Achieving “value improvements”
Changes which improve quality and save money
Evidence and Local Implementation

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Do the savings pay for the cost” - hand up for yes
3 For women experiencing heavy uterine bleeding, a video of the treatment options and outcomes, a booklet, and nurse coaching to help them express their preferences
- lower hysterectomy rate & greater satisfaction
- lower mean overall service costs: $1566 vs $2751 in controls (Kennedy et al 2002)
- Lower costs probably pays for intervention after 3 years in Integrated health system

Hands up if “Yes, the savings pay for the cost”
1 Lectures to physicians about how to communicate better with patients. Yes? No?
Effects: no behaviour change, or rapid decay
Logic: Cost of education does not lead to change in practice, & unlikely to affect patient behaviour or events

Hands up if “Yes, the savings pay for the cost”
2 Daily dose Blister packs for medications
- Low cost, relative to likely savings due to documented improved adherence
- Improved adherence likely to lead to less use of provider, if appropriate prescription
= possible improved quality and less waste
- ?When does improving prescribing give a ROI?

Hands up if “Yes, the savings pay for the cost”
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Hands up if “Yes, the savings pay for the cost”
4 Medication reconciliation enabling patients and providers together to check the accuracy of their prescribed medications, when moving from one provider or unit to another
- Unknown if saves more than it costs – probably
- Evidence of discrepancies and ADEs
- Cost of time and system may pay for itself

Session purpose – best answer to 3 questions:
Q1 Will this change improve quality and reduce costs?
- (how do I predict?)
- Q2 What conditions do we need to complete this change in our service?
- (how do I assess if we have the conditions needed to complete the change?)
- Q3 What do I need to do to complete this change in my service?
- Junior with an idea, Lead clinician, Project leader, Sen
Answers
1) Knowledge based implementation: evidence, theory and practical experience
3) Practical implementation: improving your ability to make improvement change

Evidence of QI and leading improvement
Leading improvement effectively
Review of research, Leading Evidence Informed Value Improvement

Evidence and experience I will share
- Quality economics research & projects in Sweden and Norway 1999-2009
- 2009: 2 systematic reviews

Does improving quality save money?
Evidence: Do changes to patient-provider relationships reduce costs to health service providers?
Evidence: Does clinical coordination improve quality and save money?

2010 – 2020 decade of less resources available for healthcare
Option 1: cut budgets, reduce staffing = lower quality, lower safety (= higher costs)
Option 2: improve efficiency and reduce waste = we do what we can, but slow, and resistance from clinical personnel, and few investment resources to make sure change effective
Option 3: select value improvements indicated by research (united support), implement competently, and account for investment resources

Part 2: What is a “value improvement”?
Examples of value improvements
1) “Read back” now used consistently to confirm message received and understood
2) Reduced infection rates in ICU through changing care practices
3) After-hospital support for people treated for heart attack
4) Chronic illness patients education using trained patient

Types of value improvement
- Test/Diagnostic
- Treatment – new or more selective use
- Work practice (Transitions/H-Over)
- Service delivery model (team, CCM)
- Service organisation redesign (process improvement)
- Management method eg financing incentive
One vote – choose a definition
A value improvement is a change, which achieves
1) Lower cost service
2) Service changes which most patients value more than the “old service”
3) Reduces waste and improves patient experience and/or clinical outcome
(and may reduce costs or provide a return on investment)

Why now?
• Making change is expensive, time consuming and often unsuccessful
• Needs sustained motivation and methods by key stakeholders
• Emotions and Politics of change under-estimated
  ▪ Something I value. Inspired, desired, feel good
  ▪ What do we gain or loose from this?

Why now?
• Changes with the potential to save money and improve quality…
  …can gain united support from different stakeholders needed to act or agree to action
  ▪ Patients want better quality and deserve it,
  ▪ Clinicians want to improve outcomes,
  ▪ Managers and purchasers need to increase efficiency and reduce costs

Evidence showing a change improves quality and saves money?
Limited strong evidence of both QI and economic outcomes
Next is some research to help your local assessment
Transferability warning:
• 20% strong evidence
• 30% your implementation competence
• 50% your context – financing, regulations
Evidence helps choose a solution

The research MMC costing programme - 3 reviews of evidence, & studies since 2000

Part 3a: Evidence of poor quality costs
Typical Loss, to the average provider (medicare payment)
(longer length of stay and extra treatments):
• $2,400 pressure ulcer
• $16,000 postoperative sepsis;
• $6,000 postoperative hemorrhage
• $8,500 postoperative embolism and deep vein thrombosis;
NB - Even after reimbursement for the extra treatment
Zhan & Friedman 2006) (see also HFMA 2006).
Poor quality – avoidable suffering and costs

**How many wrong site surgeries a week in USA?**
- 5, 10, 40 a week?
- 5,000 patients a year die from hospital acquired infections in England = 1.4bn cost to NHS of 100k HAI
- A typical USA PCP coordinates care with 299 other doctors in 117 different practices (Pham et al 2009 Annals Int Med)
- 46 year old female with CHF, COPD, and Depression – 54 treating physicians, 34 different prescribers and 21 pharmacies
- 185 prescriptions ($8,388 on drugs) Total one-year costs of $36,513
- 5% of annual operating budget - Staff turnover costs USA – less expensive to pay each nurse additional 30% of salary to stay, or those leaving a "staying bonus" of 85% of salary to keep

Where to look for avoidable poor quality/high cost

| Hospitals | ICU, ER, OR, Radiology, Outpatients, Discharge planning & all "in betweens" |
| Primary health care | Diagnosis, avoidable referrals and admissions, prescribing, chronic care and multiple morbidity |
| Nursing homes | Mental health – stop some treatments, Pressure ulcers, falls, prescribing, avoidable admissions, MRSA, shift handovers |
| Health/welfare system | Transfers and patient information handovers, chronic care |

Part 3a: Evidence of waste – the opportunity

- **Over-use** (no medical benefit)
  - Tests and antibiotics
- **Under-use** of effective treatments
  - 79% of eligible heart attack survivors fail to receive beta blockers or anticoagulant to prevent thrombi
- **Miss-use** (esp. miss-diagnosis 10%-15%)
- **Under-coordination**
  - 50% GPs – 70% reported late discharge summaries "often" or "very often", 90% reporting a "compromised clinical care" and 68% "compromised patient safety". One summary arrived 11 years late

Part 3b: Evidence of changes effective for reducing waste and improving quality

- See the 3 studies – some examples follow

But will the cost of solution be more?

- We may save resources, but will we save money?

Savings depend on

1) Effective solution
2) "Spend cost" of the solution
   - Spend cost can be high or low for different services – ease of implementation
3) Context – paid for never events? Regulations?

Many claims: "The UK NHS could save more than £9bn/yr by making 8 high impact changes" – CNO

- £7.3bn Stop malnutrition and dehydration
- £ 10m reduce caesarian sections

Questions:
1. Evidence of intervention effectiveness?
2. Our Swedish research shows cost of implementation – high and low
UK claims about savings – can you scale-up demo projects?

- Better clinical processes
  - Implementation of productive ward - £1300m
  - Reduced length of stay - £1230m
  - Reducing f/u out patients - £1230m
  - Reduced readmission rates - £118m
  - Improved quality of care
    - Better management of leg ulcers, preventing readmission - £1050m
    - Reducing HCAI - £1000m
    - Reducing drug errors - £750m
    - Implementing NICE guidelines - £600m
    - Improved nutritional care - £130m
    - Improving stroke pathway - £36m
    - Reducing falls in hospitals - £15m
    - Better management of diabetes patients when in hospital - £105m

Our Swedish research – Service accountants using routine data - Savings in first year

- 100,000€ Better coordinated care planning before discharge in hospital geriatric unit (1050 410 SEK)
- 14,000€ Review of medications in one home for older people (146 350 SEK)
- 71,000 – 630,000€ Emergency unit patient vita signs assessment improvement between (713 298 SEK and 6 317 270 SEK in the first year) (depending on assumptions)
- 24,000€ yr1, 63,000€ yr2 Reducing sphincter injury in delivery from 5.3%-3.9% (239 122 SEK (2006 first year) and 652 836SEK (2007).}

Operation cancellations and delays in Norway (Øvretveit 2000)

- Cost of waste of 98 cancellations every three months £50,000?, 300,000? or 900,000?

Evidence Cost = £320,000 annually
- Spend 1 year = £68,000.
- Saving = £62,000 for Yr 1, £160,000 for future if reduction sustained at no cost
- UK study “1.6m € savings” 16 ORs

Findings: Increasing income is faster than getting cash from reducing waste

- Saving time and materials does not bring cash immediately
- Easier to increase income with more operations
- Than to make savings from redeploying staff and saving on materials
  - Quicker cash from increasing throughput
    - But purchaser ceilings & other bottlenecks

Paper savings are not cash savings: the “show me the money” issue

Other value improvements identified in research reviews

Patient centred care review (Øvretveit 2012)

- Mobile phone text messaging: to communicate results of medical investigations (E1 Gualda-Urganci 2008), and feedback on treatment success, especially for patients with chronic illness (E4 de Jongh et al 2008).
- Training doctors: a specific intervention using role-play, feedback and small group discussions to improve patient-communication skills (E1 Haskard Zolnierek & DiMatteo 2009).
- Offering patient email access: to physicians or specialist nurses for specific patients for specific purposes (E3 Car & Sheikh 2004; E3 Gagnon et al 2009).

Patient centred care review (Øvretveit 2012)

- Simplifying dosing: increases medication adherence and is a low cost intervention (E1 Haynes et al 2005). (eg ALL).
- Certain decision-aids to help patients choose between treatments, or not to use a treatment (E2 Kennedy et al 2002).
- End of life home based care: interventions to enable patient/family - provider collaboration to give home based care at the end of life (E1 Shepperd et al 2011).
- Specific interventions to improve patient participation in health consultations which use patient-directed coaching, educational materials and feedback to providers of patient reported outcome measures, or certain communication skills training (E1 Haywood 2006).
- Evidence of 21 others in Øvretveit 2011 and 2009.
Conflicting evidence
Not always savings – cautionary tale - Managed care QI QIs in 10 Medicaid managed care organizations
For selected high-risk high-cost patient populations
3 broke-even,
3 cost 18-26 times more than they saved (Greene 2008)
12/1 - A complex case management program to treat adults with multiple comorbidities
6/1 - case management for children with asthma with high ER use or inpatient admissions
1.2/1 intervention for high-risk pregnant mothers
1.1/1 program for adult patients with diabetes

Part 4: But would we get those results in our service?
- Single study elsewhere shows evidence of value improvement (eg medication reconciliation or care transitions in USA academic medical centre improves quality and saves money)
- Study of similar interventions in many typical settings shows evidence of value improvement
  - Eg all collaborative breakthrough teams achieved 20-40% quality and cost improvements
  - Eg systematic review of research into computer physician order entry finds most systems in most settings achieve a value improvement

Your local results depends on
- Evidence – yes 20%
- Your implementation capability 30%
  - Skilled project team, project management system, data collection and feedback, progress reporting and fast tracking changes by senior management.
- Methods to assess change readiness (ORCA Helfrich 2009)
- Context – 50%
  - Your organisation: leadership, culture, current changes
  - External environment: financing system and regulations

Assessing implementation capacity and context
Receptivity to change or readiness for change assessment instrument
(Helfrich 2015 Organizational Readiness to Change Assessment instrument (ORCA). Cinte 2009 Perceived organizational readiness for change (PORC)
- Clinical experience
- Patient preferences
- Leader culture
- Staff culture
- Leadership behavior
- Measurement (leadership feedback) Opinion leaders
- Clinical champion
- Leadership implementation roles
- Implementation team roles
- Implementation plan
- Project communication
- Project progress tracking
- Project resources and context
- Project evaluation

Context - Payment disincentives for improving
- Glaucoma care payment = 300€
- Hospital cost to provide it = 1,800€
- But Surgery income = 2,270€
- Prevent glaucoma = loose 1500€ Do the surgery gain 2270€
"The current deficit on glaucoma care in the eye hospitals is internally covered through the profits made with cataract surgery"

Message
- It’s not just what you do – the change Evidence
- It’s the way you do it Implementation – whether you get the change
- And where you do it Environment
  - your organisation and financing/regulations
  - helps and hinders you getting the change
**Part 5: Taking effective action - Challenges**

1) Selling and Starting
   - (10% evidence, 60% emotional/values/story, 30% belief in likely success)
2) Changing
   - (clinical leadership, project management, measurement, reporting)
3) Sustaining (pay-back)
4) Spreading
   - Infrastructure, leadership, examples, facilitation, measurement,

**Infrastructure essential to**

- Help local services carry out value improvements
- Ensure investments do reduce costs and improve quality
  - measurement,
  - accountability, to pay back the debt to the investor
  - training project teams to select changes and implement them
  - advice & facilitation at all levels

**Lessons**

- Continual skepticism and questioning
  - Why should I believe this?
- Understand change
  - Resistance, Uptake
  - Yourself, Groups, Organisational, psy, pol, cult
- Think differently, but don’t imitate Steve Jobs

**3 changes, to meet the challenges for healthcare:**

1) Incentives to reward efficient and high quality services – “high value services”
2) Loans to invest in value improvements
3) Infrastructure to support ordinary clinicians and managers to make value improvements.

**2020:**

- Real time cost per day for each patient
- 5 quality indicators for each care programme
- Purchasing for cost-quality combination
- Pay one service to improve to reduce costs for others
Summary

- Future healthcare delivers quality at lowest cost
- Select proven value improvement
- Assess if you have capacity and context to be successful
- Implement using effective strategy
- Part of the intervention is to change the context to support implementation
- Measure and manage implementation process
- Measure quality and cost results
- Tools: see PPT list and handout.

Questions to you

- Any surprises?
- How could you find your high waste problems?
- Would the cost of action to reduce waste by 50% pay for itself?
- Would it also improve patient experience and/or clinical outcomes?
- Could research indicate problems and solutions to consider?
- Could you make your own estimates to decide if a project would make a return on the investment?

Resources