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Implementation of clinical guidelines

Improving the quality of physical therapy

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IQ healthcare

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What is the problem??

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- *Many (chronic) patients (studies: 30-45%) do not receive recommended (evidence based) care*
- *Many tests ordered or medications prescribed not evidence based, unnecessary and potentially harmful*
- *Many best practices in chronic care management and coordination are not used*
- *Large, unexplained differences in quality between providers and in compliance with treatment in patients*
- *Improvement, even after well developed implementation programs, is usually small and slow*

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Changing "fashions" on how to improve patient care

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- In the '80s and '90s **self-regulation** of professionals or institutions (professional education, licensing physicians, clinical guidelines, peer review, clinical audit and feedback)
- '90s: emphasis on "**system change**": improvement of organization, redesign of processes, lean management, TQM, Disease Management, Safety and Risk Management
- Now: emphasis on **external control and transparency**, financial incentives for quality, public reporting, and **patiënt choice and empowerment**
- **Next "fashion"?**

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Improving practice: the evidence

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Overviews of systematic reviews show (Grol and Grimshaw Lancet 2003, Grimshaw et al 2004):

-no evidence that one of many many (new) approaches to KT and QI is superior for all problems;

-improvement, even after well prepared interventions usually moderate (5-10%), but potentially relevant for patients

-many new interesting strategies and approaches have not been evaluated well (based on beliefs or good experiences)

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A few lessons about implementing improvements

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- Improving patient care is more complex than most policymakers and change agents think: ***naive thinking***
- Valid and reliable data on quality needed to create ***awareness***
- Problems with change (and solutions) to be found at different levels of care provision- ***many factors play role,*** good understanding is crucial
- Sustained change: steadily and consistently ***pushing in right direction*** until conditions for change at different levels are present
- Demands a ***systematic and well planned approach*** to improving care

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Systematic approach to improving patient care

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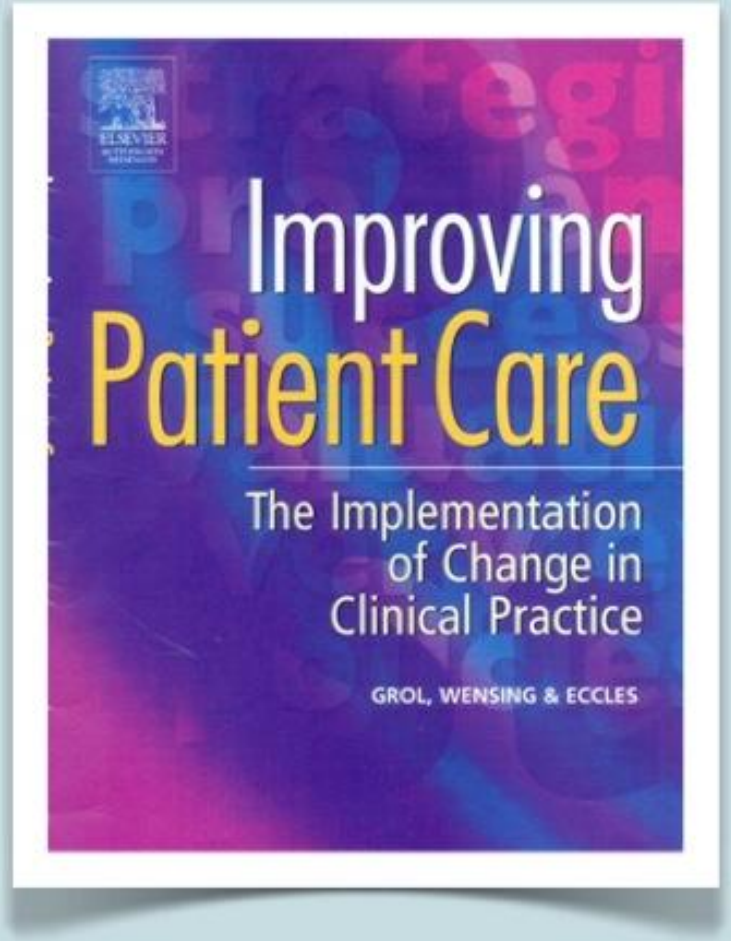

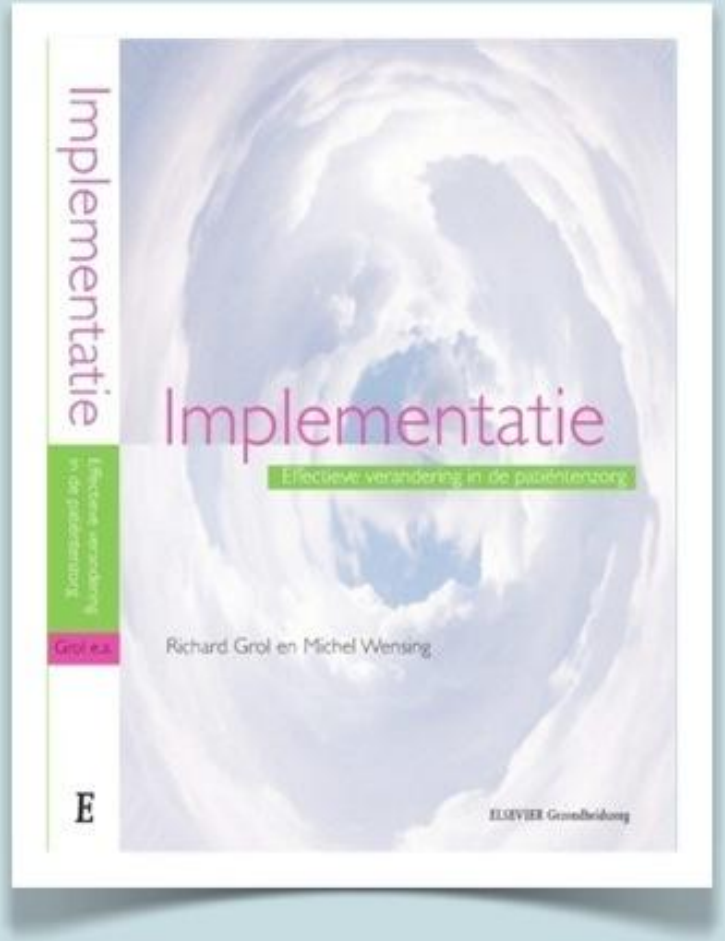

Prevention of infections and improving hand hygiene

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- 5-10% of patients in hospital get infection (Neth: 5,7%)
- USA: 1,7 million people get infection in hospital, 100.000 die, annual costs related to infections 30 billion dollars
- 20-40% are estimated to be preventable

"appropriate hand hygiene single most effective preventive measure" (Pittet 2004)

But.. adherence is very low (<50%)

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Study on hand hygiene in three hospitals (Brink et al, IQ 2009)

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Observations on 47 wards on adherence to national guidelines for hand hygiene by nurses (3500 observations: % correct performance)

- Hospital A 37%
- Hospital B 33%
- Hospital C 19%

WHY??

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Problems experienced in hand hygiene (N=120)

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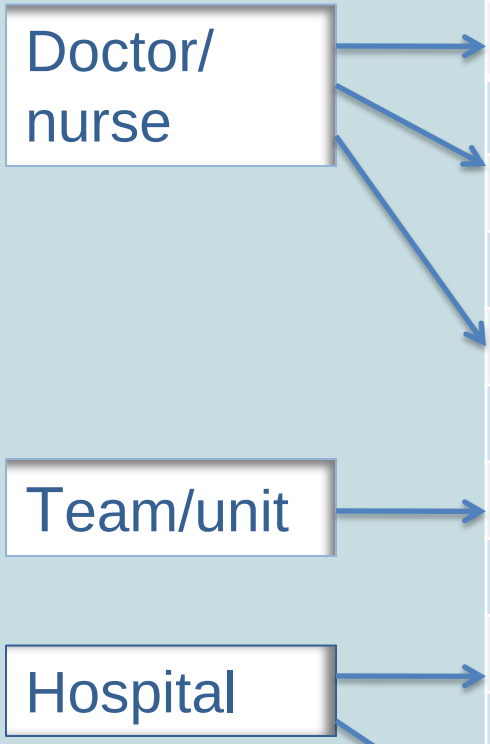

Cognitions	**See no complications**	**61%**
	No hard evidence	**43%**
Attitude	**Irritation of hands**	**81%**
	Takes too much time	**50%**
Routines	**Forgetting rush hour**	**65%**
	Falling back old routine	**49%**
Social influence	**Nobody controls**	**50%**
	Manager not interested	**45%**
Organisation	**Not feasible in process**	**61%**
	No protocols/guideline	**49%**
Resources	**Sinks, soap, rub tissues**	**42%**

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Influence of role models on hand hygiene (Lankford et al 2003)

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Observations of 721 hand hygiene opportunities:

Health care workers in room with higher ranking medical staff person, who did not wash hands, were less likely to wash own hands (odds ratio .20)

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Study on hand hygiene in three hospitals (Brink et al, IQ 2009)

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Impact of two approaches: state of art (feedback, posters, education, alcohol rub, etc) versus extended approach (team and leadership training)

- State of art approach +24%

- State of art approach + team and leadership training +34%

Interpretation: crucial role of team work and leadership development in introducing complex changes

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Lessons learnt about effective change in case of complex problems

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- Breakthrough with simple measures will often fail in complex problems; many factors play a role

- ***Systematic, sustained, step by step approach with a variety of measures at different levels needed:***
  - clear, “sticky” message; good overview of evidence
  - consensus, agreed protocol for unit/practice
  - modelling by “leaders”, team approach
  - control by management
  - monitoring and feedback on routines and outcomes
  - equipment (alcohol-rub at each bed or pocket)
  - target (hygiene) part of ‘culture’ of team, unit and hospital

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Sustained improvement of patient care

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…is usually influenced by a complex mix of factors related to (Grol et al, Milbank Q 2006):

- Innovation (eg guideline)
- Individual professional
- Social context: peer group, social network, patients
- Team and collaboration
- Organizational context
- Wider political and economical context

Change interventions need to be tailored to those factors

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Factors in clinical; guidelines determining their use

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Different studies (Grilli 1994, Grol 1998. Foy 2002, Burgers 2003) showed better adherence for guidelines that are:

- Less complex
- Can be tried without risk before use
- Scientifically sound
- Compatibel with existing values among professionals
- And do not demand major changes in fixed routines

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Hypothesis: involving patients in decisions helps to implement guidelines

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Systematic review of 55 studies on impact of decision-aids (O'Connor 2009): decision-aids increase knowledge and involvement in decisions of patients, but impact on actual decisions mixed

Question: under what conditions will DA impact patient choice?

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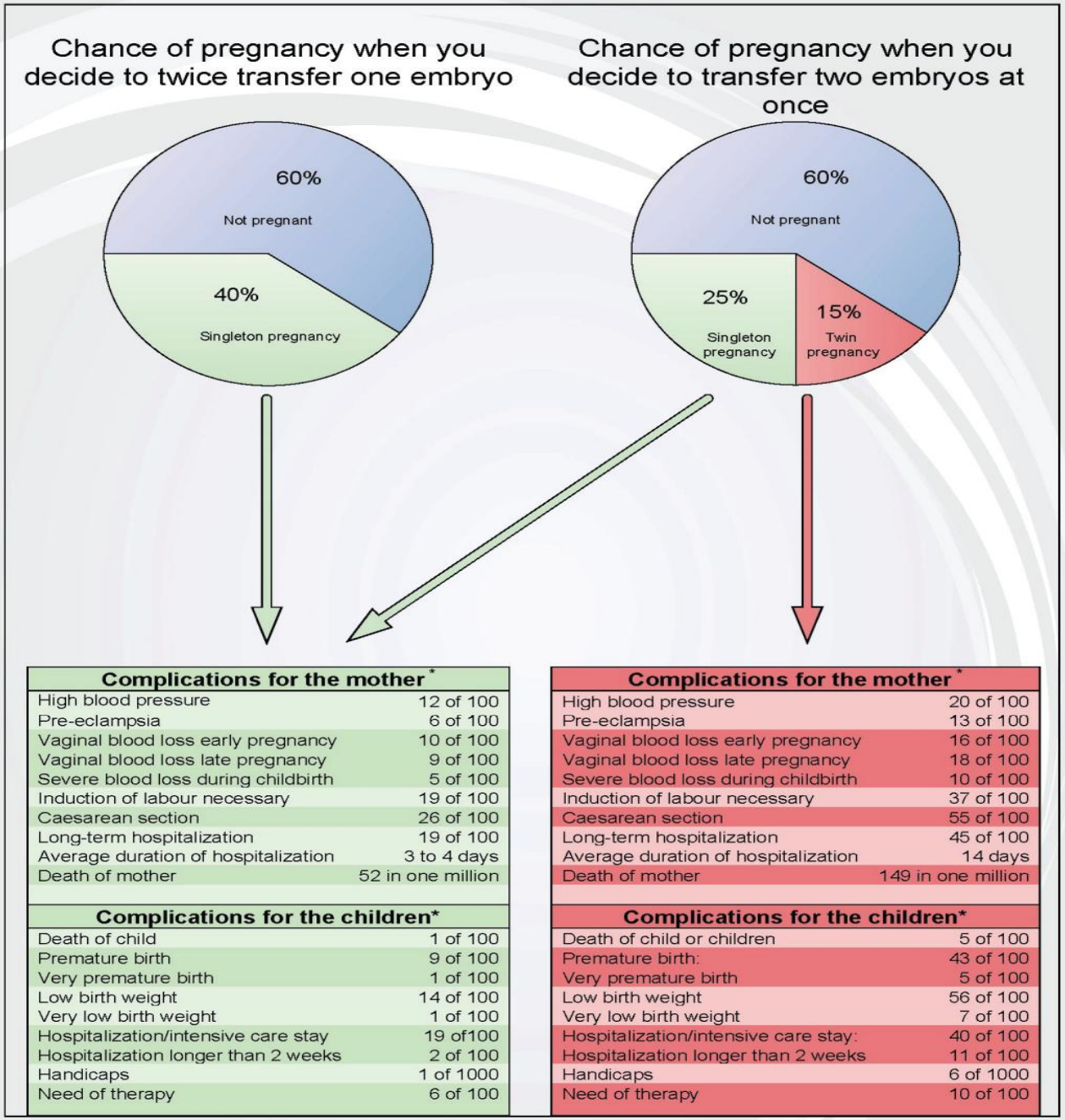

Complications for the mother *	
High blood pressure	12 of 100
Pre-eclampsia	6 of 100
Vaginal blood loss early pregnancy	10 of 100
Vaginal blood loss late pregnancy	9 of 100
Severe blood loss during childbirth	5 of 100
Induction of labour necessary	19 of 100
Caesarean section	26 of 100
Long-term hospitalization	19 of 100
Average duration of hospitalization	3 to 4 days
Death of mother	52 in one million

Complications for the children*	
Death of child	1 of 100
Premature birth	9 of 100
Very premature birth	1 of 100
Low birth weight	14 of 100
Very low birth weight	1 of 100
Hospitalization/intensive care stay	19 of100
Hospitalization longer than 2 weeks	2 of 100
Handicaps	1 of 1000
Need of therapy	6 of 100

Complications for the mother *	
High blood pressure	20 of 100
Pre-eclampsia	13 of 100
Vaginal blood loss early pregnancy	16 of 100
Vaginal blood loss late pregnancy	18 of 100
Severe blood loss during childbirth	10 of 100
Induction of labour necessary	37 of 100
Caesarean section	55 of 100
Long-term hospitalization	45 of 100
Average duration of hospitalization	14 days
Death of mother	149 in one million

Complications for the children*	
Death of child or children	5 of 100
Premature birth:	43 of 100
Very premature birth	5 of 100
Low birth weight	56 of 100
Very low birth weight	7 of 100
Hospitalization/intensive care stay:	40 of 100
Hospitalization longer than 2 weeks	11 of 100
Handicaps	6 of 1000
Need of therapy	10 of 100

* The risks described are applicable at the moment you ARE PREGNANT with a singleton or twin.

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Decision-aid for IVF couples on choice of placing twice one embryo (eSet) or two embryo's at once: overview of benefits and risks

(van Peperstraten, 2010)

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Study to test impact of decision aid in fertility care
(van Peperstraten et al, PhD thesis 2009)

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Intervention program:

- Decision-aid with risks and benefits to stimulate eSet
- support by IVF nurse
- extra IVF cycle reimbursed, because of reduced pregnancy chance

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Impact of DA on IVF

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RCT to study impact of combined strategy versus no strategy (van Peperstraten thesis 2010)

- Couples in intervention group chose more for eSET (52%) compared to control group (39%),
- Couples in intervention group more knowledge, reported more informed decision making
- Cost reduction 117 Euro per couple

Effect determined by decision-aid and reimbursement, but support nurse and advice physician seen as crucial

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Hypothesis

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"Systems are responsible for bad quality,

Organizational and structural conditions need to be in place to achieve sustained change

Summary of 22 reviews (Wensing et al 2010):

Multi-disciplinary collaboration, coordination (case management) and structuring of care processes effective in care for chronic patients

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PhD project: diabetes care primary care

(van Avendonk et al WOK, 2005)

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Audit on 1432 diabetes patiënts with 18 indicators derived from national evidence based clinical guideline :

- 53% of patients had HbA1c < 7%
- Average score for 10 process indicators: 49%
- ***Organizational factors:*** *availability of practice nurse and structured diabetes clinics in practice: 10% increase in indicator-scores for HbA1c and care processes*

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Effects of restrictive methods to reduce antibiotic use

(Davey et al, Cochrane review 2006)

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66 studies with 60 interventions to reduce antibiotic use (various aims):

- In most studies (70-80%) a significant effect was found on AB use, infections and clinical outcomes
- **Restrictive** methods (autorisation by colleague, formularia, automatic stop orders, etc) more effective than **educational** methods (CME, information, feedback, reminders, outreach visitors, use of opinion-leaders)

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Health care is managing of extreme complexity

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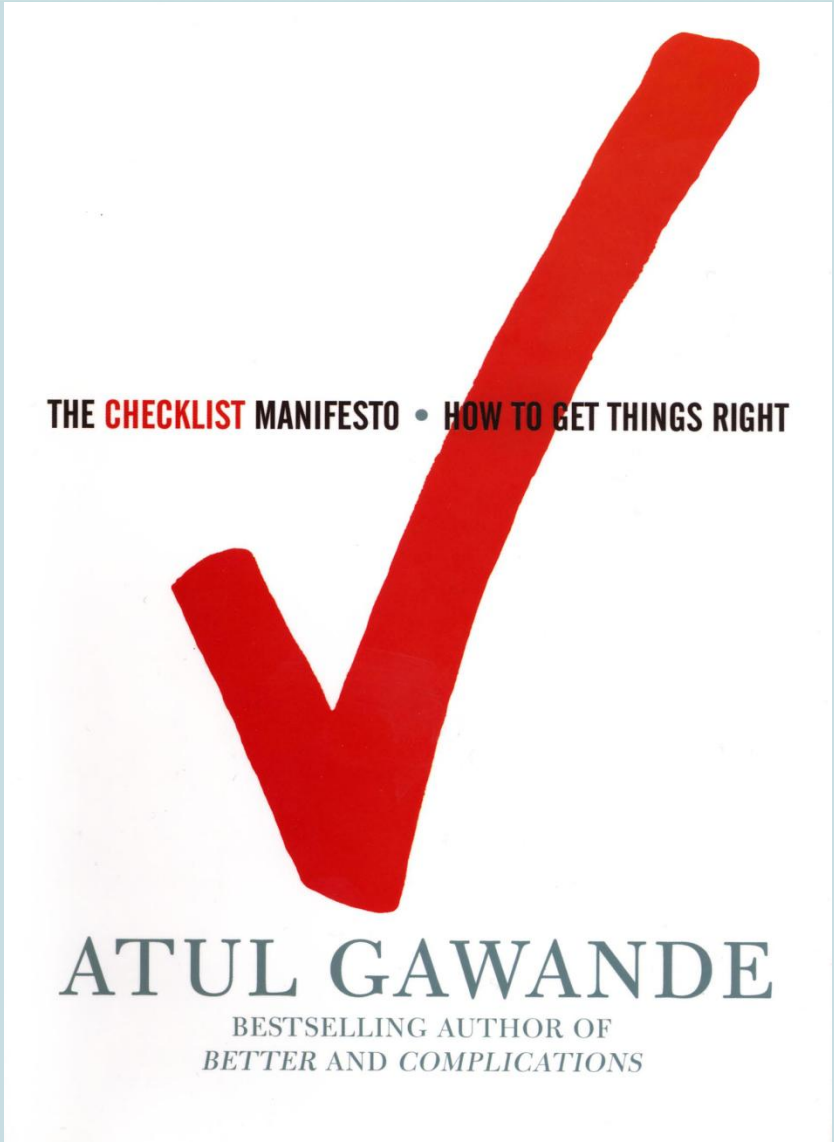

"Healthcare too complex to leave to control and decisions of individual clinicians; human memory and attention needed is fallible in complex care; therefore we need teamwork and checklists"

Example: patiënt on IC needs 170 actions per day; error in 1-2%

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Central line-catheter infections Intensive Care

(Pronovost et al NEJM 2006, Pronovost 2010)

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Study 50 hospitals in Michigan

- Checklist used by nurse

Result: *66% reduction of infections, 2000 lifes saved*

Interpretation: checklist important, but only effective in case of support by top-management, teamwork and physicians accepting control on their work

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Hypothesis

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"Systems are often responsible for bad quality, but professionals are usually responsible for failing systems"

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Why are clinicians not involved in or committed to improving quality: hypotheses (agree/disagree?)

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- See it as top-down action of managers, as bureaucracy
- Lack of leadership and clear targets, policies and support
- *Unawareness, lack of feedback and insight in own performance, no sense of urgency, "this is not my problem"*
- Feelings of infallibility, not knowing your own limitations, resistance to admitting mistakes and being accountable to others
- Stuck in fixed routines, fear of innovation and instability
- No knowledge, skills in quality improvement, no external support

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Impact of feedback on performance

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Much unrealistic optimism: most clinicians overate the quality of performance (Davis JAMA 2006), feedback may give insight in performance and increase "sense of urgency" for improvement

Systematic reviews show that ***feedback*** can contribute to better quality and safety of clinical care, but mostly when it comes from a reliable source, is recent, gives advice on how to do better and is repeated regularly (Jantved 2006, van der Weijden 2005)

And when it is ***integrated within a wider system of quality improvement, education and support***

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Interactive education and feedback reducing unnecessary testing

(Verstappen et al, JAMA2003)

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Intervention program for groups of family physicians :

- Written feedback on test ordering, comparison with peers
- Local group sessions of 1,5 hours, each on new topic, with trained moderator:

  -discussion of feedback and exchange of change problem

  -discussing national guidelines: local consensus

  -individual and group plans for change

  -exchange of best practices of improvement

  -follow-up: reminder and control of changes

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Effect small group quality improvement on test ordering
(Verstappen et al, IQ, JAMA, May 2003)

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Study among 200 physicians: RCT with a block design (half got intervention on 3 problems (tests A), other half on 3 other problems (tests B)

Intervention group
compared to controls: -15% to -17% reduction in tests

- Comparison with feedback only: no effect of feedback!
- **Conclusion:** feedback effective when integrated in system of continuous quality improvement with peers

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Hypothesis: (political)context for improvement

Effective prevention in primary care
(flu vaccination, cervical cancer screening, managing cvd-risk)

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National level: guidelines, educational packages; computer software; financial incentives

Regional/local level: education to local groups of doctors/nurses; regional arrangements; regional coordinators and visitors

Practice level: outreach visits and “tailored” support by trained facilitators to practice teams

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Why was this intervention (not) successful?

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- Program well prepared: pilot before wide implementation
- Limited number of clear and well defined targets
- Variety of interventions and measures at different levels
- Combination of top-down and bottom-up actions
- Expert support to practices by trained facilitators
- Financial incentives for extra work
- Political support and pressure by government and professional bodies

but project collapsed after conflict government and professional bodies about payment GPs

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Why transformation efforts fail?

(John Kotter HBR1998)

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"The most general lesson to be learned from the more successful cases is that the change process goes through a series of phases that, in total, usually require a considerable length of time. Skipping steps creates only an illusion of speed and never produces a satisfying result.

A second very general lesson is that critical mistakes in any of the phases can have a devastating impact, slowing momentum and negating hard-won gains"

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A few lessons

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Good luck with making the impossible possible: implementation of guidelines