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Assessing healthcare quality and need for change

Development and use of quality indicators

Jozé Braspenning

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Overview

- Definition quality indicator
- Indicator development
  - exercise
- Indicators as (part of) an implementation strategy
- Effect measurements in implementation studies
  - exercise
- Conclusion

Quality indicator: QI

- Measurement
- Quality of care
- Change possible

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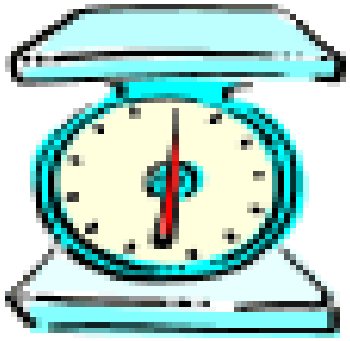
Measurement

- Valid
- Reliable
- Feasible



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

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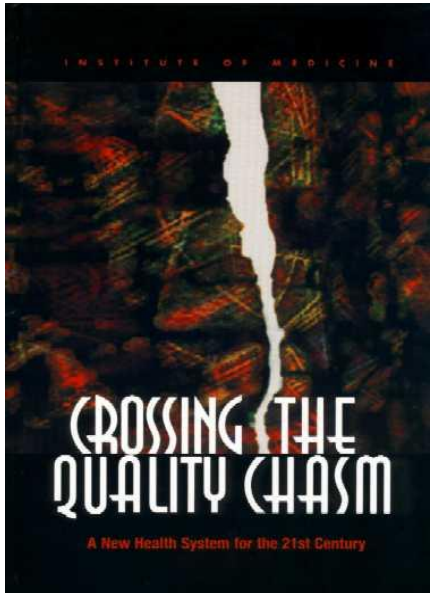
QI quality

- Safe
- Effective
- Patient centered
- Timely
- Efficient
- Accessible



IOM, Crossing the quality chasm, 2001

QI characteristic

Indicator

Oil

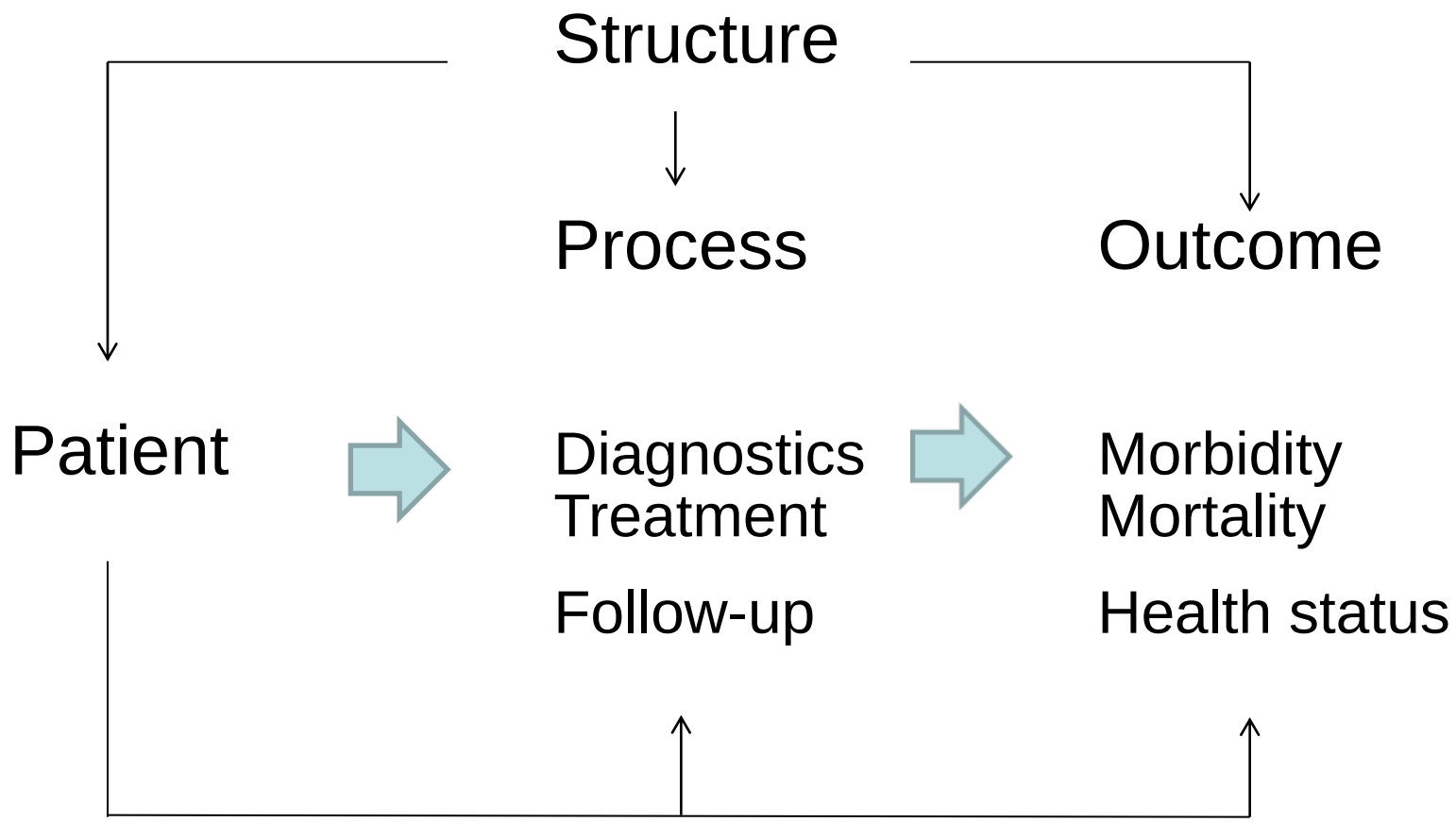
Light

Check level

Type of indicators (1)

- Structure — number of nurses per 1000 patients
- Process — checking on blood pressure
- Outcome — blood pressure below 140 mm Hg

Type of indicators (2)



QI example

Influenza vaccination people over 60 years

Number of people 60 years and older, who have been vaccinated against influenza , last year

---

Number of people 60 years and older in general practice

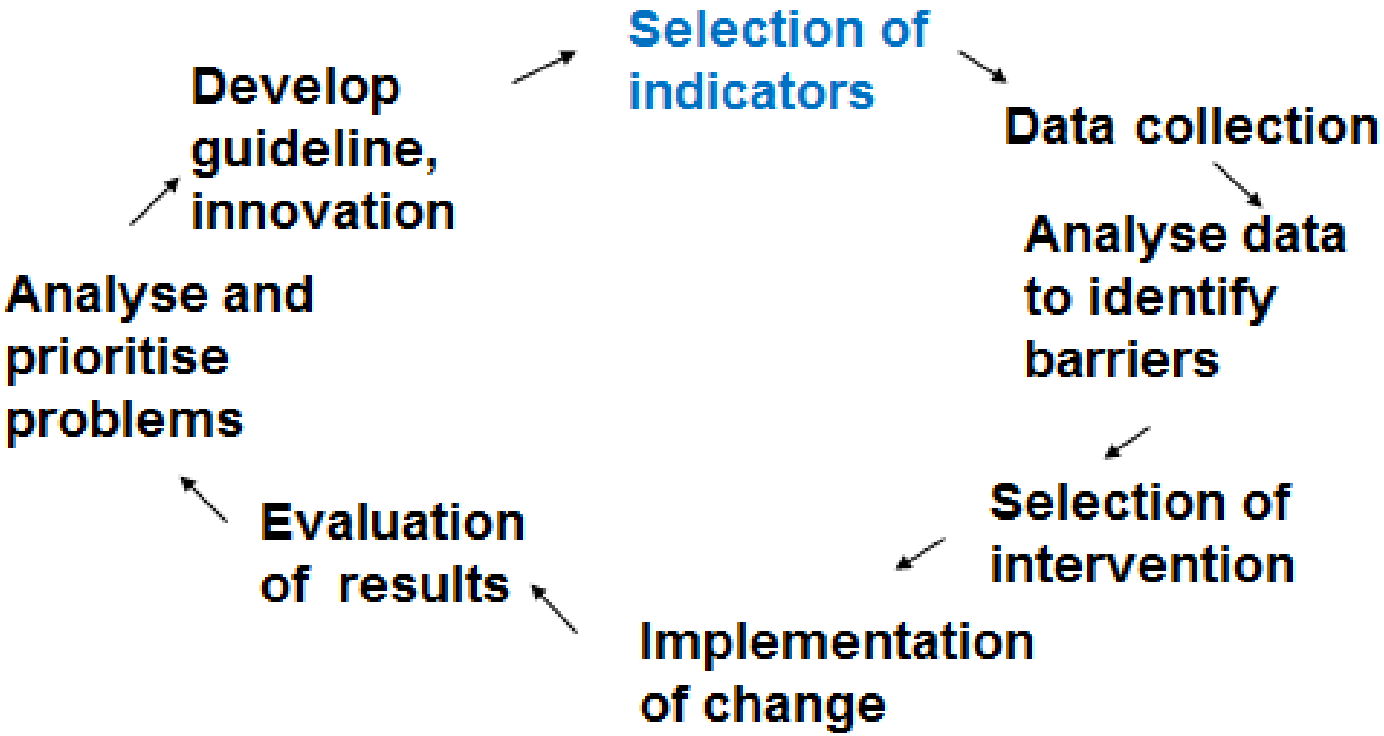
= 75.4% (LINH, Tacken 2011)

QI function

Indicates

- Need for change
- Change (pre and post measurement)

QI function



QI function

Ranking Web of World Hospitals

January 2011

home | world rank | rank by country | european rank | latin-american rank

> home > top Europe

Data

- About Us
- About the Ranking
- Top 2000 Hospitals
- Top USA & Canada
- Top Latin America
- Top Europe
- Top Asia
- Top Arab World
- Top Oceania
- Top Africa
- Distribution by Country
- Best Practices

Catalogue

- Hospitals by country

Top Europe

Hospitals 1 to 100 of 100

CONTINENT RANK	HOSPITAL	COUNTRY	WORLD RANK
1	University Clinic Heidelberg Universittsklinikum Heidelberg		25
2	Assistance Publique Hôpitaux de Paris		29
3	Landstinget i Östergötland		39
4	Centre Hospitalier Universitaire de Lyon Hôpitaux de Lyon		53
5	Graz University Hospital		56
6	Institute of Cancer Research Royal Cancer Hospital		58
7	Universitätsklinikum und Medizinische Fakultät Tübingen *		59
8	Hôpitaux Universitaires de Geneve		63
9	Universitätsklinikum Freiburg		68

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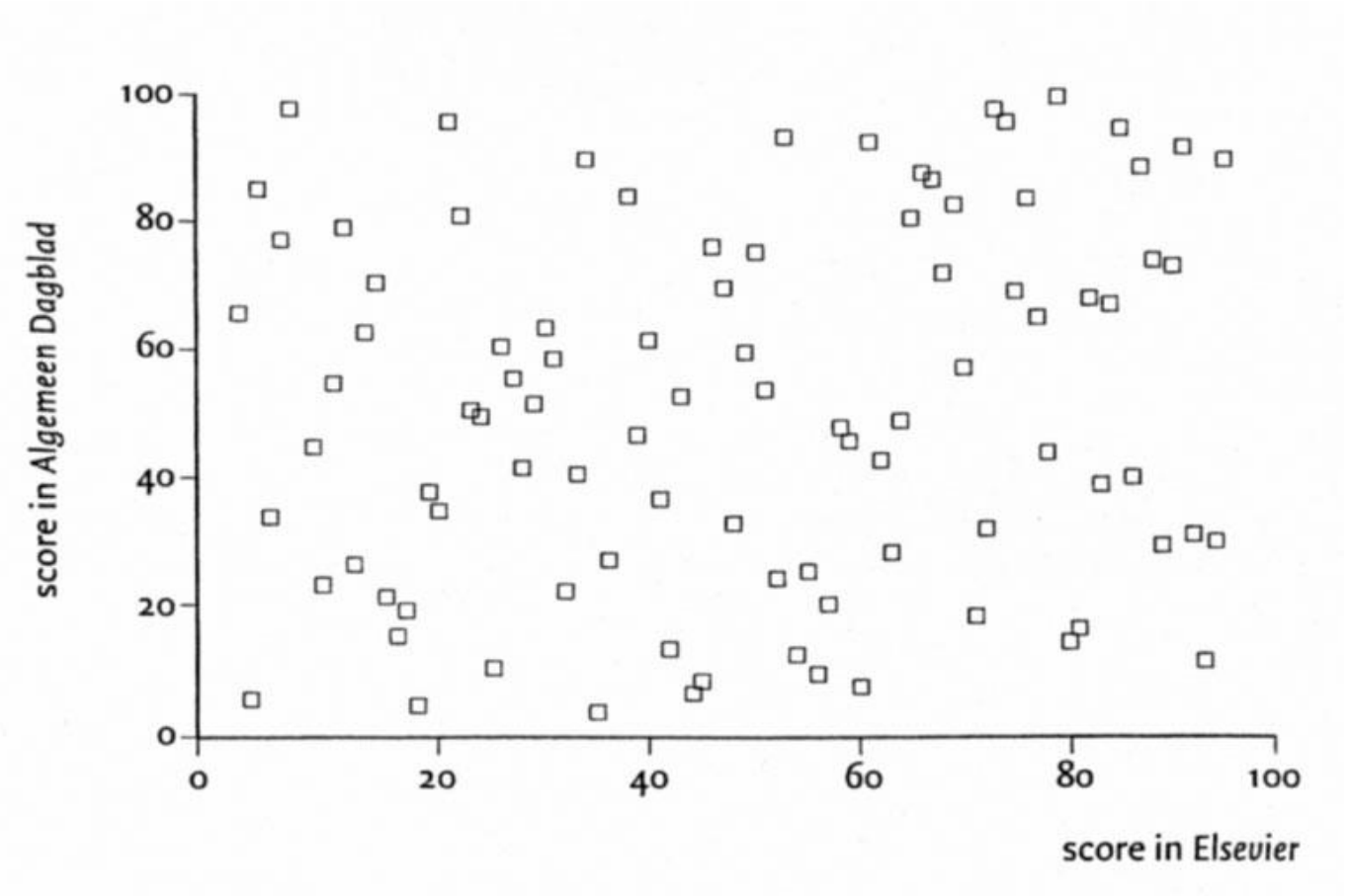
Dutch hospitals compared, r=0.14



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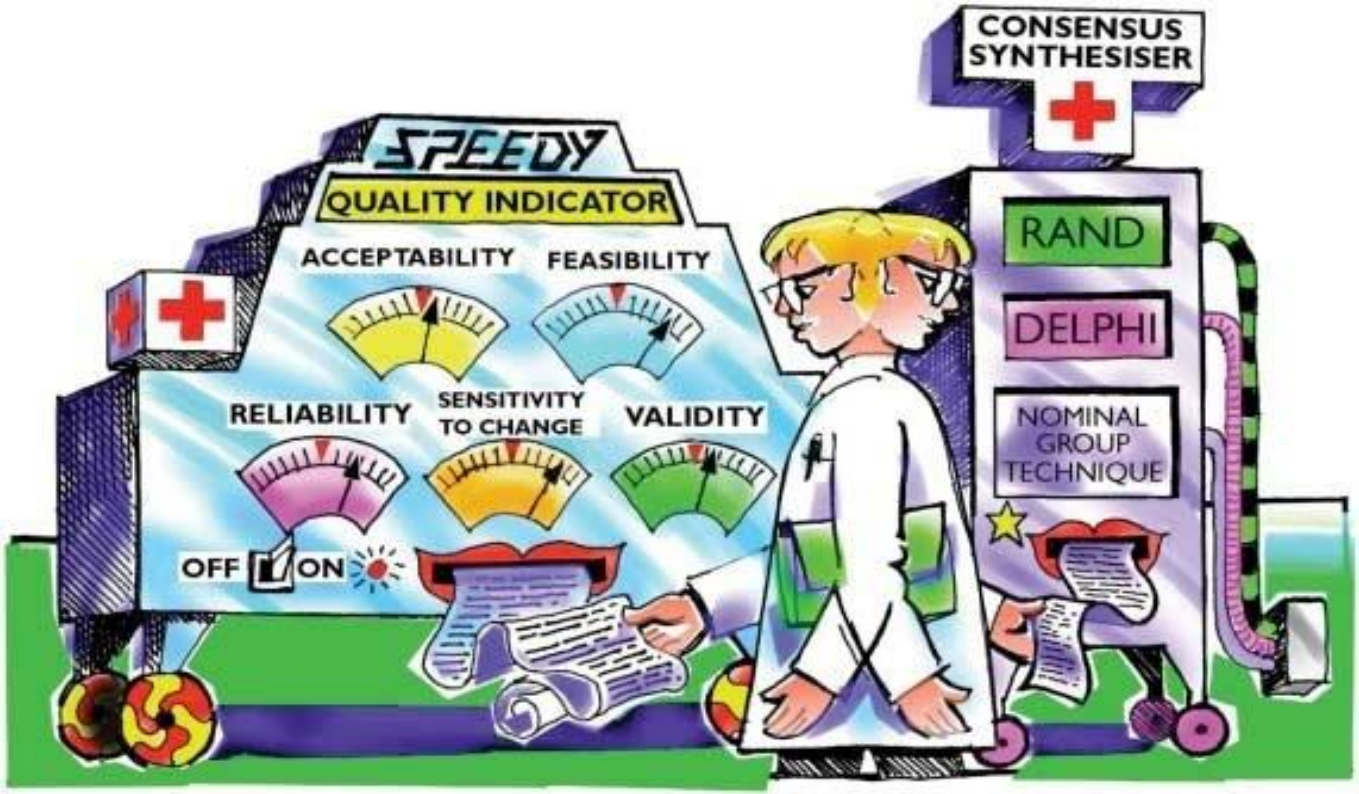
QI development

1. Accurate description of subject
2. Accurate description of subject
3. Accurate description of subject
4. ….

Campbell, BMJ 2003



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Five steps

Step 1: Aim target users

Step 2: Selection of indicators

Step 3: Consensus among target users

Step 4: Empirical test

Step 5: Feedback

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Aim target users

- As a basis for **quality improvement**: comparisons can stimulate and motivate change
- As part of **pay for performance** schemes (e.g. QOF)
- To **reward** perceived performance
- As part of **regulation** (e.g. of minimum standards)
- To assist **purchasing** (e.g. contracts)
- To identify areas of need for **future investment**
- To inform service **users**
- **Scientific** effect study: Pre and post measurement

-> Clear purpose and clear criteria by which to judge subsequent success

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Target users; perspectives

- Patients
- Professionals
- Purchasers
- Inspectorate
- Policy makers

- Scientists

Selection of QI (1)

Systematic approach

- Agencies
- Literature: indicators, trials

- Guidelines

Campbell, Braspenning BMJ 2003

Exercise: QI on low back pain

- Define subject
- Perspective: patient, professional, purchaser
- Describe nominator/denominator
- Structure, process, outcome

Selection of QI (2)

Description: 5 W's

Who?
What?
To Whom?
When?
In what way (how)?

Consensus (1)

- Panel members:
  - Who?
    - Target users; guideline experts
    - Indicator experts
  - How many?
    - 10-15 experts
    - Different groups for different target users?
    - … laymen

Consensus (2)

- Decision rules
  - Selection criteria
    - Health gain, efficiency, patient centered, …
  - Consensus criteria
    - Unanimous
    - Majority
- Procedure
  - Oral, written, combination

Empirical testing (1)

Number of DM patients with controlled HbA1c last year

Number of DM patients

Collecting data: Are there any problems?

Empirical testing (2)

Number of DM patients with controlled HbA1c last year

Number of DM patients

- Controlled HbA1c per patient?
- Prospective, retrospective?
- Yearly = 12 0r 15 months?
- Controlled by whom?
- Type 1 or 2

Empirical testing (3)

- More reliable data
  - Electronic medical records

- More reliable comparison between practices or doctors

- Gaming = threat to reliability

Empirical testing (4)

Validity

- Content
- Construct

- Predictive

Empirical testing (5)

Sensitive to change

Sensitive to discriminate

- Enough power

Feedback: benchmark

Comparing to

- Norm
- Mean, median
- Best practices
- Minimum

Feedback: benchmark

Comparison expressed as

- Smily, stars
- Numbers; quartiles

Diabetes care, N= 65 practices

Indicator	Practice Molenpoort, %	
Glucose control, at least three times		
HbA1c control		
Blood pressure control		
Cholesterol control		
Kreatinine control		
Eye exam, last two years		
Feet exam		
Complete risk profile		

Diabetes care, N= 65 practices

Indicator	Practice Molenpoort, %	Median %
Glucose control, at least three times		90
HbA1c control		93
Blood pressure control		95
Cholesterol control		89
Kreatinine control		90
Eye exam, last two years		75
Feet exam		70
Complete risk profile		53
Total		79

Diabetes care, N= 65 practices

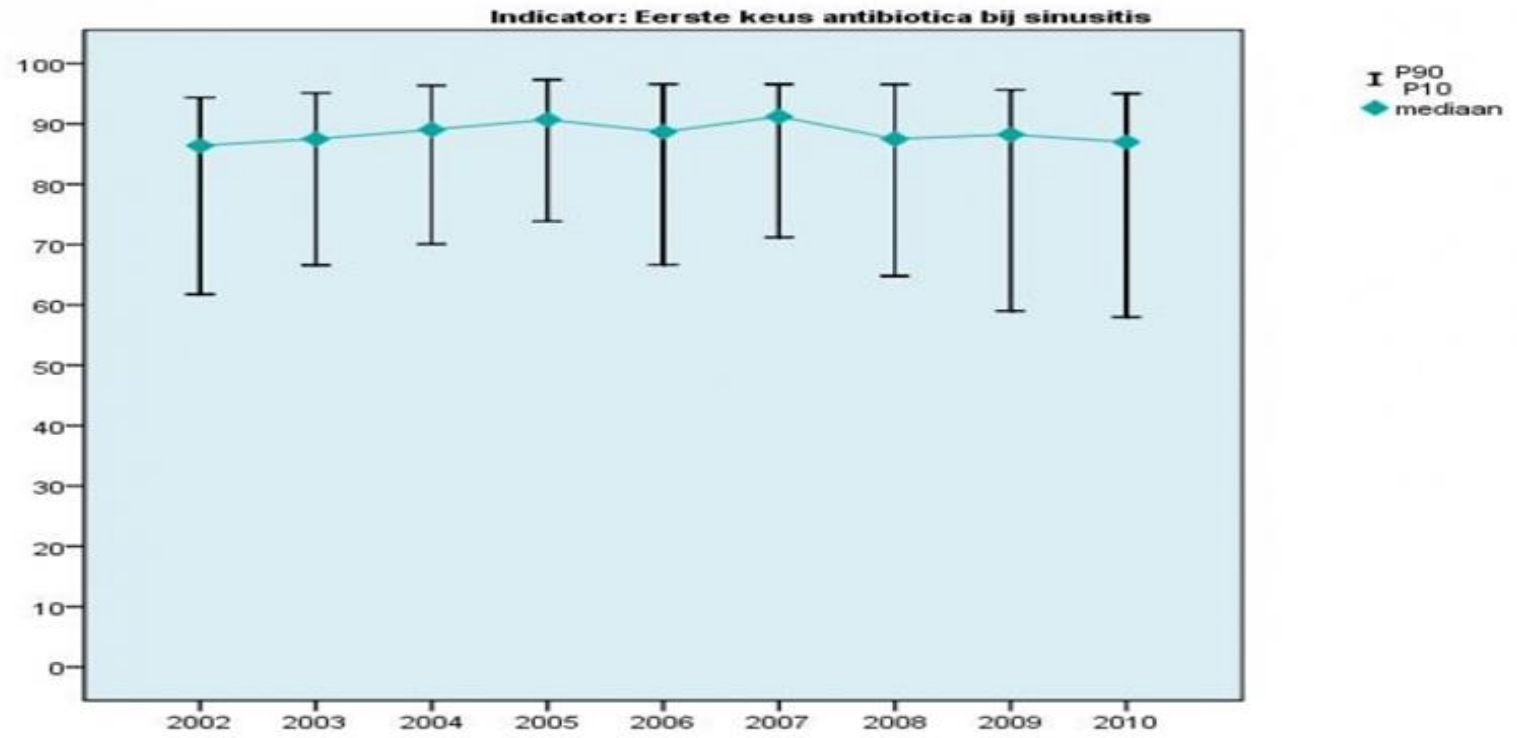
Indicator	Practice Molenpoort %	Median %
Glucose control, at least three times	78	90
HbA1c control	96	93
Blood pressure control	90	95
Cholesterol control	90	89
Kreatinine control	82	90
Eye exam, last two years	65	75
Feet exam	50	70
Complete risk profile	4	53
Total	69	79

Diabetes care, N= 65 practices

Indicator	Molenpoort, %	25th Percentile, %	Median %	75th Percentile, %
Glucose control, at least three times	78	77	90	96
HbA1c control	96	90	93	97
Blood pressure control	90	92	95	100
Cholesterol control	90	80	89	94
Kreatinine control	82	83	90	94
Eye exam, last two years	65	62	75	85
Feet exam	50	48	70	86
Complete risk profile	4	3	53	86
Total	69	71	79	87

Benchmarks

www.iqhealthcare-indicatoren.nl



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Indicators and implementation strategy

Indicators

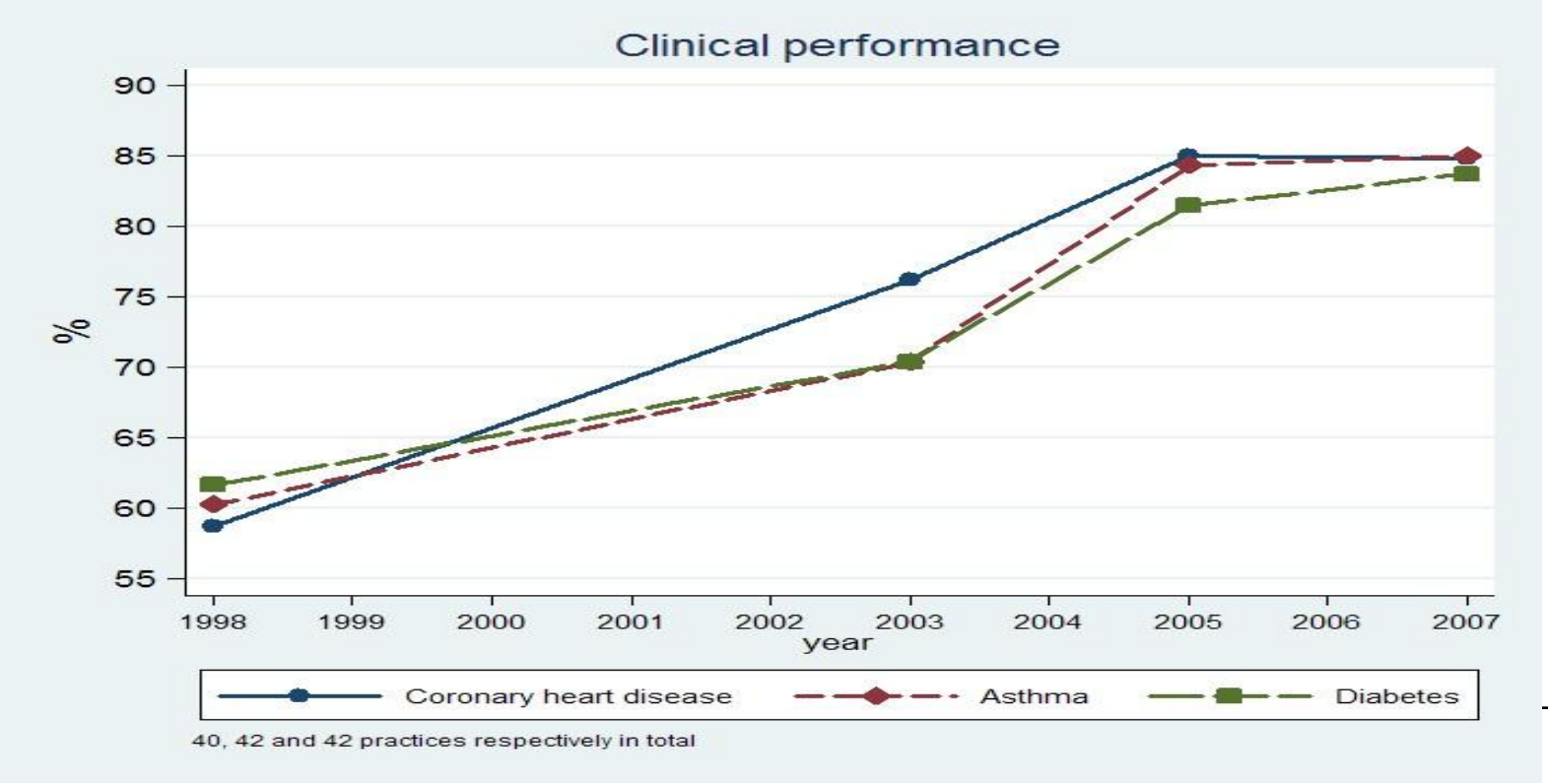
a) show need to change

b) are implementation strategy

c) can be used as pre and post measurement in effect study on implementation strategy

QOF: Effectiveness P4P

Campbell et al NEJM 2009



Mean Scores for Clinical Quality at the Practice Level for Coronary Heart Disease, Asthma, and Type 2 Diabetes, 1998 to 2007

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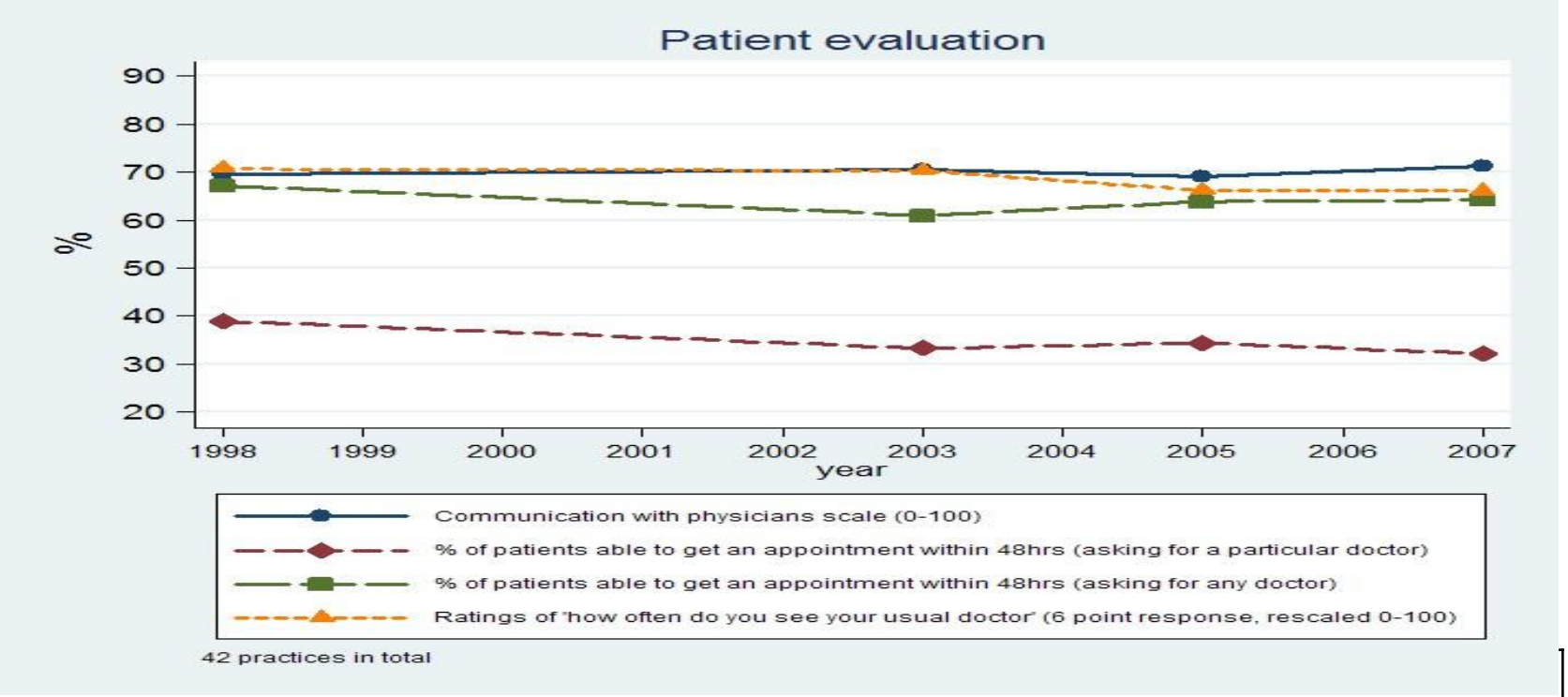
QOF: Effectiveness P4P

Campbell et al Ann Fam Med 2010



Mean Scores for patient evaluations of communication with their physician, access to care and continuity of care, 1998 to 2007

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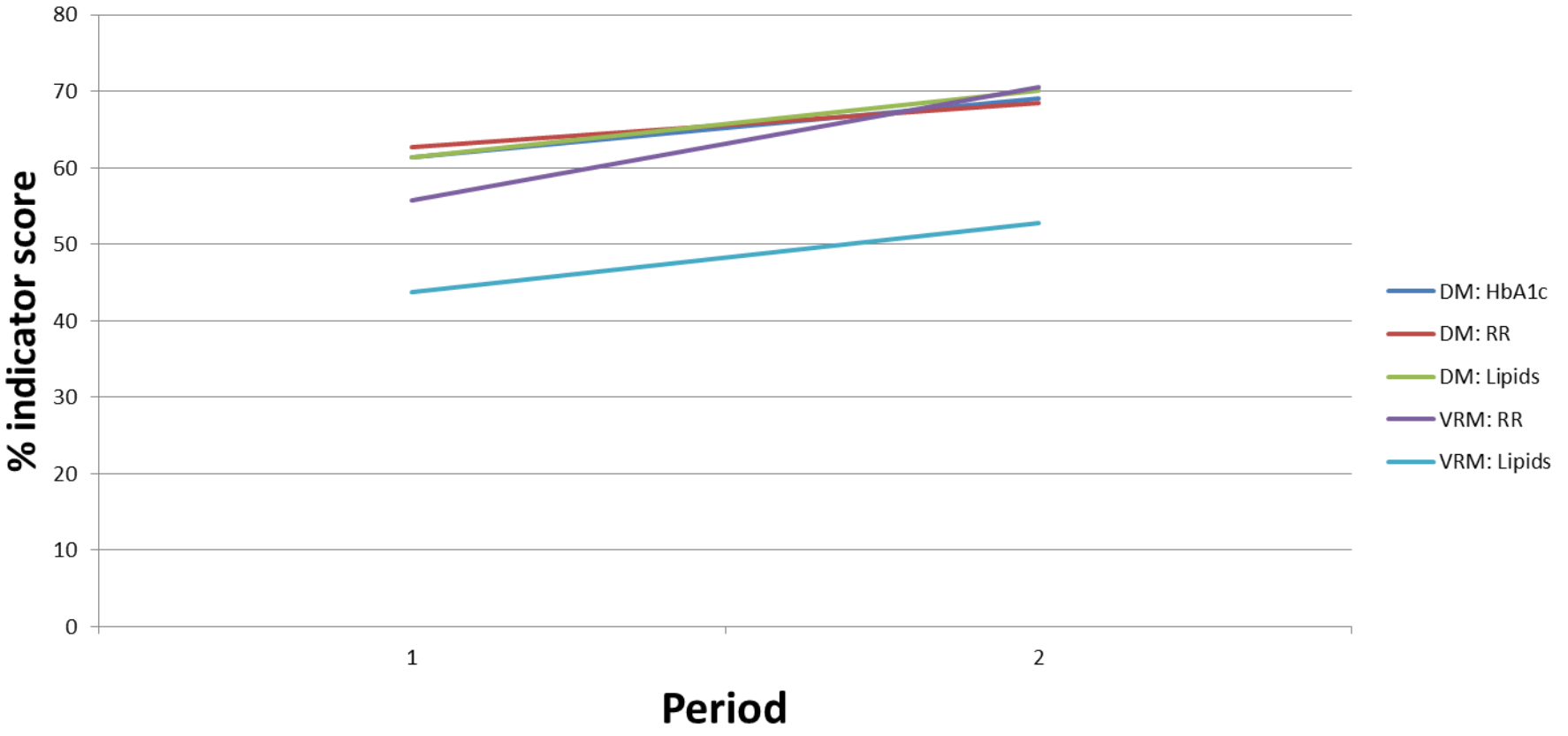
Dutch P4P experiment
outcome indicators in 57 GPs



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P4P effective?

Seems to stimulate quality improvement

- better administration
- better care

Inconclusive, Scott 2011 Cochrane

Focus = effective

Campbell S, N Engl J Med 2009

QI developments

- More outcomes
  - Patient reported outcome measurements (PROMs)

    Dawson, BMJ 2010
  - More total picture, Porter, NEJM 2010

QI developments

Summative assessment: assessment *of* learning

(pass or fail)

contrasted with

Formative assessment: assessment *for* learning

(non-judgmental & educational)

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Indicators in effect study

Example: Improving diabetes care

Implementation strategy

-To implement DM guidelines focus on lifestyle

- Tools

  -Motivational interviewing MI

  -Structural care: nurse, protocol, social map

Renate Jansink

Motivational interviewing

Four general principles

1.express empathy
2.develop discrepancies
3.roll with resistance
4.support self-efficacy

http://www.youtube.com/watch?v=nwctPFfyG8M&feature=related

MI in practice

http://www.youtube.com/watch?v=dm-rJJPCuTE

Diabetes care

In a nut shell

-Controlling

- Medication

- HbA1c
- Blood pressure, RR
- Lipids

Measurement in effect study

Exercise

Define

-Primary outcome measurements

-Secondary outcome measurements

Focus measurement

Study population
- Health professionals
- Patients

Focus implementation strategy is on …

Focus measurement is on …

Results MILD study, Jansink

Diabetes care:	no change
Patient's lifestyle:	no change no change in readiness to change
MI skills:	2 out of 24 items changed

Nurse invites patient to talk about change

Nurse determines confidence of patients in changing lifestyle

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Conclusion MILD study, Jansink

.....

Take home message

Aim of measurement

target users; science

Focus of measurement

innovation

Reliability & validity

Sensitive to change

Systematic & transparent

Dutch Guideline on Low Back Pain by Dutch College of General Practice, 2005

ABSTRACT

Terminology

Non-specific low back pain: back pain without specific causes (that is no evidence for radicular symptoms or underlying systemic disease {malignancy, rheumatologic diseases, fracture}). Pain radiating to the leg can occur.
Sub-acute low back pain: between 6 and 12 weeks
Chronic low back pain: longer than 12 weeks, comes back
Disability: not being able to do daily routine (at home and/or work); functional incapacity

Diagnose

Be alert on

- Lumbosacral radicular syndrome; radiation of pain into the leg
- Malignity; LBP after age of 50
- Osteoporosis spinal fracture; woman age over 60
- Spondylitis ankylopoetica; LBP before age of 20, male, high BSE
- Spinal fracture
- Spondylolisthesis; LBP before age of 20

History

- localisation, severity, duration, cause of pain, course
- radiation of pain into the leg
- effect of repose, movement and position on complaints; and course during the day (24 hours)
- disability during daily activity, sick leave, work situation
- earlier episodes of low back pain, course and treatment
- self-care and management until now

Next consultation: keep in mind psycho-social factors

Physical examination

After three weeks

- localisation of pain
- hindrances in staying active

Evaluation

Diagnose as non-specific low back pain if specific causes are unlikely.

Additional examination

X-ray is not necessary in case of non-specific low back pain.

Management

Management in case of acute low back pain (0-6 weeks)
Aim is to get patient as soon as possible to move again and function normally. Advise patient to make an appointment with the medical officer if the complaints seem to be job-related.

Explain
- innocent pain, cause unclear
- violent pain only a couple of days
- stay active to recover, no damage
- improve activities despite the pain, if not possible take some rest

No improvement after 2-3 weeks. Discuss extra activities within fixed time, and pain medication (time contingent).

Advice
If dysfunction continues consider referral to physiotherapist for more support. Be alert on psycho-social problems.

Medication
Step 1: Acetaminophen
Step 2: NSAID
Step 3: Acetaminophen or NSAID in combination with codeine

Follow-up
Instruct to come back in case of:
- after 1 week if extreme pain does not reduce
- after 3 weeks if no improvement in functioning

Management in case of sub-acute low back pain (6-12 weeks)
As for acute pain, but with active time contingent approach. Consider physiotherapy and psychologist. Make follow-up appointment to monitor progress. Speak with other care-givers at present.

Management in case of chronic low back pain (more than 12 weeks)
Explain
- hindrance decrease gradual with good and bad days
- patient needs to cope with complaints, accept status quo; no emphasize on disappearance of pain
- intensive training program stimulates normal functioning

Advice
Consider cognitive behavior therapy in case of psycho-social factors and center for job-related back complaints if relevant.

Medication
- Time contingent pain medication
- Prevent chronic use

Referral
- Suspicion of specific cause, refer to orthopaedist, neurologist or rheumatologist
- Enduring dysfunction refer to multidisciplinary team or treatment centre

INDICATORS FOR LOW BACK PAIN IN GENERAL PRACTICE

Read guideline abstract on Low Back Pain made by Dutch College of General Practice

Each group appoints someone who will present the outcomes of the discussion.

I. Determine subjects for quality indicators (choose and prioritise)

Assistance:

a. Use all parts of the consultation:
   To diagnose: history taking, physical examination, additional examination, evaluation
   Management: education, medication, other management, follow-up, referral.

b. Define criteria to prioritise.
c. Is it on structure, process or outcome?

II. Define the indicators

Assistance:

a. Choose at least three subjects
b. Describe them in a numerator and denominator
c. The higher the indicator the better the quality