FACULTY OF PUBLIC HEALTH MEDICINE

Of the Royal Colleges of Physicians of the United Kingdom

MFPHM DIPLOMA AND PART I EXAMINATION

JUNE 2002

EXAMINATION PAPERS WITH EXAMINERS' KEY POINTS AND COMMENTS

N.B. Please note that these are <u>key points,</u> not model answers

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DIPLOMA & PART I EXAMINATION FOR MEMBERSHIP OF THE FACULTY OF PUBLIC HEALTH MEDICINE

Thursday 13th June 2002: 10:00 – 12:30

PAPER IA

Candidates must answer all six questions

This paper is intended to test knowledge across the broad range of the discipline. Candidates will be heavily penalised if they fail to attempt any of the six questions or give grossly inadequate answers to any of them. It is, therefore, essential that candidates ALLOW SUFFICIENT TIME FOR EVERY QUESTION.

1. Describe the following types of samples: for each, give an example of the use of the sample type in public health research, describing briefly for each of your examples how the sample might be constructed.

a) Simple random sample
b) Stratified random sample
c) Systematic sample
d) Cluster sample

2. The table below shows the results from a cohort study that examined causes of death over the subsequent 25 years amongst blood donors found positive for hepatitis B surface antigen in England and Wales.

Cause of death (ICD 9 codes)	Males			Females		
	Observed number	Expected number	SMR (95% CI)	Observed number	Expected number	SMR (95% CI)
All causes	363	329.6	110 (99-122)	57	76.9	74 (57-96)
Hepato-cellular carcinoma	15	0.67	2254 (1261-3717)	1	0.09	1175 (27-5989)
Ischaemic heart disease	22	37.0	59 (37-90)	3	4.8	62 (13-182)

a) What does the acronym SMR stand for?
b) What is a 95% CI (confidence interval) and what does it tell you?
c) How do you think the expected numbers were calculated?
d) What do the data show?
e) Suggest a reason for the ischaemic heart disease findings.

3. Write short notes on the main features of surveillance (with examples in a named country) of **two** of the following:

a) Influenza; b) Gonorrhoea; c) Tuberculosis.

4. Write brief notes on the evidence supporting smoking cessation interventions for a population of 500 000, and list the key components of an effective local implementation programme.

5. Table: Relative odds of birth defects in fluoridated areas compared with non-fluoridated areas and in 1994-98 compared with 1989-93.

	1994 - 1998		1989 - 1993	
Defect	**Odds ratio**	**95% CI**	**Odds ratio**	**95% CI**
Trisomies	1.11	(0.86, 1.43)	0.97	(0.75, 1.26)
Downs syndrome	1.05	(0.79, 1.41)	0.91	(0.68, 1.22)
Neural tube defects	0.82	(0.62, 1.09)	0.65	(0.49, 0.88)
Clefts	0.63	(0.46, 0.86)	0.77	(0.57, 1.04)
Stillbirths	1.06	(0.91, 1.24)	1.22	(1.05, 1.42)

Source: NHS Database

a) Briefly describe what the data in the table show. Comment on any limitation the data presented may have.

b) You are a public health professional serving a population covered by the above analysis. Some of your population drink fluoridated water at one part-per-million from a natural source. You have been approached by a journalist claiming to have firm evidence from the USA that "fluoridated water causes deformed babies". Make short notes to prepare to brief your local authority, including the line you suggest it takes with the press.

6. Deprivation may be measured at individual person and geographic area levels.

a) Write brief notes on **three** measures which can be used to describe deprivation in individuals and **two** measures which can be used to describe deprivation in areas.

b) What are the strengths and weaknesses of describing deprivation in individuals and in areas? Illustrate your answer by referring to the five measures chosen in a).

DIPLOMA & PART I EXAMINATION FOR MEMBERSHIP OF THE FACULTY OF PUBLIC HEALTH MEDICINE

Thursday 13th June 2002: 14:00 – 15:30

PAPER IB

Candidates must answer all four questions

This paper is intended to test knowledge across the broad range of the discipline. Candidates will be heavily penalised if they fail to attempt any of the four questions or give grossly inadequate answers to any of them. It is, therefore, essential that candidates ALLOW SUFFICIENT TIME FOR EVERY QUESTION.

7. Childhood obesity has been identified as a public health problem meriting urgent attention.

a) Outline the factors which have contributed to increased prevalence, and
b) Discuss potential strategies for prevention and management of childhood obesity.

8. A local provider of acute health care announces a plan to close a small rural community hospital, where care is delivered mainly by primary care physicians, and concentrate the care in a large teaching hospital twenty miles away. There is great local opposition, and the case is headlined in a series of articles in a local newspaper. In bullet points, list the economic, quality and policy issues raised by this situation.

9. Write short notes on how you would evaluate the quality of care in a coronary care unit.

10. What factors cause variation in measured performance in clinical practice? What steps might you take to improve quality?

DIPLOMA & PART I EXAMINATION FOR MEMBERSHIP OF THE FACULTY OF PUBLIC HEALTH MEDICINE

Friday 14th June 2002: 10:00 – 12:30

PAPER IIA

Candidates should answer all parts of this question

Style, clear grammatical English and legibility will be taken into consideration by the Examiners. Answers should be written in a form appropriate to the audience specified in the question. Weighting of marks for each part of the question is shown in parenthesis.

You work in a publicly funded health system which is free at the point of service delivery. The local primary care services are keen to improve their management of depression. They cite the attached paper: "Randomised trial of monitoring, feedback, and management of care by telephone to improve treatment of depression in primary care" (BMJ 2000;**320**:550-554) by Simon *et al*. They seek your help as a local public health practitioner to appraise and possibly implement the findings of this paper.

1. In fewer than 400 words, write a structured abstract of the study. *(10 marks)*

2. Explain what the authors were trying to establish in this research. Make particular reference to previous research. *(5 marks)*

3. a) What criterion was used to assess how an individual was analysed?
   b) What is this technique called, how is it performed, and why is it used?
   c) What evidence can be cited in judging the patient acceptability of the intervention?

   (10 marks)

4. Comment on

- the evidence that might suggest any possible mechanisms that could explain the positive effect;
- the evidence that would favour, or be a barrier to, the generalisability of the study.

(10 marks)

5. In fewer than 100 words, summarise what this research evidence adds to our present knowledge of treating depression in primary care. *(5 marks)*

6. What advice would you give to the local primary care services about the specific steps that you would need to take together, if you wanted to plan a similar programme?

   (5 marks)

(5 marks for structure, presentation and grammar.)

DIPLOMA & PART I EXAMINATION FOR MEMBERSHIP OF THE FACULTY OF PUBLIC HEALTH MEDICINE

Friday 14th June 2002: 14:00 – 15:30

PAPER IIB

Candidates should answer all parts of this question

Style, clear grammatical English and legibility will be taken into consideration by the Examiners. Answers should be written in a form appropriate to the audience specified in the question. Weighting of marks for each part of the question is shown in parenthesis.

Conurbia is a large city in the North of England. It has five Primary Care Organisations (PCOs) with the following registered populations:

PCO	Population
1	150,942
2	152,839
3	191,255
4	146,983
5	111,574

There are two hospitals providing secondary care services. One is also a centre for Neurosurgical Services. The common pattern of referral of patients from primary care to the hospital services is such that PCOs 1 and 2 use hospital A and PCOs 3 and 5 use hospital B. PCO 4 sends two thirds of its patients to hospital B and the rest to hospital A.

You provide the public health advice to the Stroke Services Development Group that operates on behalf of all the PCOs. At its next meeting you have been asked to comment on the findings from the annual report of the Conurbia Stroke Register (*handout A*). Data on 30 day survival are causing most concern.

You have also seen charts (*handout B*) that show the number of stroke inpatients per consultant for the year 2000. In addition your Public Health Analyst has left a brief note for you prior to going on leave. The note highlights the following points:

- A recent study[1] has shown that the estimated local annual incidence for stroke (adjusted for population of England and Wales) is 1.94 per 1000.
- A European study[2] has highlighted that overall 30 day case fatality is 20% in Western Europe.
- Comparing 30 day case fatality between the two hospitals shows the following:

  1998: Chi Squared = 9.1577, df = 1, p = 0.0025

  2000: Chi Squared = 4.1614, df = 1, p = 0.0317

In considering your advice to the planning group answer the following points:

1. What is the 30 day case fatality for each hospital and estimate what proportion of strokes are being admitted to the two hospitals in each of the two years. What are the possible explanations for the differences between 1998 and 2000? *(15 marks)*

2. Highlight the key considerations when establishing a disease register and the main concerns when running a disease register. *(10 marks)*

3. Write a brief report outlining the main components of an integrated stroke service which the planning group should consider. *(15 marks)*

(10 marks for structure, presentation and grammar.)

1 Gibbs R *et al*. Diagnosis and management of stroke and transient ischaemic attack across UK health regions from 1992-1996: Experience of a national primary care database. Stroke 2001;**32**:1085-90.

2 Brainin M *et al*. Acute neurological stroke care in Europe: results of the European Stroke Care Inventory. European Journal of Neurology. 2000; **7**:5-10.

Paper IIB: Handout A

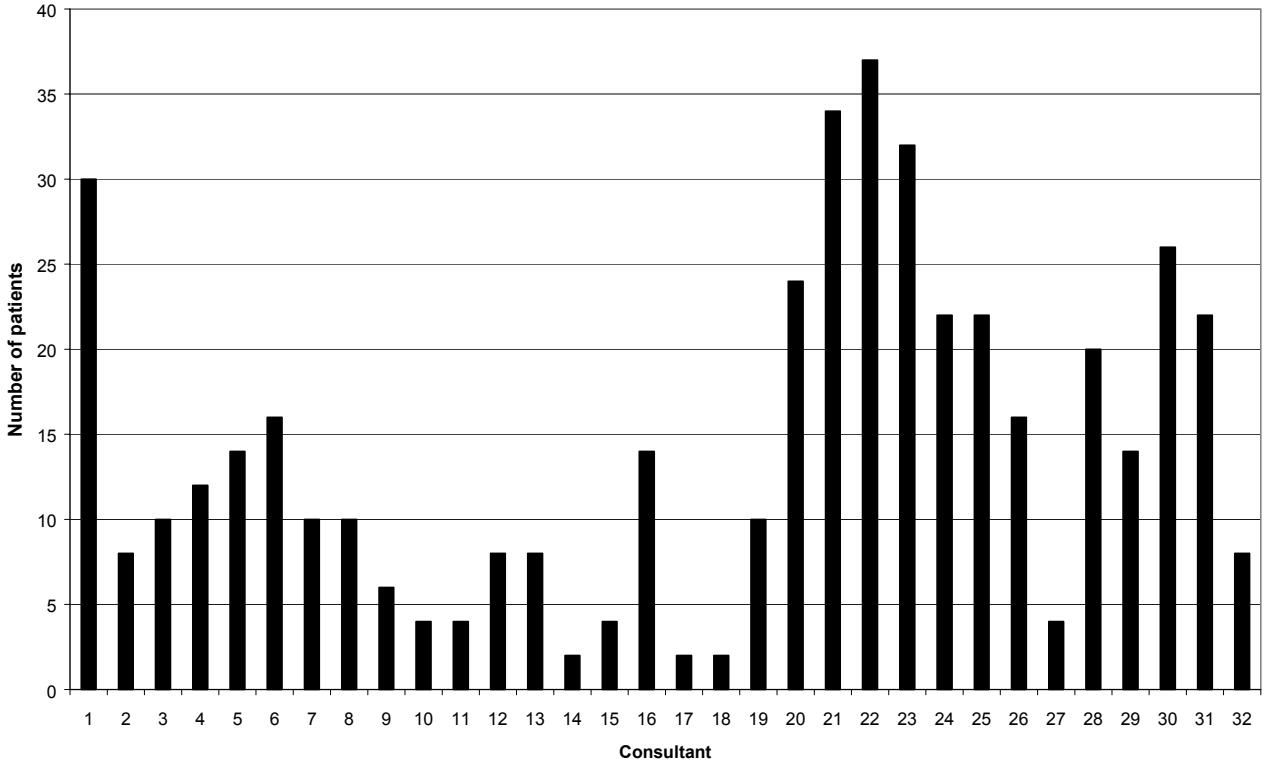
Findings from the annual report of the Conurbia Stroke Register

1998 Annual Stroke Register report	Hospital A (at 30 days post admission)		Hospital B (at 30 days post admission)	
Age Group	**Alive**	**Dead**	**Alive**	**Dead**
<65	82	8	43	5
65-74	113	18	117	26
>75	200	61	201	98

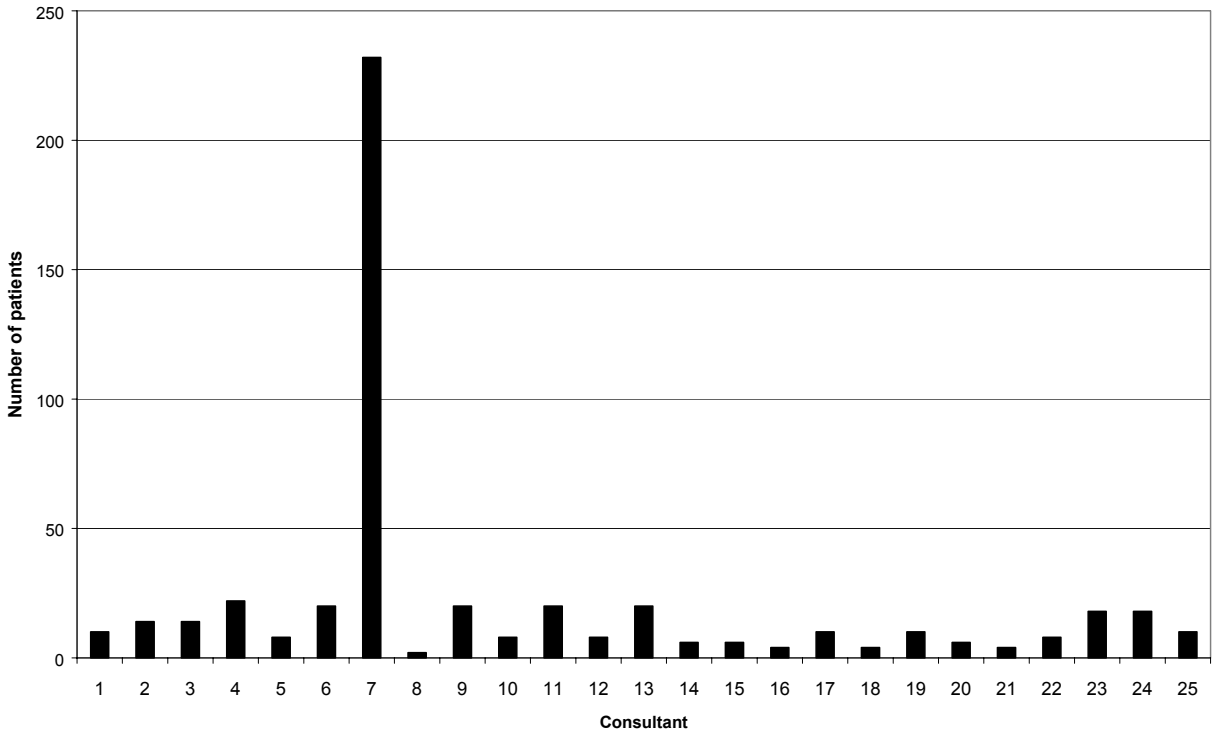
2000 Annual Stroke Register report	Hospital A (at 30 days post admission)		Hospital B (at 30 days post admission)	
Age Group	**Alive**	**Dead**	**Alive**	**Dead**
<65	70	11	75	15
65-74	99	23	96	21
>75	158	94	221	74

(Handout B overpage)

Hospital A: number of patients per consultant



Hospital B: number of patients per consultant



DIPLOMA & PART I EXAMINATION FOR MEMBERSHIP OF THE FACULTY OF PUBLIC HEALTH MEDICINE
13-14 JUNE 2002

KEY POINTS AND COMMENTS

PAPER I

QUESTION 1.

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

- Simple random sample:
  - each person has an equal chance of being selected.
  - Appropriate example and process e.g. random numbers
  - Should be representative of the population from which it is drawn
- Stratified random sample
  - Population is divided into sub-groups (e.g. by age)
  - Appropriate example and process for selecting from sub-groups
  - May or may not be representative of population
  - May be used to weight the sample for sub-group analysis or groups of interest
- Systematic sample
  - Systematic process for selection; give appropriate example and process
  - Prone to bias
- Cluster sample
  - Unit selected is a group of persons: give appropriate example and process
  - May be (only) practical and useful sampling method in public health (e.g. schools)
  - Need to take clustering into account in analysis
- Detailed examples

COMMENTS
There was a very wide range of marks, but some common mistakes. Systematic sampling was the least well described, with some candidates describing quota or purposive sampling. Many candidates mistakenly talked about randomisation for intervention studies rather than sampling. Similarly "cluster" was misinterpreted as some to be about disease clustering. Many candidates described stratification occurring after drawing the sample rather than before. Relatively few candidates remarked on how representative or not samples were of the populations from which they were drawn.

QUESTION 2.

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

a) Standardised Mortality Ratio.

b) In the simplest situation, random sampling of individuals from a defined population, it is a range of values which is designed to have a 19 in 20 chance of including the relevant population mean, proportion positive, etc. (In this context, it gives a corresponding range of values which

is interpreted as likely to include "the" SMR that would apply in a longer data accrual period in a wider area.) If it does not include the null hypothesis value (100 in the case of an SMR) this implies that it is statistically significantly different from the expected.

c) By applying mortality rates for England and Wales to the person years at risk adjusted for age, sex and calendar period.

d) They show that:

- In men overall mortality is 10% higher than expected but not quite statistically significantly different from the expected. In women the overall mortality is significantly lower than expected.
- In both men and women there is an increased risk of primary liver cancer. In men this is very marked – approximately 20 fold and is statistically significant. In women the increase in risk is apparently very great also, could well be similar to that in men, but due to very small numbers we can't rule out the possibility that this is a chance finding.
- In both men and women the mortality from IHD is low compared to the general population. The decrease is apparently very similar, by about 40%, in both – statistically significant for males, but not for females, for exactly the same reason as above, far fewer females than males in the cohort.

e) This is probably because blood donors are much healthier than the general population – by both self-selection and NBTS selection. This explains why the female overall mortality is significantly low – but by the same token the male overall mortality suggests severe adverse sequelae of HBsAg positivity.

COMMENTS

In general, this question was answered well. However, more narrative description of the findings in the table would have been welcome. Some candidates made direct comparisons of the male and female SMRs stating whether or not the confidence intervals overlapped with each other - this is invalid.

The method of calculating SMR was not well answered, with most candidates missing out the need for the rates to be sex as well as age specific and to be applied to person years at risk.

QUESTION 3.

(UK examples - other countries to be taken into account)

a) Influenza

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

- Statutory notifiable? Not in UK
- Laboratory reporting: via CDR/CoSurv (voluntary) in UK.
- Only minority are confirmed by laboratory.
- Antigenic typing by reference laboratories (e.g. to compare to vaccine strain).
- Clinical surveillance, usually via General Practice: e.g. RCGP in England and Wales.
- Surveillance particularly intensive in winter (winter pressures on NHS).

The following are additional points which might improve the answer to "good" or "excellent":

- International surveillance of circulating strains (vaccine recommendations, pandemic warning).
- Death registrations: Weekly mortality data monitored nationally (inc. all cause, respiratory)in UK.
- Hospital admissions increase if influenza circulating.
- Other Health Service activity can be monitored e.g. NHS Direct, 999, A&E, out of hours.
- Thresholds/definitions required for GP surveillance.
- Other sources, e.g. Medical Officers of Schools Association (MOSA) in UK.

b) Gonorrhoea

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

- Statutory notifiable? Not in UK.
- National surveillance systems: GUM clinics send quarterly returns to CDSC (KC60) in E+W.
- UK system provides aggregated data by age-group, sex and sexuality.
- Useful to monitor trends (e.g. increase in recent years in UK).
- Laboratory reporting: via CDR/CoSurv (voluntary) in Eng.
- Confidentialty issues (most data anonymised in UK).

The following are additional points which might improve the answer to "good" or "excellent":

Will vary by country, in England:

- KC60 only reliable at regional level or above (lack of residence data).
- Also lacks data on ethnicity (important ethnic differences in incidence).
- Clinics may provide non-aggregated data or information on residence/ethnicity for local use.
- National strategy for sexual health has target to reduce gonorrhoea (as did Health of the Nation as proxy for HIV risk).
- Important to monitor antibiotic sensitivity.
- GRASP (Sentinel surveillance for antimicrobial resistance).

c) Tuberculosis

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

- Statutory notifiable? Yes in UK, under Public Health Act.
- Studies show under-notification occurs.
- Laboratory reporting of isolates: via CDR/CoSurv (voluntary) in Eng.
- However many cases not microbiologically confirmed.
- Enhanced surveillance: introduced in 1999 in Eng.
- Uses local co-ordinators to collect enhanced dataset (e.g. ethnicity and place of birth).

The following are additional points which might improve the answer to "good" or "excellent":

- Under notification/reporting higher for non-respiratory TB (or not diagnosed by respiratory physician).
- Other sources of information could include hospital admissions, death certificates, histology reports and prescriptions.

- Important to monitor antibiotic resistance (Mycobnet in Eng).
- Genotyping will have increasingly important role.

COMMENTS
The quality of responses was variable with several very poor answers. Some candidates did not answer the question but instead listed factual information about the named infectious diseases which was not relevant to the question. Some candidates described the epidemiology and management of the diseases rather than the features of surveillance. A number of candidates were unable to identify which of the diseases were notifiable in the UK.

QUESTION 4.

- Smoking cessation interventions are very cost effective in preserving life and reducing ill health
- Brief opportunistic advice from health care professionals – 1-3% smokers stop for at least 6 months. Triggers quit attempts primarily in light smokers. Only a minority of GPs give advice at every opportunity. Smokers more receptive when advice linked to surgery visit.
- Face to face behavioural support to aid quit attempts – 3-10% smokers stop. For moderate to heavy smokers wanting to stop. Effect greatest in specialist clinic settings, specifically employed professionals, more time spent with smoker has greater effect. Pregnant smokers wanting to stop in one-to-one counselling with specialist support effective. Pharmacist support combined with NRT has a positive effect.
- Nicotine replacement therapy – for moderate to heavy smokers receiving behavioural support. Overall 5% stop with limited support, 8% stop with intensive support. Little difference in effectiveness of different types of NRT. Higher dose gum and patches increases effect. Health professional support is not essential for NRT to be effective. More effective in moderate to heavy adult smokers without smoking related diseases. NRT safer in pregnancy than smoking. About 25% of quit attempts involve NRT. Most GPs believe NRT works.
- Bupropion – about 9% smokers stop. For moderate to heavy smokers with intensive behavioural support. Uncertain whether more effective than NRT. No trials with minimal support.
- Self-help materials – about 1% smokers stop. Materials tailored to characteristics of particular smokers may be more effective.
- Telephone counselling – about 2% smokers stop. Evidence limited. May be difference between proactive (counsellors call smokers) and reactive counselling (smokers call counsellors).

An effective local implementation programme should include the following:
- GPs - offering opportunistic advice; advising on or prescribing NRT or bupropion; referring to specialist cessation services
- Specialist smoking cessation services – supporting smokers who want to stop with behavioural support using NRT or bupropion if possible
- Specialist cessation services for hospital patients and pregnant smokers wanting to stop
- All health professionals involved in smoking cessation encouraging and assisting smokers in use of effective drug therapies where appropriate.

COMMENTS
Although there were several excellent responses, the responses of some candidates did not address the question. The question was in two parts and some candidates only answered one

part. Some candidates misinterpreted the first part of the question and provided evidence of the harmful effects of smoking rather than the evidence supporting smoking cessation interventions.

QUESTION 5.

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

a)
- Marks for describing data (including what do CIs mean?)
- This is ecological study, taking no account of migration or other confounding factors. Limitations of data.
- Analysis shows no evidence fluoridation has any adverse influence on birth defects or still-births (and may have a protective effect on clefts and neural tube defects)

b)
- Fluoridation (1 ppm) safe and effective preventive measure dental caries
- No evidence of harm to health has stood up to scrutiny
- Continuing controversy linked to restricted implementation
- What stance public health professionals should take

The following are additional points which might improve the answer to "good" or "excellent":

- Why this controversy has persisted
- Similar interventions (e.g. folic acid in flour)
- Propaganda versus scientific evidence (inc. York review)
- Power of the pressure group/media

COMMENTS
Good, searching question. Range of answers. Some got quickly and correctly to the heart of the question, others didn't. Some irrelevant elements, range of spelling of fluoride!

QUESTION 6.

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

- able to describe three measures of individual deprivation (e.g. occupational socio-economic group, income, receipt of benefits, educational achievement, car ownership, housing tenure etc) and to be able to comment on them in terms of their construction, validity, availability and completeness.
- able to describe two measures of area deprivation (e.g. Townsend, Carstairs, Jarman, DoE) and to be able to comment on them in terms of their construction, validity, availability and completeness.
- Measure(s) and level chosen should be determined by the question(s) being asked.
- Concept of measuring actual deprivation, proxies of deprivation and risk of deprivation
- Difference between relative and absolute deprivation
- difficulties in applying some measures to particular groups (e.g. housing tenure in some ethnic minorities) and areas (e.g. car ownership in rural areas)

- For individuals,
- people at the extremes may not be included in some measures (e.g. homeless in housing tenure, extremely wealthy in occupational measures)
- response bias
- For areas
- risk of ecological fallacy
- greater completeness, ease of collection, use of routine data

The following are additional points which might improve the answer to "good" or "excellent":

- evidence of detailed knowledge of how measures are constructed and the circumstances in which they are used.
- Is Jarman a measure of deprivation?

COMMENTS

This was a straightforward question on the techniques for and implications of measuring deprivation. The question had been posed in very similar form two years previously, and it was disappointing to find that it was not better answered at this sitting: only two-thirds of candidates achieved a pass mark on this particular question. The main failings were a tendency to list deprivation measures without comment as to their construction, validity, etc – or alternatively, to write lengthy sociological discourses which often meandered into a discussion of services issues around the availability of healthcare and so forth. Good candidates produced tight, well-structured answers of 2 or 3 pages, often in tabular format.

QUESTION 7.

a) Lifestyle factors – diet, exercise
   Increasing affluence
   Increase in consumption of processed foods
   Environmental factors – increased car usage
b) Health promotion interventions
   Guidelines
   Inter-sectoral collaboration (e.g. involvement of schools)

Points meriting additional marks:

a) Social class patterning of childhood obesity
   Cultural factors, ethnicity
b) Collaboration with industry
   Government regulation of industry
   Policy initiatives – e.g. car free zones

COMMENTS

This was answered very well overall. Mention of disadvantage/poverty and discussion of environment, multi-agency working and the role of industry characterised the better answers, but tended to be omitted from the others. Some candidates failed to include lack of exercise as a contributory factor.

QUESTION 8.

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

Economic:
An economic evaluation would involve a cost-benefit analysis which allows for different services to be compared - i.e. existing provision and the proposed new arrangements. However, some data would not be available until the new service was actually in place.
Cost-benefit analysis would cover:

- Health service costs (including staffing costs, equipment).
- Unit costs (with regard to inpatient days, outpatient attendance and could include analysis at ward level or with regard to specific procedures). NB Unit costs are often high compared to larger hospitals, but difficult to compare like with like.
- Patient outcomes re. health status, quality of life, length of hospital stay, readmissions, occurrence of complications, impact on waiting lists; problems in deciding exactly how to measure – which indicators to use.
- Benefits & disbenefits to patients and carers (including travel and opportunity costs).

Quality:

- Do you get the same service? E.g. what is the evidence re:
  - Small vs large hospital?
  - Primary care vs secondary care providers?
- Lack of clear (UK) central guidance, so much local variation in how local hospitals are regarded.
- Power imbalances inherent in this situation – GP versus hospital services, local versus central, community preferences versus professional views.
- Assumes higher volumes associated with better outcomes, evidence on this weaker than may have been assumed.

Policy:

- Public perspective:
  - Many small rural hospitals, so not an uncommon situation.
  - Location of community hospitals often related to decisions many years ago, may distort investment patterns.
- Substantial costs in these hospitals, service provision may reflect use of available resource, rather than service designed to meet people's needs.
- Potential for conflict between professional perspectives and local community preferences.
- Candidates expected to demonstrate awareness of wider issues of community ownership and different viewpoints, rather than assumption that the cheapest option is necessarily best.

The following are additional points which might improve the answer to "good" or "excellent":

- Benefits and disbenefits to health economy and local economy.
- 'Intangible costs'.
- Acknowledgement that professional and lay constructions of risk may differ in relation to local services.
- Identification of shifting power balance, combined with decline in respect for traditional authority, that makes decisions to move resources less likely to be accepted than in the past.

- Role of media and communication strategy, some candidates may note role of local politicians.
- Noting that increased power of other interest groups may lead to a planning paralysis, in which little resource can be moved to invest in potentially greater gains.

COMMENTS
There was a wider range of marks than in question 7. Several candidates gave overly brief answers and the policy section was, in general, not well addressed.

QUESTION 9.

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

- Systematic and structured answer essential, e.g. "Donabedian" approach of structure, process and outcome
- Structural aspects: e.g. facilities, equipment, staffing levels, skill mix
- Process aspects: e.g. "Total Quality Management" approach, protocols and guidelines, training, complaints handling, feedback, relationships with referrers and other parts of the hospital (e.g. imaging, pathology), leadership, teamwork, clarity of business plan
- Outcomes and impact: clinical outcomes, patient satisfaction, staff satisfaction, teaching and research output
- Value for money - efficiency
- Comparisons with other units of similar size treating similar populations, performance against national targets and norms
- Is it meeting appropriate needs?

The following are additional points which might improve the answer to "good" or "excellent":

- Named citations of established models of quality assurance
- Citations of published evaluations of coronary care units.

Accurate quotation from extant national policy of a particular health care system (e.g. UK National Service Framework for CHD - targets for coronary care)

COMMENTS
The question was answered to a variable standard. Better candidates provided a good structure to their response and demonstrated a clear understanding of the methodological side as well as its application to broad public health principles and practice and to the specifics of Coronary Heart Disease.

QUESTION 10.

Need to address variation measured using numbers, quality assessment techniques and the issues involved in improving quality.

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

- Population variables, age sex structure, ethnicity, deprivation etc. Attitudes, values and expectations of health and health care.

- Service variables. Structure and processes of local service, investment and resources available
- Professional variation – competencies of local professional groups.
- Difficulties in establishing good measures of performance, there interpretation and use in planning changes

- Importance of change management in developing health care.
- Quality control systems including concept of clinical governance
- *Personal professional based* e.g. CPD, PDPs etc. assessment and revalidation.
- *Service based,* managed care pathways, clinical effectiveness and the use of guidelines, routine clinical audit, clinical leadership. Peer review assessment visits.
- *Organisation based,* leadership, HR policy supporting staff, types of organisational culture, financial probity, corporate governance and clinical governance.
- Performance indicators and how to use them including comparative audit across units.
- Links between training and education, and research and development

The following are additional points which might improve the answer to "good" or "excellent":

- Tudor Hart and the Inverse care law
- Description of current changes in own health care system to improve equity of access to care.
- Local examples of change management in own health care system
- Methodologies available for measuring variation
- Importance of team working.

COMMENTS
The question was answered to a widely varying degree with some extremely poor answers and other extremely good ones. Whilst most candidates attempted a structured answer, poorer responses failed to give enough detail. Other candidates did not answer both parts of the question to the same degree of satisfaction. Some candidates spent more time discussing methodology without specifically relating it to the circumstances described in the question. Again there was a varying ability to apply the practices of public health to answers, and although some answers may have been correct from a text book point of view they failed to demonstrate the depth and the use of public health principles in actual day to day practice.

PAPER IIA

1. - Most importantly, the abstract should be explicitly structured.

- Headings should be approximately these, in this sort of order:

Objective
Design
Setting
Patients/participants
Intervention
Main outcome measures
Main results
Conclusions

2. Simple screening of people with depression in primary care is known to be ineffective. Much more costly intervention (involving patient self management, intensive follow-up, and a more integrated approach service provision) can improve outcomes at considerable expense. The authors were keen to establish whether an intermediate set of interventions (at intermediate cost) was likely to be effective.

3a. People were analysed by the groups they were allocated to and not by the actual intervention they received.

b. "Intention to treat analysis." This techniques allows a more accurate estimation of what is likely to be the result of such interventions in practice. If people who are in the intervention group, and who do not end up receiving the intervention, are excluded from the analysis, you risk introducing a difference between the exposed ad non-exposed subjects, exactly the thing randomisation is designed to avoid. This therefore defeats the main purpose of random allocation. By including all the patients (regardless of whether they actually received the treatment) any difference detected can be more validly attributed to the effect of the treatment, rather than the fact you might be analysing a different sort of patient (i.e. one who readily accepts the intervention). This is more useful to predict what will really happen in a non-experimental setting.

c. High enrolment and the high rates for completion of telephone contacts imply favourable patient acceptability.

4. Mechanism not obvious. Level of drug intervention only marginally increased. No increased number of follow up visits. Organised and consistent follow up (arranged phone calls) resulted in nearly half of patients receiving substantial additional help. The effects are presumably located here.

Generalisability: The care managers did not appear to need to be highly trained. Moreover, the criteria for inclusion were broad. Both factors would favour generalisability. However, the main barrier to generalisability is likely to be the resource implications of computerising the information needed to run the programme (pharmacy, diagnostic information, etc…) and the availability of a psychiatrist.

5. In primary care, telephone monitoring people twice after beginning treatment for acute depression, combined with feedback to the doctor and care management by telephone when required, showed significant benefits in the treatment of the depression at reasonable cost. Feedback of available computerised information alone (number of visits and prescriptions) to doctor had no effect

6. (*key points not exhaustive)*

- Ensure that all the clinicians and managers who would be involved consider the proposal acceptable.
- Appreciate that it is not simply a change of service provision - more funding will be required.
- Understand the importance of the excluded groups in the study cited.
- Understand that the results of the trial apply only to newly diagnosed uncomplicated depression.

- Consider writing a protocol explaining exactly what is intended by whom, and why.
- Apply for research funding to replicate the evaluation in your setting.
- Contact the authors of the given study for their advice, on practical details not made explicit in the paper.

COMMENTS
This question was not difficult. Many of the parts of the question hinted at the answers if read carefully. As a result, it was (in general) well answered.

Specific comments:

Many of the abstracts were too discursive. Abstracts should be structured. This means more than dotting the answer with headings. The text needs to be as concise as possible. 400 words is a generous allowance, and some people still exceeded this.

Many people answered questions about mechanism by simply stating it could be bias, chance, or confounding. These terms were often not explained. When they were explained, they were sometimes confused. Lastly, many people forgot that sometimes there is a REAL effect!

Many of the parts of the answers were very general and occasionally made little reference even to the paper.

The part of the question that related to generalisability was answered very negatively, despite the plea in the question for a balanced approach.

As always, poor handwriting let some candidates down unnecessarily.

Some people failed to mention the **cost** elements of the study, a key part of the whole hypothesis.

Although generic frameworks are helpful in answering questions, they must not be applied blindly and unselectively. Some candidates used frameworks with very little reference to the actual question or the paper.

The question on how subjects were analysed referred to Intention to Treat Analysis. This confused a few candidates. The question clearly asked the criterion on which individual analysis was based.

The final part of the question was often poorly answered through being unstructured and unrealistic. Too many candidates gave a random list of possible activities. This may be because some candidates planned their timing poorly and were rushed at the end of the time period allowed.

PAPER IIB

Case fatality

1998	Hospital A	18%
	Hospital B	26%

2000	Hospital A	28%
	Hospital B	22%

1998: 66.5% of predicted strokes admitted

2000: 65.5% of predicted strokes admitted

Explanations

- Arisen by chance
- Artefact caused by:
  - case mix i.e. crude data needs to be standardised for age, sex, type of stroke, AF, hypertension, smoking, socio-economic group
  - incomplete case ascertainment e.g. drop in 65-74 group in Hospital A
- Service development e.g. stroke specialist at hospital B altering care pathway for patients, change in admission policies or loss of expertise at hospital A, PCTs developing community or outpatient based services.

Register

- Setting up
  - Purpose, how cases are identified and reported, how information recorded, storage and communication of information, responsibility for analysis, reports and handling requests, confidentiality and ethical and data protection issues
- Running
  - Maintenance of quality
    - Case ascertainment
    - Validity - missing/incomplete records, duplication, coding, comparability of diagnosis

Integrated stroke service

- Definition of stroke, high risk groups e.g. African Caribbean, South Asian, lower socio-economic groups. Strong evidence that use of integrated stroke care from a specialist team in a stroke unit improves survival and recovery and may reduce hospital stay.
- *Prevention* –
  - population approach as for CHD

- High risk approach e.g. previous stroke, TIA, Carotid stenosis, AF, hypertension

- *Immediate care* - diagnosis, management of early complications, advice to carers, multidisciplinary assessment, co-ordination
- *Rehabilitation* – multidisciplinary, nutrition, therapy input, equipment , occupational advice.
- *Long term support* – co-ordinated approach, secondary prevention, social and emotional support, adapted housing.

COMMENTS

Overall the response to the question was poor. A number of candidates failed to structure their responses in a coherent manner or manage their time well. Those candidates who did well demonstrated a broad understanding of the public health issues and a population approach. Too many candidates focused purely on a hospital service. Candidates who did well also tended to relate the information in one section of the question to answers in an other part.

Section1

In determining the case fatality rate those candidates who demonstrated their methods were able to gain marks even if the answer was wrong. A disappointing number of candidates did not know how to calculate case fatality rate.

In estimating the proportion of strokes being admitted to hospital, a number of candidates made the incorrect assumption that all strokes were admitted to hospital.

Too many candidates were uncritical of the data, those candidates who did well demonstrated awareness of chance, bias, artefact, case-mix and changes in the service.

Section 2

The section on registers was answered reasonably well. However a number of candidates did not provide an answer that recognised the two parts of the section. Those candidates who did well were able to use technical terms like case ascertainment and validity. Some candidates failed to consider the purpose of a register or how to use the information from it, whilst other failed to consider ethical issues and consent.

Section 3

A number of candidates appeared not to realise they were providing Public Health advice as opposed to clinical advice. A number of candidates spent too much time restating information in the question. Many candidates failed to consider at-risk groups and how those not using the hospital service might be managed. Few candidates considered the definition of stroke. Those candidates who did well demonstrated a structured approach to the question, were aware of the evidence base and considered aspects of prevention, treatment, rehabilitation, and long term support as well as joint working and evaluation.