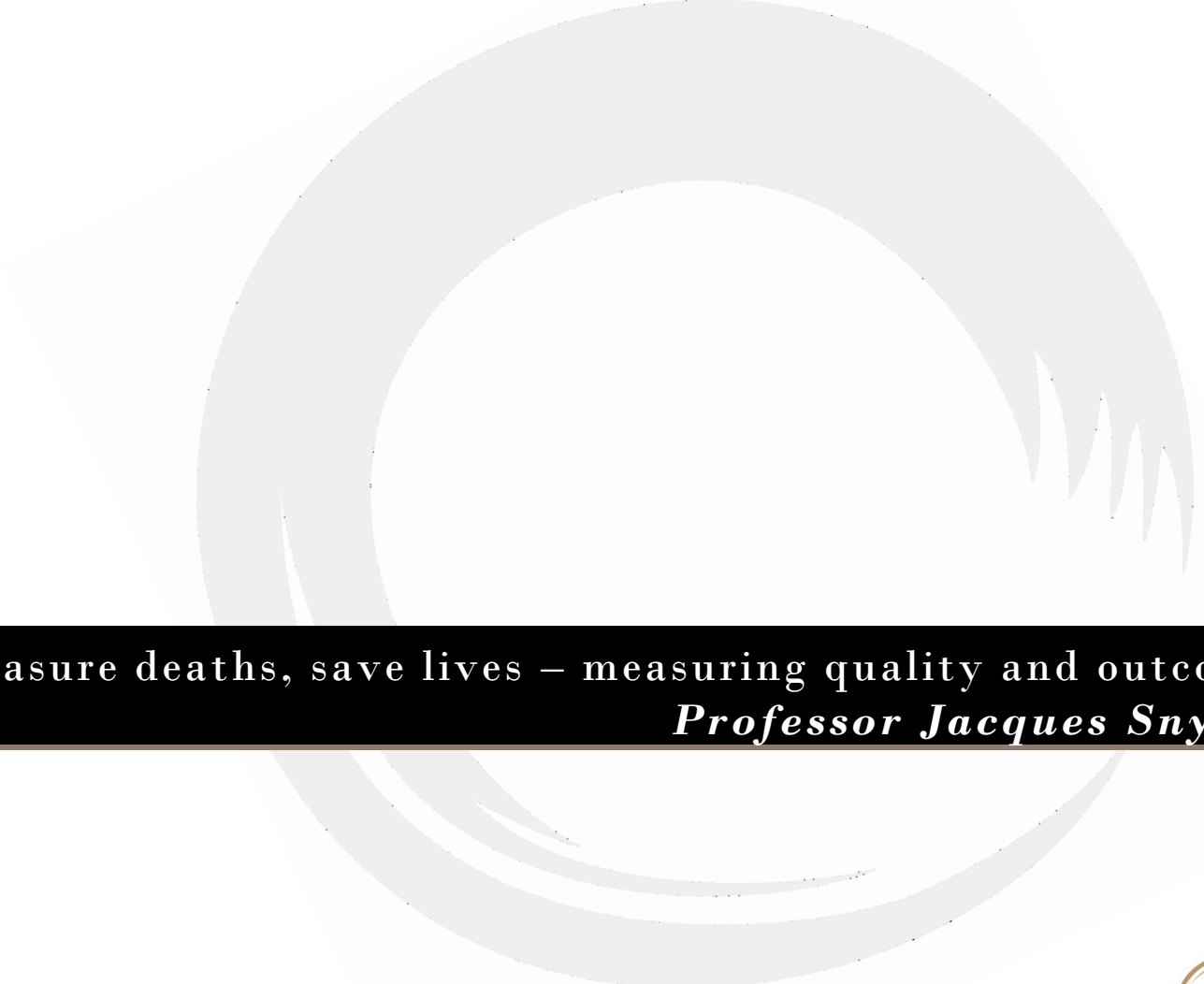




BHF Southern African Conference





Measure deaths, save lives – measuring quality and outcomes

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Global Health Solutions



“First came the solution, then
came the problem.”

BD Cheson 2000

“The temptation to form premature theories upon insufficient data is the bane of our profession.”

S Holmes, 1914

- **If you change nothing you are almost sure to get the same result , or are you?**
- Evidence Based Medicine is supposed to be the corner stone of treatment interventions in Modern Medicine
 - The problems of applying the principles of EBM are:
 - Not the lack of evidence but what to choose
 - Adherence to protocols, which one?
 - Compliance with therapy
 - Selecting the right patient
 - Patients don't read the trials
 - They follow their own minds
 - They differ because they are all genetically individual
 - They "recruit" other conditions; co-morbid conditions
 - Therefore we often fail to get the desired results

FORMS OR RELEVANCE OF EVIDENCE:

- Strong: one systematic review of multiple (well designed) RCTs
- Strong: One properly designed RCT
- Other well designed trials e.g. non-randomised, cohort studies etc.
- Well designed non-experimental studies (more than one centre)
- Opinions: Clinical evidence, expert committees etc.

“Our drugs don’t work on most patients”

- Allen Rogers, World Vice-President of Genetics
GlaxoSmithkline
Independent Newspaper 8 Dec 2003

- The argument of price, cost and value are based on evidence.
- First understand evidence
- Then apply economic reasoning
- Clearly quantify magnitude of benefit
 - Patient perspective
 - Societal perspective (populations expectation)
 - Funder's perspective (collective e.g. scheme or individual willingness to pay)

EXPECTATIONS CAN BE UNREALISTIC



HOW DOES EBM RELATE TO PREDICTING THE OUTCOMES OF MANAGED CARE? AND SHOULD WE CARE?

- Quality of care is the new buzz word
 - Pay for performance
 - Pay for quality
 - Pay for outcome
- However, there is no measure of outcome in place
 - Protocols and PMBs are supposed to drive outcomes and ensure access
 - Were they successful?
 - NO!
 - They changed the ICD 10 reported and the process of practice reporting, but the impact on the burden of disease is unknown

- Assessment drives learning: very few students will study if it wasn't for the exam
- Measurement like assessment is a behaviour tool
 - What must be measured?
 - What can we measure?
 - Will it make a difference?
 - Should we care?

- IF the question is: “will I live longer?” Then you must count bodies
 - E.g. BP↓ ?
 - BP must correlate with death to answer the above
 - Depending on the drug, it doesn't
 - So the study must measure death to answer: “ will I live longer?”

- Screening tools for dreaded diseases are typical examples of epidemiology gone wrong:
 - Screening of cancer determine the incidence and may prevent death but it doesn't change the basis of the disease.
 - The Psycho-social impact of false positive test are not counted
 - For every death prevented we have c 200 false positive cases
 - Treatment of the false positive “results” lead to greater disability than the single preventable death;
 - USA has now discontinued PSA screening because the burden of those crippled by over treatment now outnumber the benefit of screening!

- 1milj women study: Breast cancer screening in UK
 - Significant increase in Breast Ca related to use of oestrogen and/or progestogen
 - Intrinsically flawed in design
 - Confounded by “invitation”
 - Mean time to Ca development: 1.2 years after initiation of Rx: impossible
 - Unless oestrogen is a carcinogen
 - Girls will all develop breast cancer at age 15 y
 - 10 year use of oestrogen had no effect on breast Ca deaths
- So what must we then do?

- Morbid pre-occupation?
- “Counting the worlds deaths and finding why people die is one of the most important goals to improve public health” Prof Prabhat Jha India 2010
 - Save lives by counting death
 - Detecting new diseases: HIV in early 1980s in San Francisco
 - Confirming the old: tobacco kills even if you smoke a small Indian cigarette; your life expectancy is shortened by 6 years and it activates the flare of TB
 - Determining the cause of death allows proper system adjustment

- Florence Nightingale described the relationship between quality of care and death
- “The use of effective treatments should save lives and the treatments themselves should not cause untimely death”

- Administration systems do not account for death accurately
 - Traditionally the cost of input and predicting the same is more important (typical actuarial forecasting)
 - Yes, external factors change the predictable, but they as yet has not influenced the outcome (e.g. PMB)
 - Outcome clearly should matter
 - For patients
 - Clinicians
 - Health officials
 - Managers and
 - Policy makers
- Counting deaths in any data base enhances the quality of intervention decision making
 - It should be the starting point of data collection

- Focusing on outcomes
 - Allows the clinician latitude and flexibility
 - Choose from several approaches that address the needs and preferences of each patient
 - Mortality outcomes are especially salient
 - Reducing mortality is a solid unbiased outcome (cannot be manipulated)
 - “Quality of care” doesn’t always translate in to a reduction of mortality or morbidity if the quality is input driven and not measured as an outcome.

IS THERE MORE TO OUTCOMES MEASUREMENT?

- Data dredging in Administrator Data base
 - What predicts better outcomes?
 - What changes influence these outcomes?
 - Should we use them in benefit design?
 - Often benefit design predicts the outcome and not the disease and or its severity. i.e. access determines the pattern
 - Hospitalisation is often driven by benefit selection and not by disease needs
 - In order to access care hospitalisation is the answer
 - Formulary requirements determine pathology
 - Lipogram to obtain statin vs. Dx

IS THERE MORE TO OUTCOMES MEASUREMENT?

- Compliance drives chronic drug costs, but does it reduce burden of disease?
- Does higher compliance lead to lower event rates?

IS THERE MORE TO OUTCOMES MEASUREMENT?

- Measure compliance by scripts per month for any lipid lowering agent
- Define an event to be any of the following:
 - Angiograph
 - Angioplasty
 - Stent
 - CABG
 - MI
 - CVI

- Consider all patients who had an initial event which was not just an angiograph
- Consider only patients who were observed for 1 year
- Divide the population into two groups:
 - Those who had an event in the year
 - And those who did not have an event

- Measure the compliance for each of the populations and compare.
- Mean compliance for second event/patient: 78% i.e. almost 80% compliance in patient with 2nd event
- Mean compliance for NO 2nd event patients: 97% i.e. almost 100% compliance in patients who do not suffer 2nd event
- Does these numbers differ by a statistically significant amount?

- T-test for two populations with unequal variances: P-Value = 0.005
- The mean compliance for the population with 2nd events is significantly lower than that of the population without 2nd events
- By promoting compliance, the event rate can be driven down and claims can thus be reduced.

IS THERE MORE TO OUTCOMES MEASUREMENT?

- What should we capture?
 - Death diagnoses
 - Disease severity
 - Hospital discharge diagnoses
 - Intervention type (usually the only well documented entity as it must be funded)
 - Drugs
 - Surgery
 - Hospitalisation (readmission rates)
 - Diagnoses
 - ICD 10 (at present system driven and not accurate)
- Only then will we be able to measure, predict and adjust intervention type to impact patient outcomes

- Measurement aimed at cost prediction is going to do just that
- Measurement aimed at the burden of disease will impact on disease risk only if it is part of the decision making process
 - Severity of disease
 - Demographics of patients (biometrics and scoring)
 - Death (cause and final diagnoses)
 - Simple and easy to start with possibly the biggest impact

- Advertorial
- Remember ISPOR
 - International Society for Pharmaco-economics and Outcomes Research
 - South African Annual Congress 15-16 Sept 2010