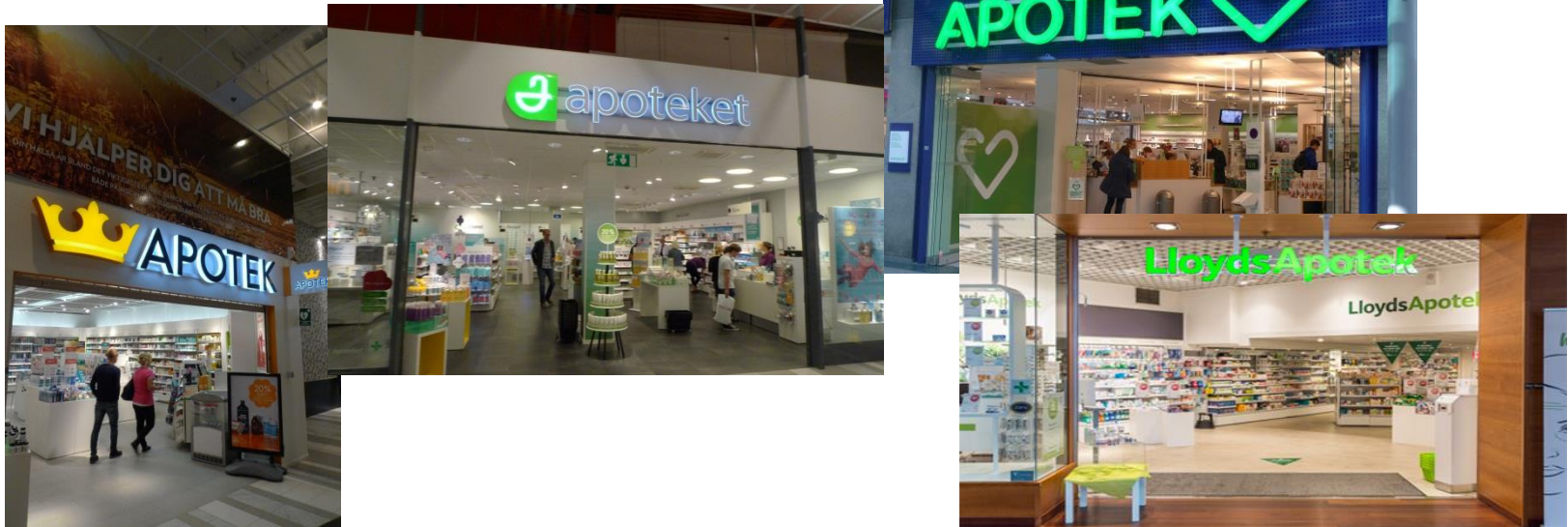
# Final set of quality indicators

- Does the pharmacy have a system, accessible through the pharmacy's website or by phone, through which the patient can pre-order prescribed medicines and get feedback from the pharmacy, enabling the patient to receive the medicines upon arrival to the pharmacy?
- Does the pharmacy have written instructions on counseling on the use of over-the-counter medicines (OTCs) in humans and animals?
- Does the pharmacy enable individual counseling in a private, wheelchair-accessible place on prescribed medicines and OTCs, where the counseling neither is visible nor audible to other patients or pharmacy staff?



# Final set of quality indicators, *cont.*

- Does the pharmacy offer pre-booked counseling on medicines and their use?
- Does the pharmacy have written work procedures for the pharmacy staff's deviation management and learning from negative events?



# Quality indicator data collection

- Web questionnaire the Medical Products Agency => all pharmacies in Sweden
- December 2014 – January 2015
- Response rate 81%
- Large variation in both response rates and fulfilled quality indicators among different pharmacy chains



# Conclusions 1(2)



- Collaboration and consultation with appropriate stakeholders throughout the process of big importance
- A small set of basic quality indicators a good starting point
- Operationalization of indicators into questions feasible
- Indicator data collection through a web questionnaire convenient

# Conclusions 2(2)

- Voluntary pharmacy publication of indicator data proposed
- Publication on independent organization's web site with appropriate search functions advisable
- A continuous future development from structure into process and outcome indicators crucial





tommy.westerlund@mpa.se