



Faculty of Public Health

of the Royal Colleges of Physicians of the United Kingdom

Working to improve the public's health

PART A EXAMINATION FOR MEMBERSHIP OF THE FACULTY OF PUBLIC HEALTH

Of the Royal Colleges of Physicians of the United Kingdom

JUNE 2010

EXAMINATION QUESTIONS WITH KEY POINTS AND EXAMINERS' COMMENTS

N.B. Please note that these are key points, not model answers

General examiner comments on the June 2010 sitting

In general, the better answers to all four papers were legible, well structured and answered the questions which had been set.

Many of the examiners commented that at this sitting the legibility of answers was a particular problem on a considerable number of scripts. Answers which did not address the question asked, but dealt with related topics were also a particular problem; answers only attract credit where the information provided directly responds to the question which has been asked. For questions where marks are split across sub-sections of the question, candidates are particularly advised to take note of the distribution of marks as a guide to how they might most productively use their time.

Question 1

In relation to health-related quality of life measures, write short notes on each of the following:-

- a) Test-retest reliability (40% of marks)
- b) Concurrent validity (30% of marks)
- c) Face validity (30% of marks)

KEY POINTS

1) Repeating a HRQoL measure at two time points on the same individuals in a sample should produce similar results. The intraclass correlation coefficient is the measure of agreement between the two measurements on the same individuals. The two time points should not be so close together that the participant recalls their previous answers or too far apart that the patients HRQoL may have changed. An ICC of 0.8 is usually acceptable.

2) A newly designed HRQoL is often attempting to measure a phenomenon which is also purported to be measured by other instruments (or tests or standards). The scores of the new and established instruments administered at the same time to the same sample should correlate. There is often no established reference instrument, particularly for disease specific quality of life scales.

3) Face validity refers to a judgement as to whether the instrument appears to be a good measure of what you have designed it to measure. The more people who agree that it is a good measure (of those who can make such a judgement), the more confident you might be in the face validity of the measure. However, face validity alone it is weak evidence of the validity of the measure.

EXAMINER COMMENTS

This question was poorly answered by many candidates. The weakest answers failed to demonstrate even a rudimentary understanding of the principles of reproducibility (reliability) and validity. Some candidates wrote an extensive introduction about HRQoL measures, without addressing the topics in the question. Many candidates confused measures to value health states, such as Time Trade Off, or Standard Gamble, with HRQoL measures (e.g. SF-36, or EQ-5D). Other candidates discussed the concepts of reliability and validity using examples from non-HRQoL measures, such as biochemical tests, antibody titres or blood pressure. Few candidates showed that they appreciated the potential difficulties of validating HRQoL instruments for which a “gold standard” test cannot be easily defined.

Test-retest reliability was often confused with inter-rater reliability. Kappa was sometimes mentioned as a statistical test for reliability, and was not penalised, although as most HRQoL measures are ordinal scales, correlation approaches are more relevant, and were rarely mentioned. Few candidates discussed the implications of poor reliability in the context of HRQoL measures which are seeking to detect changes (e.g. in clinical trials) against a background of natural within-person variability and measurement error.

Concurrent validity was sometimes confused with other terms, including content validity, construct validity, criterion validity, or even, in some cases, predictive validity. Several candidates discussed “triangulation” and were given some credit for this, but the full marks required mention of “gold standards” and the difficulties in identifying these.

A wide range of definitions were offered for face validity. A common error was to assume that this referred to the effect of interviewer factors in face-to-face interviews.

Question 2

- a) Define the term *incidence rate* (25% of marks)
- b) List:
- (i) factors that can increase the incidence of a disease in a given population (25% of marks)
 - (ii) type and sources of data used for the calculation of incidence rates (25% of marks)
 - (iii) uses of incidence rates in epidemiology and public health practice (25% of marks)

KEY POINTS

Most or all of the following would be required for a pass:

a)

Incidence (or incident cases) is a count of *new cases* of disease in the population during a specified time period. The *incidence rate* is the number of *new cases* of a disease in a defined population within a specified time period, divided by the person-time at risk of developing the disease during that time period. The use of person-time as the denominator allows for right-censoring of observations when cases develop disease, die from other causes, or are lost from follow-up. Person-time denominators are also suitable for use in dynamic populations with new births, immigration and emigration. Incidence rates may also be calculated for episodes, attacks or spells of illness, in which case individuals can contribute more than one episode to the numerator.

b)

- (i) Increase in incidence of a disease in the population can be due to:
- 1) Data-related explanations:
 - a. Change in diagnostic criteria Improved case ascertainment
 - b. New sources of data
 - 2) Health service reasons
 - a. Introduction of screening
 - b. Enhanced case ascertainment (e.g. due to media interest and altered patient or doctor behaviour)
 - 3) Person-related reasons (host)
 - a. In-migration of susceptible persons
 - b. Lifestyle changes (e.g. increased obesity leading to increased type II diabetes, or reduced vaccination uptake)
 - c. Decreased herd immunity (also due to reduced vaccination uptake)
 - 4) Disease or vector
 - a. Antibiotic resistance
 - b. Emergence of a new strain of disease
 - c. Change in virulence of existing strain

- 5) Environmental reasons
- a. Economic turbulence, war, environmental disaster increasing infectious disease due to damage to infrastructure and famine
- (ii) An Incidence rate is calculated from data collected by population-based disease registers (e.g. cancer registry), cohort studies, and routinely collected databases (e.g. hospital admission, statutory notifications and general practice databases). Mortality statistics are unsuitable as a measure of incidence unless the disease has a short duration and high case-fatality. Problems of defining the numerator in terms of cases, rather than episodes, arise from use of unlinked data (often the case for hospital admissions). Problems defining the denominator may arise when using routine data sources, due to differences between census populations and catchment populations. Mid-year populations often used as an approximation to person-time denominators in routine data.
- (iii) Incidence rates may be used for predicting the risk of disease; research to improve the understanding of causes, patterns and treatment of disease; to describe trends of disease over time; and for evaluating the effectiveness of prevention and management programmes. Incidence rates are also of use for needs assessment and planning purposes, specifically for conditions where health service interventions are concentrated close to the point of diagnosis (whereas prevalence is more useful for needs/planning around chronic diseases).

The following points may attract extra credit:

Correct examples of where factors can increase the incidence.

EXAMINERS COMMENTS

This question offered scope to demonstrate knowledge across a range of topics and most candidates picked up marks in at least two subsections. Few, however, were able to answer well across all sections.

a)

Most candidates chose to define incidence in terms of persons, rather than spells of illness. However, credit was given for competently mentioning incidence (spells). Only the latter can be considered as an indicator of “workload” in section b(iii).

The concept of a person-time denominator was often misunderstood, and the better answers distinguished clearly between the concept of “at risk population” (related to catchment areas, and sometimes by exclusions of those no longer at risk (e.g. hysterectomy in a study of cervical cancer) and the concept of “time at risk” (related to right-censoring and dynamic populations). Few mentioned that incident cases should be removed from the person-time at risk after the development of their disease.

b)

(i) Some candidates chose to describe factors that might reduce incidence in answer to part b(i). Although this was not specifically penalised, it is wiser to read the question carefully! A good answer to this part included consideration of both real and artefactual increases. Good answers also provided a clear, coherent structure.

(ii) Mortality was often mentioned as a source of data on incidence, rarely qualified by adding statements that mortality is only of use for those conditions with short-duration of disease and high case-fatality. Similarly, many candidates mentioned use of surveys. Surveys are far more readily used to determine the prevalence of a condition, without including

detailed questions about the timing of onset of a condition which was rarely mentioned by candidates. Although many candidates discussed routine data sources and census-based population estimates, they did not demonstrate insight into the limitations of the latter. Cohort studies were rarely mentioned.

The term “nominator” was used by several candidates. The correct term is “numerator”.

- (iii) The use of incidence rates in research, or their use in evaluating the effectiveness of prevention and management programmes were relatively rarely included in candidates' answers.

Question 3

- a) What harm reduction or minimisation measures are available to help people who are injecting heroin users?
(60% of marks)
- b) What are the potential gains to health and society from an effective harm reduction strategy?
(40% of marks)

KEY POINTS

(a) Reduction measures:

Safer injecting techniques (at drug services or through user groups). Attention to hygiene, to reduce risk of tetanus, hepatitis A, and streptococcal infections associated with necrotising fasciitis. Avoid needle sharing; use needle-syringe exchange. Screen for blood borne viruses (hepatitis B and C, and HIV).

Provide hepatitis A and B vaccines, tetanus vaccine booster.

Prompt attention to abscesses, wounds, thrombosis.

Other safer routes of drug administration, e.g. inhalation, smoking.

Referral to drug services, counselling.

Substitution therapy, e.g. methadone, buprenorphine (Subutex).

Access to naloxone, to reduce overdose mortality.

Avoid/reduce polydrug use, and/or excessive alcohol intake.

Access to free condoms.

(b) Health gains:

Reduced incidence of complications from injecting, e.g. abscess formation, venous thrombosis, septicaemia, endocarditis, gangrene, hepatitis A.

Reduced dependence, overdose and mortality.

Reduced incidence of hepatitis B and C, and HIV.

Improved mental health

Less discarded needles in public places

(b) Social gains:

Reduced acquisitive crime and visits to street drug scene, gang membership.

Improvements in community safety, urban and rural environment.

Positive impact on prostitution, which is driven by need to obtain street drugs.

Less stress for families of injecting drugs users
Reduced prison population

EXAMINER COMMENTS

In general responses were disappointing given the nature of the topic.

Few candidates demonstrated a good breadth was limited knowledge of the breadth of harm minimisation measures. Better candidates mentioned other routes of drug taking such as smoking or inhalation; hepatitis b immunisation and safer injecting techniques and structured their answers; bullet points were particularly effective in conveying the answer to this question.

Some candidates simply described the structure of drugs services which did not answer the question which was set.

Question 4

- a) Describe the attributes of an ideal communicable disease surveillance system. (40% of marks)
- b) In a named country of your choice, describe the process of surveillance for ONE of the following diseases:
- Measles
 - Tuberculosis
 - Influenza-like illness
- (60% of marks)

KEY POINTS

- (a) Ideal Attributes
- Clearly defined objective based on national priorities and disease control strategies
 - Clearly defined case definitions
 - Data are collected from a range of sources
 - Clearly defined dataset with minimum necessary amount of data to be collected, which includes items to enable duplicate cases to be identified.
 - Clearly defined process with efficient and appropriate means of collecting data i.e. comprehensive, complete, timely, representative and ensures confidentiality
 - Timely feedback of descriptive and analytical data to local data providers/relevant local service providers and regional and national surveillance
 - Staff are trained and encouraged to analyse and use the data
 - System is flexible, acceptable, simple, useful and efficient
 - Leads to action e.g. detects outbreaks; suggests hypotheses; identifies trends and evaluates prevention and control programmes
 - Subject to regular audit against agreed objectives
 - Adequately resourced
 - Operate within confidentiality guidelines
- (b) Process of surveillance in a named country

Name of the country

For each process clear reference should be made to the chosen disease

- Data collection - e.g. in England and Wales; statutory notifications, laboratory reporting
- Data collation - record linkage, reconciliation of data from multiple sources, identify and remove duplicate cases/specimens to avoid eliminating
- Data analysis - descriptive; time, place, person, trends, geographical distribution, risk factors, morbidity/mortality, numbers/rates
- Data analysis - analytical; application of statistical methods, association/causation
- Data interpretation - application of epidemiological knowledge and principles, appreciation of limitations of statistical analysis
- Data dissemination - define purpose and target audience, timeliness and frequency, format and design.
- Necessary actions in the event of an outbreak, epidemic, pandemic.

The following will raise a pass to a "good" or "very good":

A well structured answer, which relates the principles to practice.

Use of disease examples to demonstrate salient points

A demonstrated clear understanding of the strengths and weaknesses of the major routine surveillance system for the named disease in the named country.

Mention of the need to evaluate/audit surveillance systems - review objectives, describe the process, assess performance, (comprehensiveness, completeness, timeliness, representativeness of all cases, accuracy, acceptability, flexibility, simplicity, cost) and recommendations for change.

EXAMINER COMMENTS

This question was, in general, answered well; section (b) was answered more completely than section (a).

In section (a), several candidates described surveillance systems rather than focusing on the ideal attributes of a surveillance system.

Better candidates were able to score highly in section (b) by setting out all of the surveillance systems put in place to monitor the spread of swine flu at local, national and international levels. Those candidates who pointed out the strengths and weaknesses of particular surveillance systems gained extra marks.

Question 5

Describe how you would investigate an apparent cluster of limb abnormalities in a defined part of a country?

KEY POINTS

The investigation would depend on how the apparent cluster came to attention.

(i) What is the evidence for such a cluster? (30% of marks)

The number of cases would need to be established with a tight case definition. Sometimes clusters are alleged in areas which have historically attracted children or individuals with special needs.

To establish the source of the information; is it an individual, group, or pressure group. It may be necessary to speak to the individuals or group alleging the existence of such a cluster.

(ii) What are the sources of information? (30% of marks)

In some parts of the world, there are well established regional congenital anomaly registers or national collection systems, but coverage is not universal. Country specific examples may be described here.

If these do not exist other sources of information would need to be identified. If these are not available it will be difficult to proceed but it may be possible to make comparison of rates with areas/countries with such data. If they do exist then what is the objective evidence of a cluster.

Denominator data will also be required to estimate birth prevalence. Having defined the population, live births and stillbirth numbers will be needed.

(iii) Who could be approached to assist and what sort of investigation might you carry out? (20% of marks)

Local experts should be approached to assist. These may come from organisations such as a congenital anomalies register, local disease surveillance experts (who might be, for example, in England and Wales the Health Protection Agency – other country specific examples may be given), and local academic epidemiology departments. Evaluate the quality of data, case definition, time trends and you might carry out a case control study. Remember this investigation may be presented in a court action.

(iv) Communications Strategy (20% of marks)

It is likely to be highly politically charged and may be related to allegations of some toxic source. It is likely to involve children, which is likely to attract the attention of the media. In the past there have been major health scandals such as the thalidomide tragedy.

A communication strategy will be needed to assist in handling this issue at all stages. This will involve the local director of public health and also is likely to involve the local authority. Once evidence has been collected it may be necessary to consider holding a press conference. There may be a demand for a public meeting.

EXAMINER COMMENTS

Public health practitioners are likely to encounter this type of question several times in their professional careers. Few candidates gave answers that indicated that they would have a systematic pragmatic approach in dealing with the situation. In general, most of the candidates tried to answer the question more like a research question rather than public health issue.

- A number of candidates leapt straight into describing case control studies without establishing a clear case definition and undertaking a close examination of the alleged cases. Good candidates used this question to reflect their stepwise approach to investigate the cluster starting with 'case definition' and establishing the credibility of the source of the news.
- Few candidates mentioned the need for a clear 'case definition'; some candidates did not answer the question and answered a question on the possible causes of limb abnormalities.
- Not many candidates mentioned trying to identify possible expert sources of advice such as regional Congenital Anomalies Registers, the Small Area Statistics Unit or again in the English context the role of the HPA in this area.
- Some candidates saw this as an opportunity to describe how they would manage a communicable disease outbreak with outbreak team – this was not the focus of this question.
- A number of candidates did not recognise the need to seek national expert opinion and too often relied on local advice, which is important as the numbers are likely to be small.
- Not many candidates identified all the key sources to ascertain the number of cases. Not many made reference to Congenital Anomalies Registers in their answers (not universal in the UK) or other potentially relevant data sources.
- Lack of communication strategy and a media/public engagement plan was the weakest part of most of the answers. They underestimated the importance of handling the media in this situation.

Question 6

- a) What are the sources and types of data available for monitoring health at an international level?
(30% of marks)
- b) Indicate the problems that may be associated with making health comparisons between countries and discuss how these problems might be minimised.
(70% of marks)

KEY POINTS

(a) Sources of Data:

Possible sources include the following:

WHOSIS (<http://www.who.int/whosis/en/>). The WHO Statistical Information System is an interactive database bringing together core health statistics for the 193 WHO Member States. It comprises more than 100 indicators, which can be accessed by way of a quick search, by major categories, or through user-defined tables. The data are also published annually in the World Health Statistics Report released in May.

WHO International Health Regulation (IHR)

Through National Focal point and Event Information Site which will have prompt information for incidents reported to WHO under the IHR

Media Monitoring

Through commercial software or in-house system. Need to verify the news with overseas health organisations if necessary

(Note: wikipedia should not be considered as a formal source of information)

Information from the websites of overseas health agencies or international organisation
For example, US CDC, WHO Regional Offices, HFA database for Europe-wide data, e.g. Eurostat, Peristat data.

Networking with external parties

For example, established contact points with overseas health agencies so that updated information can be shared

Disease specific data

Cancer registries are present in many parts of the world. These are a key source of data for international publications such as Cancer Incidence in Five Continents (published by the IARC- International Agency for Research on Cancer).

International clearing house for birth defects – international data on congenital anomalies.

Organisation for Economic Cooperation and Development (OECD)

The OECD collects and publishes a wide range of data from the 20 most developed countries the world. These countries include, European countries, but also Canada, US, Australia.

DHS surveys in many parts of the world provide a large range of health indicators, especially useful for low resource countries where routine data sources are thin on the ground.

(b) Problems of making comparisons

Absence of data, data are costly to collect and for developing countries a lower priority.

Differences in definition and interpretation (although ICD-10 is an attempt to standardise reporting across the world, this does not improve the quality of diagnostic information which might also vary between countries).

Differences in health systems make it difficult to make comparisons between e.g. USA and UK

Differences in programmes e.g. non standardisation of breast cancer screening, immunisation programmes across the world

Differences in periods reported. Some countries report data very late and therefore having a comprehensive picture at a given point in time is problematic.

One of the biggest problems in international comparison of health data is the differences in the age structure of populations – resolved by using age-standardised rate (as in Cancer incidence in five continents)

Steps to be taken to minimise problems could include:

1. Standardisation of definitions and methods of data collection, e.g. DHS surveys.
2. Use established coding systems such as ICD-10
3. Publish the results and make use of the data as this encourages feedback.

EXAMINER COMMENTS

- Good candidates mentioned several sources of data and went on in part (b) to give clear structured answers about problems inherent in making international comparisons.
- Many candidates only mentioned one international organisation (if any), the WHO and failed to mention others such as OECD, World Bank, and for European candidates Eurostat.
- Some candidates clearly confused the source with the type of data and resulted in giving a list of common data set (e.g. IMR, MMR etc) rather than identifying the key international source to get those datasets.
- A considerable number of candidates displayed extreme naivety in the availability of data internationally and simply listed a list of data sources which are available in the UK. Some went into irrelevant discussions about ecological fallacy.
- The problem of international comparisons was not well answered with few candidates even mentioning basics such as the International Classification of Disease (ICD -10)

Question 7

- a) Discuss both sides of the argument that rationing of healthcare is or is not inevitable. (50% of marks)
- b) What systems are used to limit and prioritise healthcare expenditure in a named country of your choice? (50% of marks)

KEY POINTS

- a) Argument supporting view that rationing of healthcare is inevitable:

Proponents of this view have argued: that rationing has historically been implicit in publicly funded healthcare systems through delay, dilution, deterrence; that explicit rationing allows open debate about eligibility, transparency and accountability; public healthcare systems that have free care for all ration according to e.g. waiting lists and constraining choice, e.g. cosmetic plastic surgery only available for specific conditions, while private healthcare systems or insurance systems ration by price and exclusion.

Argument supporting view that rationing of healthcare is not inevitable.

In the case of publicly funded healthcare systems, commentators have argued rationing is not inevitable, is possible to: stop offering ineffective treatments/services; eliminate waste; divert funding from other sectors e.g. defence; charge for some treatments/services (although this is a form of rationing)

- b) For each country, describe the type of healthcare funding and delivery system; name the rationing body e.g. NICE in UK; give specific examples of rationing e.g. high cost cancer drugs in UK; discuss advantages/disadvantages of rationing in the chosen country

Key points for candidates citing Hong Kong as an example:

Any reasonable points that may include:

Overall structure

Hong Kong achieves a near universal clinical care coverage through a system that derives over half of its funds from government general revenue. Government general revenue has funded most of hospital care, initially through publicly operated facilities and subvention of hospitals run by charities, and since 1991 these have been consolidated under the umbrella of the Hospital Authority. In contrast, most of ambulatory care has always been privately financed and provided, amounting to about one-third of total health expenditure, with limited prospective payment arrangements through employer-provided (mostly multinationals or large local firms), and to a certain degree self-purchased, medical insurance.

Provider payment methods

All public sector providers are salaried whereas private health care is mainly fee-for-service. Over 90% of the HA's income is from the government's general revenue. Patients in public hospitals pay a fixed per diem fee (less than £10 per day). The per diem fee is almost all-inclusive with the exception of a shortlist of privately purchased medical items (PPMI) for which

patients pay the full cost. Cost recovery has remained at less than 5% for inpatient care and less than 15% for outpatient visits.

Private charges are largely market-driven with no uniform fee schedule

Casemix approach within HA

Starting from 2009-10, the Hospital Authority uses a new “Pay for Performance” system” to adjust internal allocation of resource for hospital clusters.

Compared to the prevailing system in which the allocation of resources to each cluster is largely based on the annual plan and allocation in previous years, the casemix approach adjust the allocation by the Diagnosis Related Groups (DRGs) , which would improve fairness and transparency. The new system now applies to the acute inpatient services, which accounts for about 53% of HA’s total expenditure.

Role of government in price regulation/fee setting

Government, through the statutory HA, sets user fees for public health care only. It takes a laissez-faire approach to private provider payment levels and methods

Pharmaceutical regulation (drug lists, etc.)

In 2005 HA implemented a system-wide drug formulary and then updated the list of approved drugs in January 2008. However, unlike for example the UK NICE, the vetting procedures are not totally transparent to the public.

EXAMINER COMMENTS

The overall quality of submissions was variable. Well structured responses gave candidates a better chance of earning higher marks. Many candidates failed to address both elements of the question reducing the overall marks that they were able to achieve.

Many responses were sketchy and lacked detail. Responses would have benefitted from the use of salient examples to demonstrate understanding of the concepts discussed. For section (b) many candidates failed to respond to the question posed “What systems are used to limit and prioritise health expenditure in a named country of your choice?”, instead they described methods of health economic evaluation or the steps involved in undertaking programme budgeting and marginal analysis.

Question 8

Cultural difference is a neglected concept in the study of illness behaviour.

- a) Why is this of relevance in the context of public health practice? (30% of marks)
- b) What is the particular relevance of cultural differences when seeking to reduce health inequalities? (70% of marks)

KEY POINTS

(a)

Define culture with examples - beliefs, moral values, traditions, language, law held in common by a nation or community. Note this also applies to subgroup e.g. adolescents. Reference examples of studies which have shown cultural variations in illness behaviour (classic studies, e.g. Zola, Helman). Indicate the importance of understanding culture in public health/general practice settings.

-cultural variation in understanding of symptoms and in patient presentation and expectation about treatments.

(b)

Culture may contribute to (i) differences in disease prevalence by racial or ethnic group, (ii) differences in prevalence of behavioural risk factors by racial or ethnic group and (iii) differences in the predictors of health behaviour.

- It should be noted that there is heterogeneity within ethnic and racial group in which acculturation to dominant culture occurs over time so health risks will change over time following migration e.g. cardiovascular risk in Japanese in Hawaii higher than in Japan.
- Identify the importance of understanding culture when running services (Some examples from practice as well as the literature acceptable).
- Social marketing approaches provide an opportunity to gain a deeper understanding of population subgroups in order to develop culturally sensitive and appropriate public health campaigns.

Additional points for a good or excellent answer:

- Limitations of culture' literature (not that much research, not very accessible to professionals).
- How can professionals learn about other cultures?
- Reference to other medical healing systems and their relevance to orthodox medicine.

EXAMINER COMMENTS

The answers to this question were extremely variable; however, many candidates produced very limited answers which lacked detail and depth. Many candidates also failed to use the distribution of marks across the question - 30% for (a) and 70% for (b) - to ensure they used their time effectively.

- (a) Better answers started with a definition of 'culture' which then led the candidate to use a broad range of evidence and examples in the later parts of their answer including section (b). Those candidates who failed to define the term culture tended to focus on only one aspect of culture, most often ethnicity, and as a consequence their answers were very narrow and neglected the wider considerations of culture beyond race or ethnicity and their examples tended to be few. A few candidates directly confused culture with ethnicity and focused solely on ethnicity issues.

A small number of candidates recognised the existence of heterogeneity within cultures and the effects of acculturation. The better candidates drew on cogent sociological theory and empirical evidence and a good answer described the general case and then included a specific example citing specific studies and/or theory. Candidates who gave very general answers without identifying which groups and the cultural practices to which they were referring gained little credit. Some candidates answered by dealing with illness behaviour, the sick role and help seeking behaviour without including specific cultural considerations.

- (b) Question 8b focused on the relevance of cultural difference when seeking to reduce health inequalities - responses were quite variable including some answers which failed to mention health inequalities at any stage. Better answers started with a definition of health inequalities and used a framework or provided a structure to the rest of their answer. Some responses were very generic and the examples given were nonspecific so that cultural considerations were not highlighted.

Question 9

You are the strategic lead for a five-year international health project, and you have been given three months to develop a project proposal with a multidisciplinary team.

- a) How would you apply the principles of strategic leadership in the coming three months?
(40% of marks)
- b) Describe the components you and your team would include in the project proposal.
(60% of marks)

KEY POINTS

(a) Tasks of the strategic leader

The tasks broadly include the project management and the team management role. Management theories are expected where appropriate.

- Team management: selection of team members, leadership, team roles, building motivation and commitment, managing conflicts, negotiation, tasks allocation.
- Project planning and management : Needs assessment, situation analysis, options appraisals and feasibility of project, stakeholders mapping, different frameworks for strategy development, assess resources available, identification of collaborators, obstacles and risks.

(b) Project Proposal Outline

Different frameworks are acceptable. An example is the Logical Framework Approach (LFA) or Goal Oriented Project Planning (GOPP), which is a popular management tool used in international development programmes.

A project proposal will likely include the following components:

- **Executive Summary**
- **Introduction and background** - Introduction of the existing health problems, analysis of the solutions and the reasons to initiate this project. Background of the steering team, the composition of members, and the terms of reference may also be included.
- **Goal and objectives** - Objectives should be SMART.
- **Purpose** – Define the benefits by achieving the goal.
- **Activities** - Explain the strategies and activities to deliver the designed objectives. Develop strategies for activities with a realistic timeline. Use of gantt chart where appropriate.
- **Outputs** – Identify the deliverables.
- **Indicators of Achievement** - Need for objectively verifiable indicators (OVIs), at the process/ impact/ outcome level. The good indicators of achievement should be valid, reliable, sensitive, simple, useful and affordable.
- **Means of Verification** – Determine the mechanism for monitoring and quality assurance.
- **Resources implications** – Define the financial, materials, technical and human resources needs.
- **Sustainability** - Consider the sustainability factors for the project and the health impact.
- **Risks and Assumptions** – Discuss the assumptions underlying the project. Identify the obstacles and ways to overcome them. Described risk assessment for the project.
- **Reporting arrangements**

Additional point for credit:

- Quote management theories where appropriate, give explanation and examples.
- Mention of supporting plans, for examples, human resources development plans, communications plans, risk management plans.

EXAMINER COMMENTS

This question related to the leadership of a team on an international public health project. The best answers used a clear structure, and recognised the importance of attending to the team, leadership and task elements, appropriately referenced. Some candidates lost marks through concentrating on a single aspect, while neglecting others. Additional credit was given for appropriate examples.

Question 10

Discuss, using examples, the possible conflicts and difficulties that can arise when clinicians take on management roles in a healthcare setting.

KEY POINTS

Most of the following would be required to achieve a pass, along with illustrated examples:

Demonstration of an understanding of the dual clinical/managerial role either through the offering of relevant examples and/or through clear explanation.

Demonstration of an understanding that power and freedom must be exercised with discretion and caution.

Acknowledgement that collective corporate responsibility can also bring benefits, e.g. in terms of colleagues backing your initiatives.

Difficulty in shifting personal perspective from the individual patient to a population.

Difficulty in balancing clinical and managerial responsibilities, especially financial, imperatives.

A problem in re-negotiating professional relationships with former clinical colleagues.

A temptation to retreat into clinical work when pressured.

Coping with people's changed perception of you, such as how to answer "So you are a pen-pusher now!"

Achieving specialty neutrality and objectivity regarding colleagues.

Difficulty in accepting that management is an art and a science that needs to be learned.

Difficulty in understanding the complex informal power and influence of relationships which exist in health care management.

Difficulty with being challenged about one's managerial decisions.

The following are examples of points that could help those aiming for high marks:

Comparing and contrasting the medical dual role with that of finance colleagues, who may also have professional/corporate conflicts.

Some discussion of the relevance of clinical governance to this issue.

They may find it difficult to accept the need for tailored training – doctors becoming managers can also threaten managers, particularly if doctors are seen as exempted from formal training.

Difficulty in reconciling the need for management training with the need to complete specialty Continuing Professional Development.

Additional point for credit:

Demonstrate a professional maturity in their understanding of this difficult area, for example, the balance of rights and responsibilities.

Demonstrate, through carefully chosen examples, a convincing appreciation of how such conflicts arise and are resolved in everyday practise.

Articulation of strategies to address these conflicts:

- Persuasion of executive and management colleagues in private;
- Reasoned argument through the backing of a case through the analyses, interpretation and explanation of data;
- Use of the managing clinician's right to address Boards directly on matters of clinical concern;
- Use of the facility to record professional advice proffered and dissent from conclusions reached;

Help from colleagues elsewhere in the public health/clinical network who may be less constrained in how they articulate the case.

EXAMINER COMMENTS

This question concerned the difficulties which lie in wait for clinicians who move into management positions. The best answers were well-structured and looked at the many different types of problem which are encountered, in ways which showed they recognised the importance of such involvement in the management process. The best candidates used apposite examples, and relevant references to the management literature.

Paper IIA

You are a public health practitioner working on maternal and child health in an area with low breastfeeding uptake rates. A local TV journalist has contacted you about a publication in the BMJ which she says shows the importance of educational strategies to promote exclusive breastfeeding by new mothers. The journalist encloses the attached paper and asks whether or not the strategies described in the paper should be introduced in your area.

Antenatal education and postnatal support strategies for improving rates of exclusive breast feeding: randomised controlled trial. Su LL et al. BMJ 2007;335: 596-602.

The journalist invites you to participate in a short TV interview to discuss the findings of the paper and the relative merits of antenatal versus postnatal education in promoting breastfeeding.

1. Write a critical appraisal of this paper. (40% of marks)

2. Calculate from the data provided in the paper the number needed to treat. What is the meaning of this measure? (10% of marks)

3. What sources of information could you use to find out rates of initial and continued breastfeeding among pregnant* women in your area and compare these with local or national rates? (20% of marks)

4. Outline the preparation you would make for this TV interview, including the key points you hope to make. (30% of marks)

*An erratum was issued during the course of the examination to clarify Question 3:

In question 3 when this refers to "breastfeeding among pregnant women" this is referring to women who have recently given birth.

Question should read:

What sources of information could you use to find out rates of initial and continued breastfeeding among women who have recently given birth in your area and compare these with local and national rates? (20% of marks)

KEY POINTS

Q1. Critically appraise the paper

The candidate should demonstrate a systematic approach in their answer (**not** rewrite sections of the paper), covering the following areas:

Did the study ask a clearly focussed question? Is there a clear rationale for the study?

- Scientific background, rationale and aim for the study are clearly defined.
- Aim of the study was to assess the effect of education carried out during the antenatal period or postnatally to help women to exclusively breastfeed.

What type of study was this and was the choice appropriate?

- This was a randomised control trial based in a tertiary hospital in Singapore. The authors computed relative risks for breastfeeding exclusively at hospital discharge, 2, 6 weeks

and 3 and 6 months for women a) in postnatal support group and b) receiving antenatal breastfeeding education; vs routine antenatal care in hospital.

- A RCT is an appropriate design for this objective.

Were participant appropriately allocated to the interventions and control group?

- One control group (standard hospital care), two intervention groups, pre- and post-partum.
- Randomisation and allocation of participants to the study groups carried out centrally, by an organisation external to the hospital. They guaranteed and maintained a list of random codes for participants. Sequence of allocation concealed until intervention was assigned.
- The exclusion criteria (women at risk of multiple pregnancies) are clearly defined.
- The baseline characteristics of women were similar between intervention and control groups (Tables 1, 2), *except while intervention groups had similar numbers of women of Malay and Chinese ethnicity, the control group had almost twice as many of Malay ethnicity as Chinese. Could this make any difference?*
- Informed consent was sought.

Were participants, staff and study personnel 'blind' to participants study group?

- Study personnel obviously knew the group they were providing advice to.
- It is not known whether women could have come in close contact to one another, comparing advice received (contamination).

Were participants who entered the trial accounted for at its conclusion?

- Yes: the flow chart shows that 82% completed the 6-month follow-up, with no differences between groups.

Are primary and secondary outcome measures clearly defined?

- Yes. The primary outcomes were exclusive breastfeeding rates at 2, 6 weeks and at 3, 6 months after delivery. Secondary outcomes were rates of any breastfeeding at the same time intervals.

What was the target population? Was the study population representative of the target population? (Generalisability of results)

- The target population was that of pregnant women managed in hospital settings. The study population was fairly representative of the target population.
- Low rates of breastfeeding were observed in the control population, so that findings may not apply to a population where exclusive breastfeeding is more widespread.
- Candidates could discuss implications of targeting low socio-economic status population, and how to generalise results addressing women managed outside hospital facilities.

Presentation of the results

- Both ante- and post-partum education significantly improved rates of exclusive and any breastfeeding at up to six months after delivery.
- Predictors of breastfeeding were similarly distributed between the 3 groups.
- Post-partum group received 2 sessions, prenatal group only one. Candidates could discuss implications (it seems that it was mainly the educational session at 1-2 weeks postnatal to produce positive changes. If antenatal group had received 2 sessions the results between group 2 and 3 would have been more comparable)
- Initial assumption postulated that group 3 should have better outcome than 2 & 1, but no significant differences seen between group 3 and 2. Conclusion that postnatal education was marginally more effective than antenatal education not supported by data.

Was the statistical analysis clearly described and appropriate? Could the results be explained by chance?

- Statistical analysis is described, adjusted (Cox regression) RR and CIs were computed.
- Primary analysis was based on all participants with complete 6-month FU.
- Sensitivity analysis was conducted, to see whether, treating all women lost to FU as though none of them was exclusively breastfeeding. The authors show that even if this were the case, the results for the antenatal education group versus standard care did not change, while for the group on postnatal support significant results were only observed at 2 and 6 weeks.
- Sample size calculation is presented.

Are the results of clinical or public health significance?

- Yes, because the protective effect of exclusive breastfeeding is well documented.
- Consider cost implication. Alternatives like peer group influencing groups could be discussed.

Q2. NNT

NNT=100/absolute risk reduction%, e.g. in Table 3: at 6 months, group 2 vs 1: 100/(19-9). The expected number of women who have to be exposed to a “treatment” i.e. education to result in an additional occurrence of a good event (exclusive breastfeeding) compared to the non-exposed (routine hospital care).

Q3. Sources of information

- Routine national data on breastfeeding may or may not include breakdown figures by local (regional) data.
- Local surveys may be available, but considerations should be made about the population covered (e.g. socio-economic status etc). Consider whether robust enough results.
- National surveys, e.g. Infant Feeding Survey in UK, conducted every 5 yrs (latest available 2005), may have regional data.

Q4. TV Interview

- Appropriate use of language for lay person to understand. Describe the results of the study in lay terms.
- Use the opportunity to give a clear public health message that women should breastfeed. *However, limit any public health messages to a total of three if they are to be taken on board by members of the public.*
- Highlight local initiatives, discuss cost implications, discuss merits of other, possibly cheaper methods (such as peer counselling, public campaign, local press ads) that could possibly be implemented and assessed.

EXAMINER COMMENTS

The paper ‘Antenatal education and postnatal support strategies for improving rates of exclusive breast feeding: randomised controlled trial’ by Su LL *et al.* was a very straight forward one on which to carry out a critical appraisal exercise. However, many candidates failed to follow a logical sequence of appraisal, such as “Did the study ask a clearly focussed question? Is there a clear rationale for the study? What type of study was this and was the choice appropriate?” etc. Instead of giving focussed answers to such questions, candidates often simply repeated sections of the paper, or wasted time in irrelevant discussion which not only gave the examiners little opportunity to award marks, but also ensured that many had not left themselves sufficient time to attempt subsequent questions.

On the whole, most candidates were able to obtain the marks on offer regarding the number needed to treat in the second question.

Despite breast feeding being an important public health issue, it was clear that many candidates did not know what sources of information were available to enable rates of breast feeding to be

determined either locally or nationally. The fact that most only obtained low marks on this section cannot be attributed to the question referring to “pregnant women” rather than recently delivered women.

It was also apparent from answers to question 4 that most candidates had no experience of dealing with media enquiries, or even witnessing how such enquiries might be dealt with. The concept of discussing with an interviewer what questions they might ask is unlikely to be an option, although it would be worth asking what “angle” is being looked for in the interview. Informing the head of department and discussing the media approach with communications staff are important points, as is ensuring that information is given in terms that the public is likely to understand. The ability to communicate is an important public health skill.

Paper IIB

In its new format Paper IIB questions, key points and detailed examiner comments on each section will not be released.

Examiner comments on this second sitting of the new format Paper IIB questions were, as with the first sitting, generally favourable. Better candidates clearly read the questions and instructions and followed them carefully. For example, where a question indicated “in no more than four sentences write.....” better candidates wrote no more than four sentences. Candidates are also reminded that in, in contrast to Paper I, it is not necessary to pass all the individual sections on this paper to achieve a pass on the entire paper.