

A situation analysis of health services

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Introduction

- A situation analysis of post-rape health services is a relatively simple piece of research that can be incredibly powerful in policy terms
- In order to achieve this it is very important that the framework for establishing impact is set up before the study, it is conducted in a way that enables the results to be seen as generalisable, methodologically the work is of high quality and sufficient time is given for advocacy around the results after the study so that they have the greatest impact
- In this presentation I will draw on the study conducted in South Africa which has served as a model for subsequent studies internationally



- Stage one: forming strategic partnerships for the research & policy impact



Establishing the framework for impact: strategic partnerships

- The study in South Africa was undertaken by the South African Gender-based Violence & Health Initiative (SAGBVHI) with the support and encouragement of the National Department of Health
- SAGBVHI was established as a partnership of individuals and organisations working at the interface of gender-based violence & health
- SAGBVHI brought together people with a variety of research skills (epidemiology, social science, health systems research etc) with forensic medical specialists, communications experts, activists etc
- This provided a framework for powerful multi-disciplinary work



Origins of the South African situation analysis

- When SAGBVHI was formed it started talking closely to the DoH about what the Department's priorities were on gender-based violence
- A workshop was held where people from the Provincial DoHs were asked to present on what they were doing on GBV, what services were provided and the challenges. This showed that there was a lack of clarity about what was being done and with what quality
- The decision that current services should be described through research was reached as a joint decision with the DoH and there was a commitment from the start to the idea that this study would be used to inform decision-making about the shape of new health sector policy



Forming strategic partnerships for policy impact

- If research is to have specific policy impact it should be designed into a project from the start
- This can be done by forming a steering group, which may include the research team but also extend beyond it, of the key role players and decision-makers
- Map out the field of interest, not too broadly or the work will be unfeasible, but including all the key players e.g. researchers (so its scientifically sound), clinicians (so its medically defensible), in order to have national policy impact we had people from different directorates from the DoH



Make the steering group work during the study

- Data collection often takes time, as does analysis and writing reports, in this time policy moments can be lost
- In our study we collected data from every hospital in one (small) province and a randomly selected sample of all provinces nationally
- We were able to present the first analysis from the one province to the DoH and a conference whilst we were still collecting the other data
- This meant that the DoH had preliminary findings to consider and so could start work on the policy implications before the study was even finished. This enabled the findings to be available timeously



Reflections on this approach

- Do not make the stakeholder group too big, but to have people at an appropriate level of authority
- Releasing preliminary findings can be risky if there is a possibility that ultimate findings may be different in important ways
- You need to use judgement & preferably only present broad level analyses and data that you have confidence won't change, or won't be invalidated if findings from elsewhere are a bit different
- Be careful not to over or under-estimate the ability of partners to interpret findings
- It is important that you try and get the whole study done relatively quickly and ensure all are aware of the fact that the findings are preliminary



- Stage two: Ensuring you generate defensible results
- Designing the study rigorously to maximise generalisability and validity of the results



Enhancing validity: reducing bias

- Systematic tendency to underestimate or overestimate the parameter of interest because of a deficiency in the design or execution of the study
- **Main sources:**
- **selection bias:** found when subjects studied are not representative of the target population about which conclusions are drawn
- **Information bias:** systematic tendency to report an aspect of interest differently in different groups (or from different facilities)



Problem of selection bias

- Sample – does it exclude any of the target population who may differ in important ways from the people studied?
 - Especially rural facilities may differ from urban; facilities you have a relationship with may differ from others etc..
- Response – are non-responders likely to be significantly different from responders?
- Response – is there any information about non-responders to indicate how different they are according to what you know of them



Avoiding selection bias

- No sampling, OR,
- large enough random sample
- AND very high response rates

- We very rarely get a 100% response rate and so the challenge is to get a high enough rate (usually above 80% is regarded as quite adequate) and show non-responders not to be too different from responders
- A random sample gives an established probability that any individual (or in our case facility) will be included in the sample



Sampling to enhance generalisability and reduce selection bias: Using multi-level sampling approaches

- Challenge of drawing random samples in developing countries is that we rarely have a sampling frame
- For example we can't draw a random sample of staff providing post-rape care as we don't know who they are, and the same applies for residents
- Multi-level sampling techniques enable us to initially draw a random sample from a level that we can accurately define and then we can enumerate the people of interest within these units



Cluster sampling

- We know that post-rape care is entirely provided in health facilities, and we do have a national list of these, so we can draw a random sample of health facilities
- We then have the ability to collect facility level data, but can also sub-sample within the facility (preferably by random sampling from a defined group but it depends on the needs of the study)
- The sample may be defined within strata to improve the precision of estimates
- If clusters differ in size we use a measure of probability proportional to size in drawing the sample (this provides a self-weighting sample, otherwise weights can be applied in analyses)
- This is useful as in a world without free lunches the cost of cluster sampling is a loss of precision (so you need a relatively larger sample to get the same precision as you would see if there was no clustering)



South African situation analysis sample

- Two levels of strata: provinces and facility level
- South Africa has 9 provinces and within each province we collected data at:
 - the tertiary hospital (only in 5 provinces)
 - one regional hospital
 - two district hospitals
- In each facility we interviewed 2 doctors and 2 nurses – these were those who treated most sexual assault patients (giving an anticipated bias towards perhaps better care)
- We also completed a facility check list



Enhancing validity: through methodologically rigour

- There are many features of good study design, but the following help:
- Having a clear objectives and hypotheses that can be tested in the research, which follow from a theoretical framework that is explicit and can be debated
- Employing a multi-dimensional approach to assessing quality
- Taking all possible steps to reduce information bias, e.g using established or tested measures where possible
- Analysing the data in a way which allows for avoidance of confounding, where this is a risk



Establishing a theoretical basis for the research at the conceptualisation stage

- Reading around the subject and the methodology (health systems research) will enable you to establish a theoretical framework for:
 - Understanding the features of sexual assault services – both features of good care (or good inputs) and areas that may indicate poorer service
 - Understanding dimensions of quality of care
- Objectives for the study can be defined in terms of studying these
- Hypotheses can be drafted for establishing anticipated relationships between variables



Definitions: these must be clear and recorded

- Health outcomes mostly exist in populations on continua of severity, rather than an all or nothing phenomena
- Sometimes we are able to study populations with the continuum captured in a meaningful way e.g. quality of care on a scale of established psychometric properties
- Often we have to dichotomise into ‘case’ and ‘non-case’ (high or low quality) and so need a cut point. The decisions about the choice of this must be explained



Bottom line

- In research everything that can be defined should be
- Definitions should be recorded in a field manual
- This should be kept as a dynamic document and updated in the field as new challenges are faced and decisions about how to address them are made
- It is invaluable for data analysis, interpretation and reporting findings



Research questions in a situation analysis

- It is impossible to do justice to the question ‘how good are our services?’ without considering ‘what are our services?’
- Describing the services provided and the nature of the inputs (including staff & facilities) must be an essential first part of such a study



Assessing quality

- There are many different ways of thinking about quality of care in the literature
- Some of the most simple include reflecting on:
 - Structure, process, outcomes
 - Dimensions of quality of care e.g EEEAAAC (equity, effectiveness, efficiency, access, acceptability & appropriateness, choice)
- These are helpful to start thinking around quality but you may not find it relevant or possible to study all aspects in a project
- Multiple methods may need to be used. Combining qualitative and quantitative methods can be highly desirable but it is not always possible



EEEEAAAC

- **Equity:** geographical, equity in access for all in need
- **Effectiveness:** of clinical care, measured in terms of outcomes
- **Efficiency:** related to effectiveness but also considers costs
- **Access:** consider time, place, people
- **Appropriateness & acceptability:** consider the extent to which the dignity and rights of users are respected
- **Choice:** respect for differences between people in their preferences, needs and wants



Enhancing validity: reducing Information bias

- Systematic tendency to report exposure differently in different groups
- Misclassification can be random or biased (where it actually depends on the exposure to factors of interest)
- Recall bias – differential recall based on disease (motivation for recall), or just error introduced due to inaccurate recall
- As a rule memory over more than one week is quite poor although ‘the last time you did...’ is somewhat better remembered (although there may still be imprecision with date message); frequencies are not well recalled over 4 weeks



Enhancing validity: reducing measurement error

- Are you measuring what you intend to measure?
- Can you prove it?
- e.g. a recall of drugs used to treat STIs can be compared with records on charts
- But not everything can be validated (especially attitudes)
- Sometimes we have to compare the measure with the best available clinical measure (which may be a panel of clinician's opinions)



Repeatability

- A measure that is highly repeatable is often very useful, although repeatability does not necessarily mean validity
- Poor repeatability = poor validity or measure varies over time
- In each case caution is needed in its interpretation
- Repeatability can be tested within observers (on different occasions) or between observers
- Repeatability can be measured statistically by the kappa statistic



Reasons for variation in replicated measures

- Within observer variation – largely random, lack of application of clear criteria for measurement
- Between observer variation – may be random (as above) and/or systematic due to differences in techniques and criteria; keep observers to a minimum
- Random subject variation – some things you want to measure will randomly vary; repeat examinations help avoid mis-interpretation
- Biased subject variation – conditions and timing influence the subject's true state and his or her responses; can reduce by standardising all aspects of measures, including time of measurement



Use standard measures and testing

- Where standard measures exist they should be used, or measures which have had their validity tested
- All measures and instruments should be pre-tested
- Cognitive interviews form the best way to pre-test questionnaires
- These involve administering a questionnaire in a test setting and after each question or group of questions probing in the manner of qualitative interviews the meaning of the questions used and ease of response and areas of uncertainty in response, and asking how the question could have been phrased better
- All data capture forms should also be tested
- All research methods should be formally piloted – this is after the instruments have been finalised and tests logistics

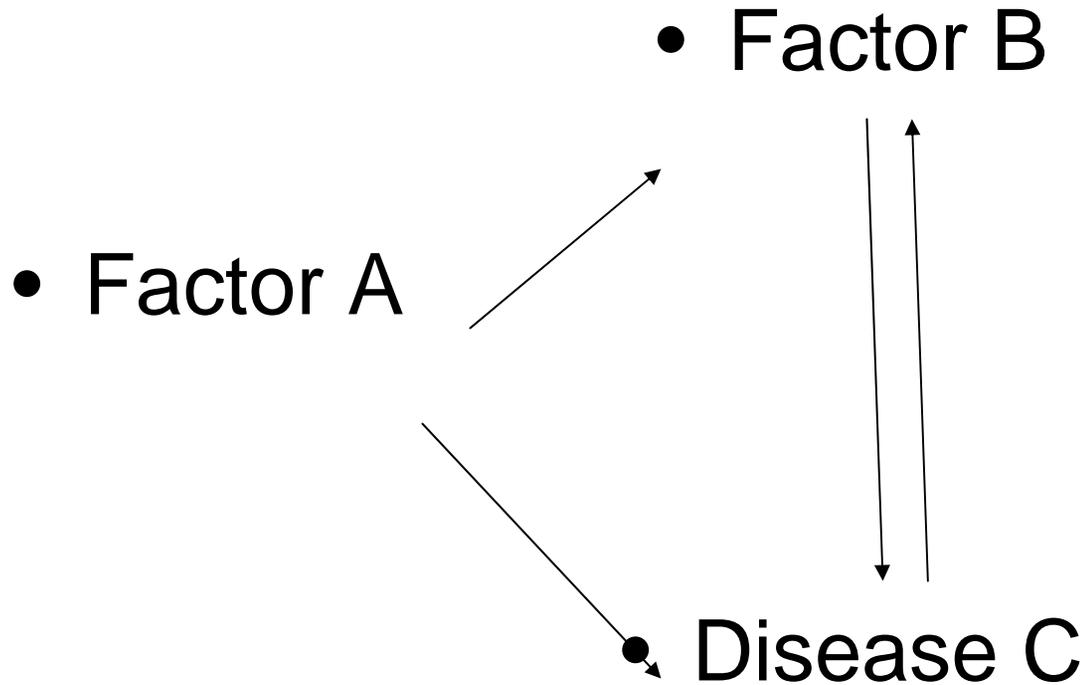


Which factors influence higher quality care?

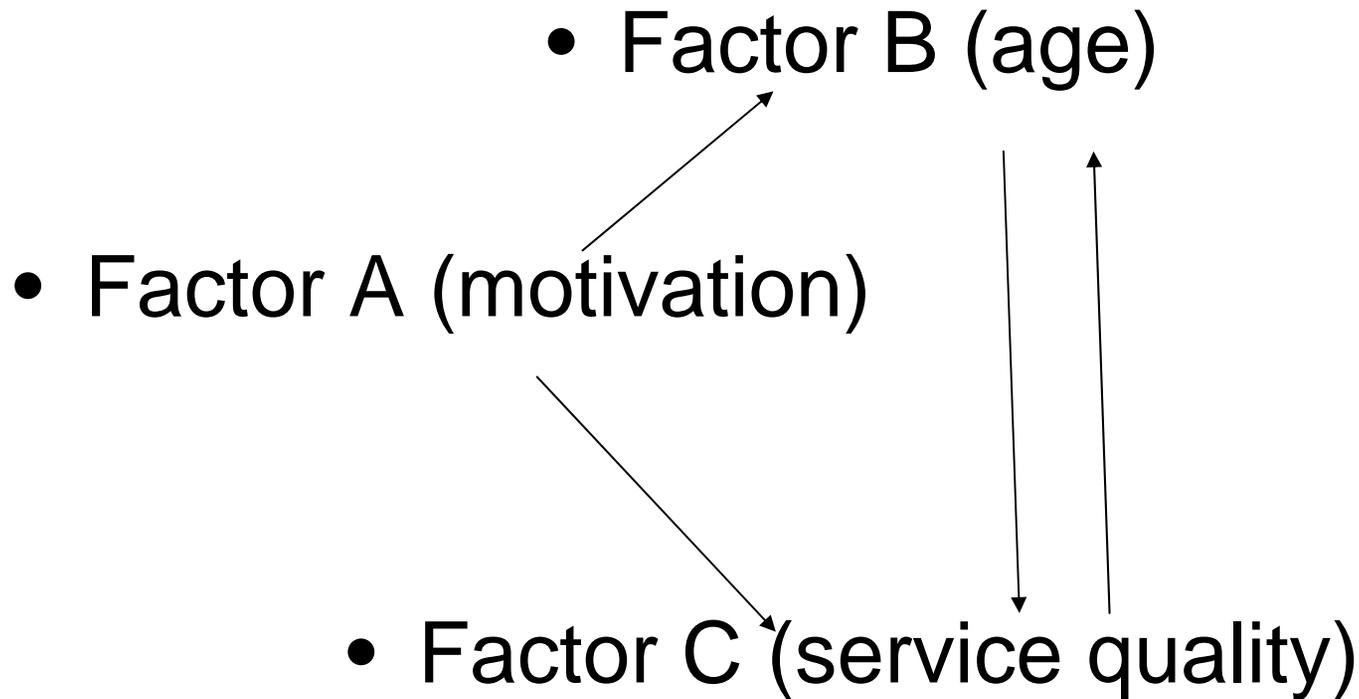
- Moving beyond the simple description of services we can begin to consider whether there are certain features of services that are associated with higher quality of care e.g rural versus urban, having trained staff versus untrained etc
- In doing so we begin to describe relationships between variables need to be aware that those found may not be causal
- Other explanations may be due to:
 - Systematic error – bias or confounding
 - Reverse causality
 - Chance – random error



Confounding



Confounding: observation that older staff provide better quality care



Confounder: associated with both the outcome and (non-causally with the) exposure under study

- Confounding gives rise to spurious associations, making something appear to be possibly causal when it is not
- AND confounding can hide a real association
- Common confounders are age and sex, these are biologically plausible confounders, but there are many others
- Confounders are removed in experimental research by randomisation, by stratification by confounder, or by multi-variable regression, but you have to know what they may be and have measured them



South African situation analysis : findings



Research methods

- Two district hospitals, a regional hospital and a tertiary hospital (where they existed) randomly sampled in all provinces
- Medical superintendent (or equivalent) identified 2 doctors and 2 nurses who would examine (or assist) patient after rape
- Questionnaire for 4 staff & facility checklist completed
- 155 Drs and nurses interviewed (72% women & 28% men)
- Mean duration of work at that facility: 7yrs



Key Research Questions

- Who was providing services
- What case loads were providers seeing
- What was the technical quality of care being provided
- Was space, equipment & drugs available
- Providers attitudes to sexual assault
- What training had providers received
- Were protocols available

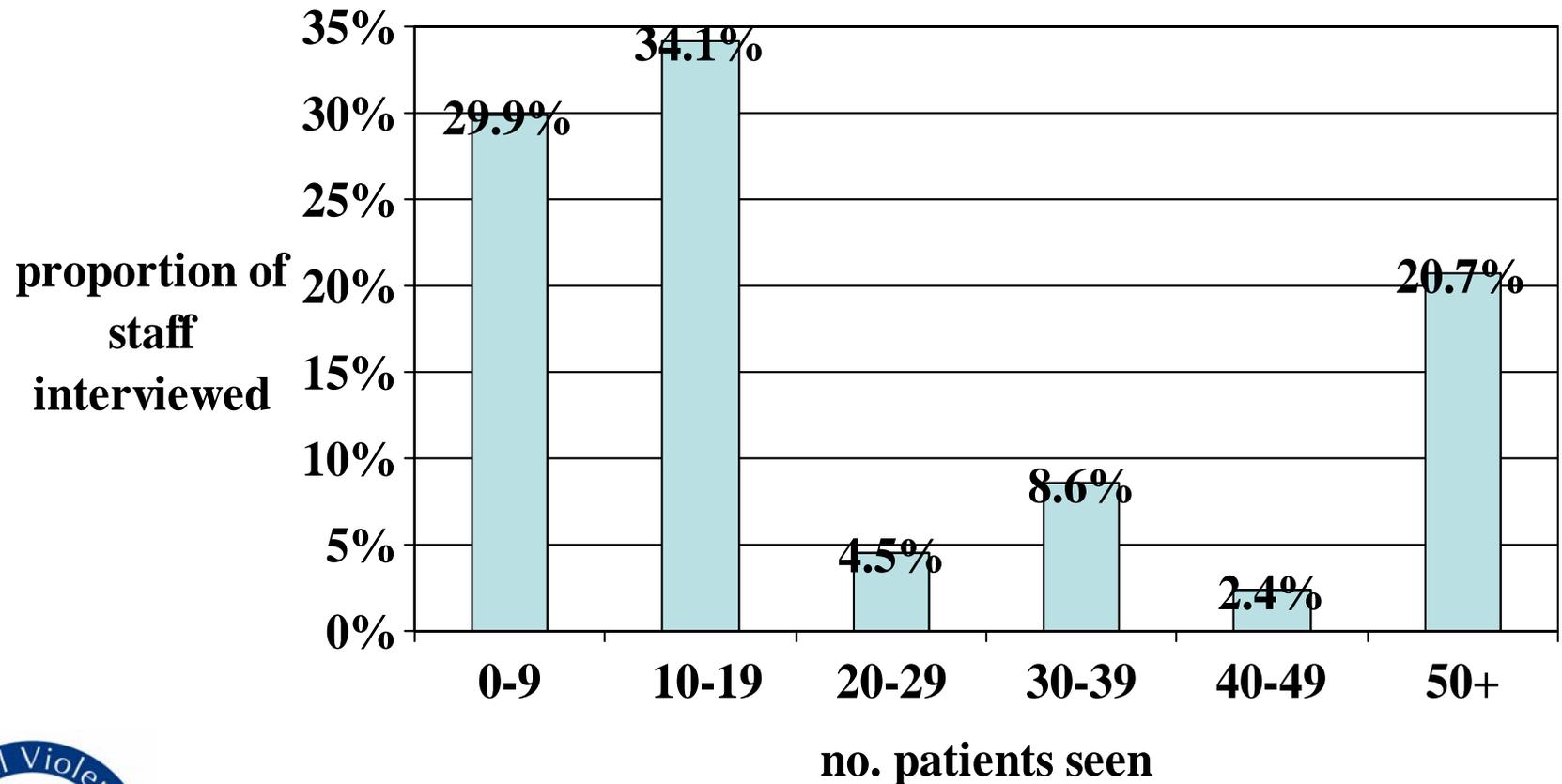


Findings – Who Provides Services?

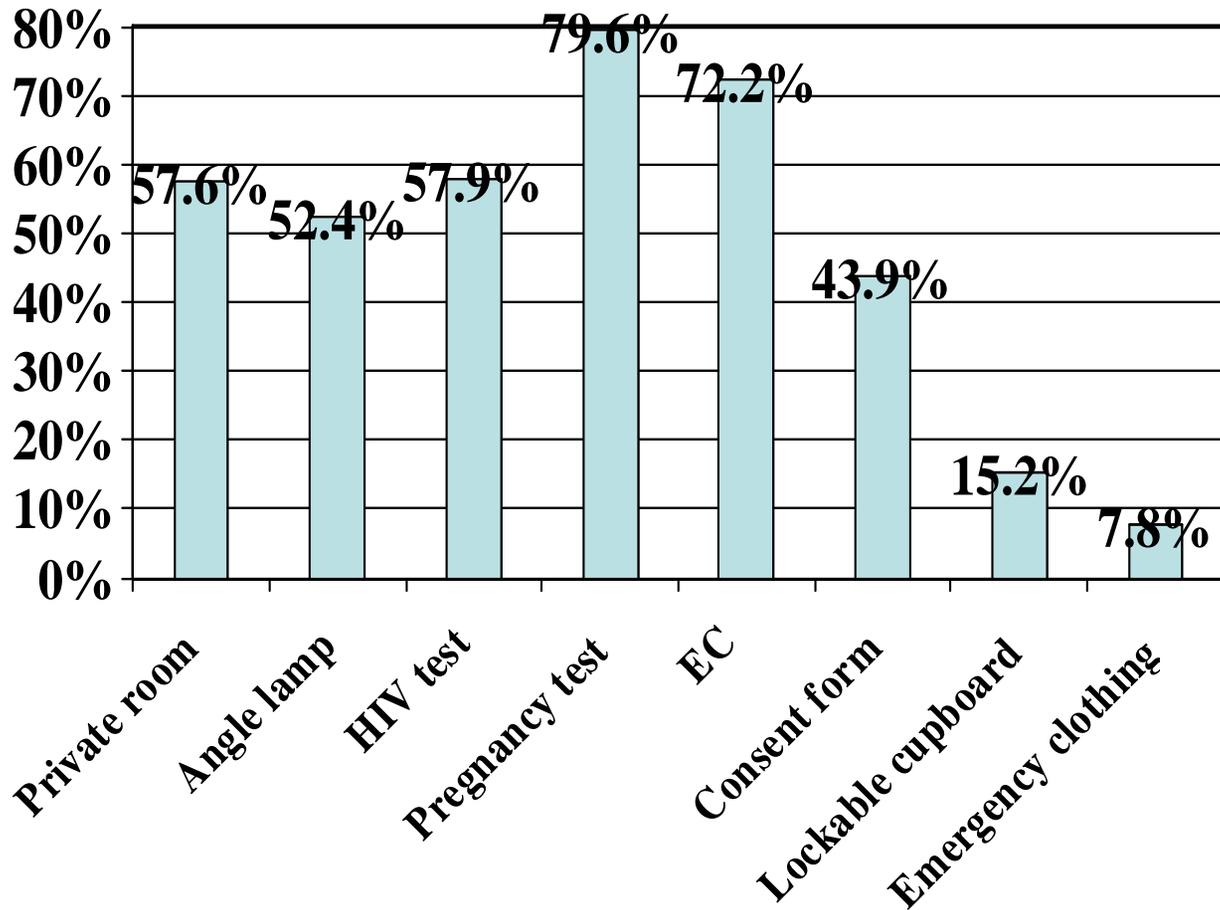
- 11.4% of nurses said they did sexual assault examination
 - Very few were forensic nurses
 - *“... you can look at the physical condition to rule out any urgency and act accordingly – call doctor or police if there is a need” (Nurse)*
- Essentially it's a doctor-provided service



Distribution of workload (no. of patients seen in a six month period) among care providers



Availability of private room, equipment, tests and drugs in the examination room

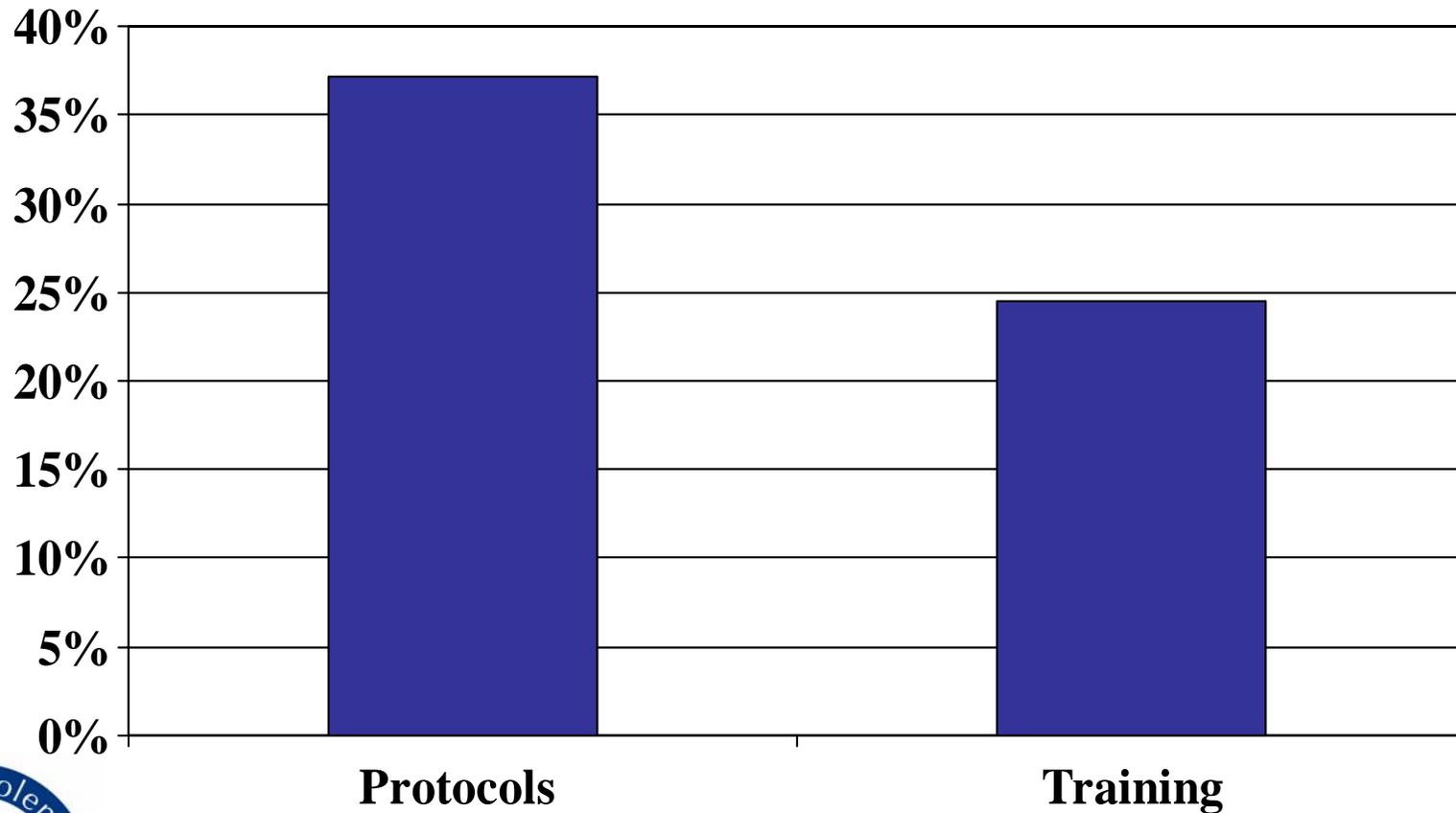


Proportion of providers who considered rape a serious medical condition

- Overall 66.4% (no diff. between nurses & doctors or women and men)
- *“It is an infringement of a person’s rights both medical and psychological” [Dr, male]*
- *“She is not dying as this is how I would define a serious medical case.”[Dr, male]*



Protocols and training



Management of HIV risk

Raise HIV with patient	95.6%
Offer an HIV test	66.3%
Offer HIV pre-test counselling	55.8%
Offer HIV advice	75.6%
Offer PEP	16.7%



Management of pregnancy risk

Raise pregnancy risk	95.3%
Ask about contraceptive use	71.1%
Offer a pregnancy test	67.6%
Offer emergency contraception	80.3%
Offer abortion counselling	21.1%



STI treatment

Raise STI risk	96.8%
Treat STI	87.8%
Provide correct STI treatment	34.6%



Refer patients for counselling

- 48.8%
- *“You can’t offer help if people don’t want it. Then you are getting in their business and over-stepping your job as a nurse”*
- *“Don’t know who I can refer them to”*



Medico-Legal Processes

- Overall less than 11.5% of providers interviewed had given evidence in court
- Many providers mentioned kits were incomplete/already used
- 15.2% facilities had locked cupboard



Factors associated with quality of care

- Multiple regression model was built to enable confounding to be adjusted for
- Quality of care score was derived including
 - STI treatment, clothing, referrals, HIV, prevention of pregnancy



Higher quality of care was associated with:

- Health care workers attitudes – those regarding rape as a serious medical problem
- Higher case load
- Having a protocol available
- Older staff (over 41) (*may have been an indicator of motivation or maturity*)
- Having worked less long in the current facility

