**** off, I know what I'm doing: Protocols in EHDI

Martyn Hyde

Professor, Otolaryngology/S-LP, University of Toronto
Assoc Director, Hearing, Balance & Speech Dept, Mt Sinai Hosp
Consultant, Ontario Infant Hearing Program &
British Columbia Early Hearing Program

mhyde@mtsinai.on.ca

First recorded clinical protocol?

- 2020 BC
- 3rd dynasty of city-state of UR, Mesopotamia
- Reign of god-king UMAMMA

- ‘Take dried wine dregs, juniper & prunes. Pour on beer. Rub the diseased part with oil and bind on the mixture.....’

First protocol skeptic...

Plato said, ~ 400 BC

'Suppose clinical practise were governed by majority rules from an expert group ...which has merit...'

'Given that the essence of professional practise is flexibility & innovation...'

'Is it not endangered by such rules...?'

Audiogists' challenge...?

- Best possible quality of care

- Complex & subtle area of practise
- Extraordinary pressure of time (x2)
- Avalanche of data & opinion
- Unprecedented program performance scrutiny

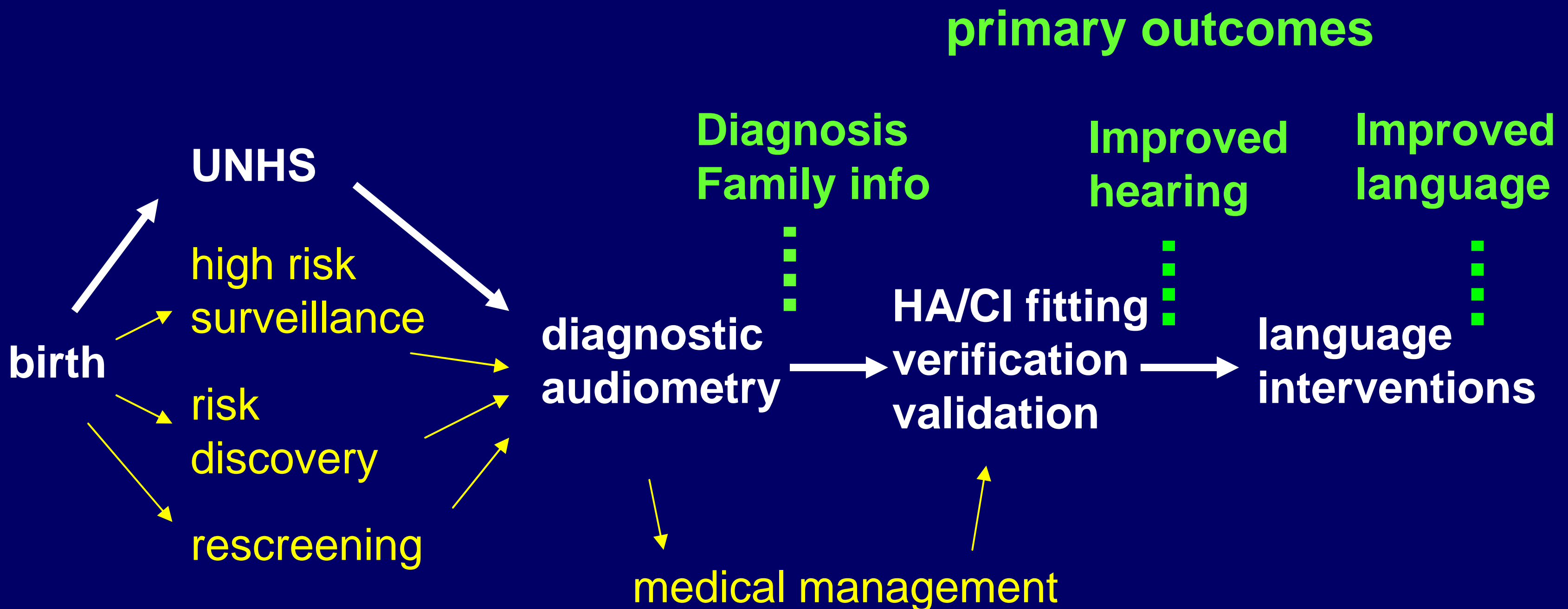
Father of Quality…
Avedis Donabedian 1919-2000

What *is* Quality of Care?

Donabedian A (1990): The seven pillars of quality

- Efficacy: at its best, *can* it improve health ?
- Effectiveness: as delivered, *does* it…?
- Equity: *fairness* of distribution & access
- Efficiency: *max* improvement for *min* cost
- Legitimacy: conformity to *social values*
- Acceptability: conformity to *personal values*
- Optimality: best balance of *costs* & *benefits*

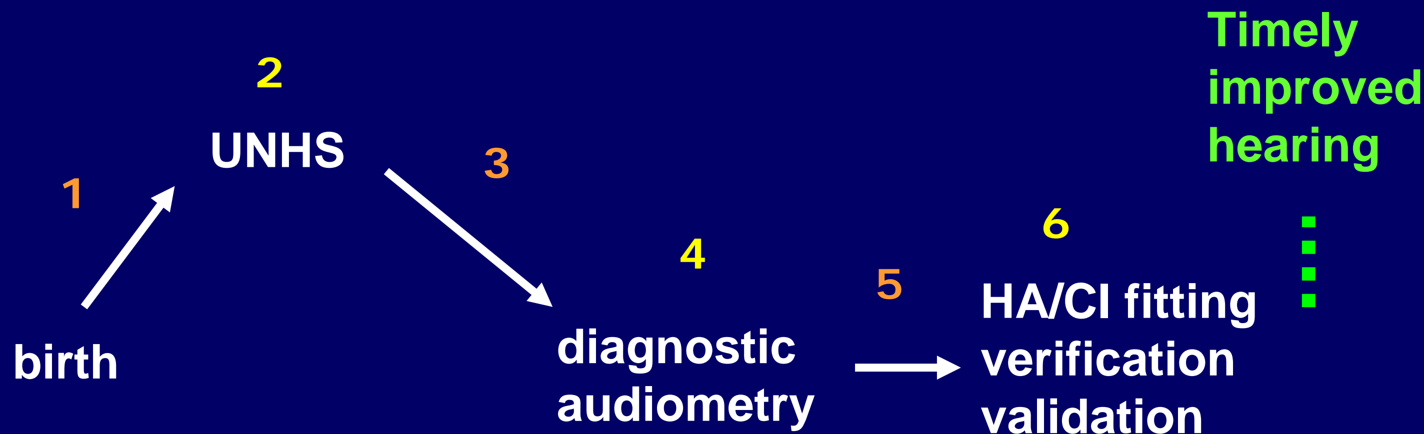
Two more challenges:
1 PE&QI 2 EHDI is a chain



[.... program evaluation & quality improvement....]

Chain pain: P(success) = P1.P2.P3....

$0.95^6 = ?$ $0.90^6 = ??$



Salvation is nigh...
Evidence-based practice (EBP)

- Triggered by multiple failures of E, E, & E
- Augmented by data & opinion avalanche
- Spawned multitude of PS,G,Ps...etc
- Some great successes but, overall, ~ 33% success in G/P use & outcome improvement. WHY?

EBP…issues at every stage…

- Quality of primary evidence (eg Cochrane collab.)
- Quality of synthesis (eg syst. revs, meta-analyses)
- Quality of guidelines & protocols (eg AGREE collab.)

- Quality of transfer & engagement:
  Knowledge Translation, Change Management
  eg. Ward V et al J Health Serv Res Policy 2009;14(3):156-64

- Barriers & facilitators of uptake (Cabana et al)

Barriers to ‘adherence’

Cabana M et al, JAMA 1999;282(15):1458-65

Lack of awareness	Guideline? What guideline?
Lack of familiarity	Haven’t read it yet
Lack of agreement	Wrong. Irrelevant. Cookbook
Lack of self-efficacy	I can’t seem to manage it
Low outcome expectancy	No point. It won’t work
Previous-practice inertia	I know what I’m doing
External barriers	Haven’t got the time
Guideline barriers	Hard to use, inconvenient
Patient barriers	Patients don’t like it
Environment barriers	Not enough resources

Ontario Infant Hearing Program (IHP) What we did & learned so far...(2001>..)

- 1m km^2, 13m, 134k B, 95% S, 1.3%F, 86%Dx, etc
- Protocols up the wazzoo
- Some success in practice change (80+ Auds)
- But not total success ...

IHP initial Dx protocol elements

- Tonepip ABR AC (2k>500 core) (4k>1k if indic.)
- Tonepip ABR BC if indic. (500, 2k), ipsi-contra
- DPOAE (nominal f2: 1, 1.5, 2, 3, 4k)
- MEA: tymps 1k < 6m, 226 >6m, ARs 1k ipsi (WN)
- ANSD & retrocochlear: click +/- CM/SP/CAP/ABR

- Optimal tactics for AC/BC, F, I , averaging, ABR decision-making, artifacts, etc..70/80p

Lessons from IHP protocol training
1:1, 3d hands-on 6 babies, all cases monitored

- The less experience, the more receptive
- Individual aptitudes & blocks
- Challenges: Bayesian tactical optimization, 'can't decide' outcomes, active averaging
- Multiple case review very productive
- Post-training monitoring essential

Lessons from Elective Decision Support & Obligatory Audits

- Most Auds adhere to most protocol elements
- Many case reviews reveal low efficiency
- Those using EDS most are high performers

- A few know 'better' & disregard rather than challenge & improve protocol for everyone

- All Serious Adverse Event audits show major protocol violations

Good protocols should...

- Address in detail where the rubber hits the road
- Keep mandatory, critical elements to a minimum
- Inform discretion & contextual adaptation
- Include strong rationale (EB, logic, clin. experience)
- Include a process for challenge & improvement
- Have continuous, multimodal, post-training support
  eg decision support, updates, feedback, case library, websites, CQI audits, telehealth, meetings, etc

One major improvement for primary reports: Enable re-analysis & meta-analysis

- ALL primary study reports should:
- List ALL subjects' key parameters & outcome values (appendices)
- Allow web access to de-identified raw data files

James eagerly embraces his new bathroom protocol