Practice based health needs assessment: use of four methods in a small neighbourhood

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Abstract

***Objective*—To explore the use of four methods to define health needs in a community, with a view to formulating guidelines for practice based assessment of health needs.**

***Design*—Collection of data on health needs for a specific neighbourhood with four complementary methods: rapid participatory appraisal, postal survey, analysis of routinely available small area statistics, and collation of practice held information.**

***Setting*—Council estate of 670 homes in Edinburgh.**

***Main outcome measures*—Description and comparison of health needs found by the different methods.**

***Results*—Each method yielded particular insights into both health and health care needs.**

***Conclusions*—An extended primary care team with public health support can assess health and health care needs in a neighbourhood by means of a mixture of quantitative and qualitative methods. Different methods may be more suitable to assess different health needs or to explore potential service provision in the community or in primary or secondary care. A composite method may be most informative.**

Introduction

General practitioners and community nurses are able to observe patients' health and disease, both physical and emotional, over long periods and in the context of families and communities. Primary care is thus an excellent setting for describing the wider public health and health service needs of both patients and communities. As fundholders or non-fundholders participating in commissioning, general practitioners are becoming increasingly involved in the process of defining and measuring health needs, considering how these needs might best be met, and monitoring some aspects of the performance of providers. Commissioning led by primary care requires consideration of social services, education, employment, and housing since all these affect health status.[1]

Although mechanisms of commissioning have been the subject of much debate, methods of assessing health needs in primary care are underdeveloped. Community surveys and community profiling have been widely carried out in developing countries but, with notable exceptions,[2,3] have gained little recognition in the NHS. Gillam has called for explicit and coherent approaches to assessing health needs in primary care that can be tested at regional and practice levels, and the Health Visitor Association and the Royal College of Nursing have published guides to practice profiling.[5,6]

Much work has been done in individual disciplines with single methods. Researchers have developed a variety of validated instruments for generic and disease specific surveys to assess needs.[7] Professionals in primary care perceive a role for practices' annual reports in assessments of health needs[8] and are also exploring the use of "indicative prevalences" to estimate undiagnosed morbidity.[9] Specialists in public health have developed new formulas for weighted capitation but conclude that no national formula can possibly capture all the legitimate variations in needs that exist in many districts.[10] The United Kingdom Health for All Network and local community health projects have demonstrated and voiced the importance of environmental factors.[11] However, little has been done to bring together these approaches to create an overall picture and to examine which approaches are most informative for which purposes. Shanks suggests that a combination of practice based and centrally held information for the same locality would provide a more complete picture of needs than either could separately,[12] and our study uses further sources of data.

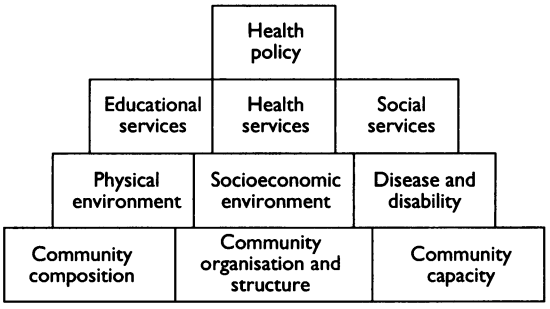
The setting of our study was a small postwar council estate of 670 households in central Edinburgh. Four complementary approaches to assessing health needs were applied within a small neighbourhood. Each method was applied with the detail and complexity which might reasonably be carried out in small neighbourhoods by individual practices to inform commissioning.

Methods

RAPID PARTICIPATORY APPRAISAL

Rapid participatory appraisal is a qualitative technique for community assessment which originated in developing countries to gain insight into a community's own perspective of its needs.[13] A multisectoral team of a local general practitioner, a health visitor, two social workers, and a community education worker collected data from three sources: existing documents about the neighbourhood, interviews with a range of informants, and direct observations about the neighbourhood.

As described previously,[14] a profile was built from information collected on nine aspects of the community. These were brought together to form the information pyramid shown in the figure. The bottom



Information pyramid constructed for rapid participatory appraisal

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layer defined the composition of the community, how it was organised, and its capacities to act. The second layer covered the socioecological factors that influence health. The third layer described the existence, coverage, accessibility, and acceptability of current services and identified areas which needed to be changed. The final layer was concerned with national, regional, and local policies.

The scientific rigour and validity of this approach depend on the concept of triangulation, with data collected from one source being validated or rejected by checking it with data from at least two other sources. Key informants in the study included people with professional knowledge about the community, community leaders, and people who were centrally placed because of their work. Seventeen residents of Dumbiedykes were selected to represent various age groups, social situations, and health problems. Several group interviews were carried out. Subsequently, two focus groups were set up to discuss and allot priority to the problems identified and to explore potential interventions. The process took the team three months, spending four hours a week.

POSTAL SURVEY

A computer search was made with the general practice administration scheme for Scotland (GPASS) software to list patients of the researchers' practice who were aged over 16 and who lived in Dumbiedykes. Of the 993 residents of Dumbiedykes aged over 16 (1991 census), 435 were registered at the study practice and all of these were surveyed. A questionnaire and a reply paid envelope were posted to each patient with a letter signed by the senior partner explaining confidentiality and giving brief details of the proposed survey. Four weeks later a reminder and a fresh questionnaire were sent to non-respondents. Data were analysed with SPSS. Answers to open ended questions were considered together with the quantitative findings. The questionnaire was a pilot instrument being developed for a research project funded by the Scottish Office and based in five practices with the aim of developing a model of assessment of health needs based in general practice. The focus of this ongoing study is to assess needs applicable to the provision of primary health services.[15] A mixture of lay concepts and medical diagnoses was used and covered the following subjects:

- *Chronic illness*—several marker conditions which represent substantial areas of work in primary care were included
- *Acute illnesses and experience of common symptoms*
- *Health status*—this included the Nottingham health profile, a standard multidimensional measure based on lay concepts to assess functional and emotional distress with six subscales
- *Use of health services over six months*
- *Perceived need for current and potential services*—respondents were asked how helpful a list of services or kinds of help would be to them personally at the moment
- *Social and demographic characteristics*
- *People with long term health problems, smokers, and carers* were asked further specific questions.

TABLE I—*Routinely available statistics used in analysis*

Data	Definition	Variables
Scottish morbidity record:		
SMR0	Outpatient first attendance (non-psychiatric and non-obstetric)	Number, hospital, age, sex, specialty, referring general practitioner, mean waiting time
SMR1	Inpatients and day cases (non-psychiatric and non-obstetric)	Number, age, sex, inpatient or day case, specialty, mean waiting time, mean length of stay, ICD-9 classification, diagnosis, procedure
SMR2	Obstetric episodes	Number, age, marital status, type of admission, mean length of stay, parity, previous abortrions, antenatal care
General registrar office:		
Births	Live births over 28 weeks of gestation	Number
Deaths		Number, primary cause of death, age, place of death
Census		Age, sex, unemployment, limiting long term illness, household composition, housing, car ownership, ethnic group

ROUTINELY AVAILABLE LOCAL STATISTICS

Lothian Health Information and Statistics Unit provided information on hospital based morbidity (collected by the Scottish morbidity record scheme) relating to the 19 postcodes for Dumbiedykes (population 1185) and for Lothian as a whole (population 726 010) for comparison. Information was available at the level of individual hospital episodes. The *International Classification of Diseases*, ninth revision (ICD-9) was used to decode diagnoses, and the *Classifications of Operations*, fourth revision, of the Office of Population Censuses and Surveys was used to decode operations and procedures. Complete data for 1991 were available. Data on births and deaths from the registrar general for 1991 were also analysed. The 1991 census data were interrogated for the 19 postcodes included in Dumbiedykes. Table I gives details of the data used.

PRACTICE HELD INFORMATION

Information was obtained on the 538 residents of Dumbiedykes registered with the study practice by means of the following methods:

- Computer records were used to provide the prevalence of chronic illness, details of repeat prescribing, and various data about screening and health promotion to give an overall medical profile
- A random sample of 100 medical records was analysed to give the incidence of acute illness, acute prescribing, and psychosocial problems
- Referrals of Dumbiedykes residents to hospitals and other agencies were examined for the previous year (1993-4)
- Deaths in Dumbiedykes for 1991-4 were reviewed
- Data about surgery consultations, house calls, and out of hours visits to Dumbiedykes patients were extracted for the previous year (1993-4)
- Registers of drug addicts and HIV patients were examined
- Data about Dumbiedykes patients were requested from the health visitor, district nurse, and practice nurse attached to the practice.

Results

RAPID PARTICIPATORY APPRAISAL

There was little sense of community identity. Common complaints about the environment included the hills, the difficult steps, and the lack of play areas for children. Most people found it hard to manage financially. Perceived causes of ill health included unemployment, stress, dampness, poor diet and eating habits, and smoking. Drug misuse among some younger people and social isolation among elderly people were also thought to be problems. The main disease centred health problems were thought to be asthma, bronchitis, heart problems, and arthritis.

Most comments about the primary care services were favourable. Complaints were made about long waiting lists for occupational therapy and chiropody and about a shortage of district nurses and auxiliaries to help with personal hygiene. It was sometimes hard to get an appointment with local general practitioners. The non-local social services were not well known, and many people expressed a wish for more information. Recent health policy interventions were thought by

many to be cost cutting exercises. Thus many of the findings had little medical content. The most important health needs identified by the process were for a bus route into the estate, play areas for toddlers, activities in the community room, and a local supermarket.

POSTAL SURVEY

The postal survey showed that many residents thought that they suffered from chronic illness. Problems related to the gastrointestinal, musculoskeletal, and nervous systems were more common than cardiac or respiratory problems. Thirteen per cent of adults thought that they had high blood pressure, and 10% thought that they had heart disease. Table II shows the principal findings. Dumbiedykes residents scored substantially worse on all subscales of the Nottingham health profile than would have been expected. Patients aged over 65 scored worse on the subscales for pain and physical mobility, while more of the group aged 16-44 scored on the subscales for emotional reaction and social isolation. Many residents would have liked help or advice about medication, stress, heart disease, smoking, welfare benefits, and healthy eating (table II). The response rate was 62%.

ROUTINE STATISTICS

The census data revealed that 42% of Dumbiedykes residents were aged 50 or over, compared with 30% of Lothian residents and 30% of the practice population. Indicators of social disadvantage included male unemployment (26% in Dumbiedykes *v* 11% in Lothian), owned housing (20% *v* 66%), and car ownership (15% *v* 54%). Twenty per cent of residents (204) suffered from a limiting long term illness compared with 12% in Lothian. Data from the registrar general revealed 10 deaths in 1991 (7 females and 3 males). Primary causes of death were acute myocardial infarction (3), neoplasms (3), cardiovascular disease (1), pneumonia (1), unspecified respiratory illness (1), and a fall (1).

The rate of outpatient attendance among Dumbiedykes residents was 14% (13% for Lothian). The five specialties of general surgery, orthopaedic surgery, gynaecology, dermatology, and otolaryngology were responsible for 60% of referrals from Dumbiedykes, as they were for Lothian overall. The admission rate for Dumbiedykes (22%) was similar to that for Lothian (20%). Mean waiting times seemed to be greater than for Lothian for both male residents (97 days *v* 64 days) and female residents (72 days *v* 60 days), but these differences were not statistically significant. Among Dumbiedykes residents, the fifth most common diagnosis at hospital discharge was HIV infection, which did not feature in the top 10 diagnoses for Lothian. Intravenous chemotherapy and endoscopy were the most common hospital procedures for Dumbiedykes residents, whereas endoscopy, cystoscopy, and suction termination of pregnancy were most common in Lothian. Two Dumbiedykes patients with breast cancer had had repeated admissions during the study year and were responsible for the high value for intravenous chemotherapy.

Obstetric data revealed that there were more single mothers in Dumbiedykes than in Lothian overall (41% *v* 25%). There were, however, three midtrimester therapeutic abortions among the 22 discharges of Dumbiedykes women from the maternity wards (14% of discharges). This was higher than the rate for the region (0·1%).

TABLE II—*Results from postal survey of residents aged 16 or over (values are percentages)*

	All respondents (n=223)	Respondents with long term illness (n=73)
Chronic illness:		
Painful joints or arthritis	31	
Stomach problems	20	
Anxiety, depression, or bad nerves	18	
Back trouble or sciatica	18	
High blood pressure	13	
Asthma or chronic bronchitis	13	
Heart problems or angina	10	
Use of resources:		
Repeat prescription	46	
Regularly visits outpatients	16	
Admitted to hospital in past six months	13	
Acute illnesses in previous six months:		
Bad cold or 'flu	46	
Feeling tired	44	
Headache	28	
Difficulty sleeping	28	
Sore throat	26	
Socioeconomic factors:		
On telephone	81	
Self or partner owns a car	25	
Self or partner receives income support	35	
Money worry	28	
Perceived need for current and potential services:		
Regular visits to practice for health checks	76	86
More discussion about possible side effects of drugs	62	82
Help or advice about coping with stress	72	79
Help or advice about preventing heart disease	72	79
Help or advice about getting benefits	64	73
Help or advice about healthy eating	70	73

PRACTICE HELD DATA

Problems relating to the musculoskeletal, nervous, and gastrointestinal systems were more common than cardiac or respiratory problems. Acute illness caused much workload. There was evidence that Dumbiedykes patients had an excess of psychosocial problems compared with the rest of the practice population. The total patient contact with the primary health care team was 7·3 contacts per patient per year. Gastrointestinal problems were responsible for the highest prescribing costs, with 3·3% of patients taking H_2 blockers. Six per cent of patients were prescribed bronchodilators. The community nurses held considerable information about infants and housebound and elderly patients which was not routinely shared in the team. Table III shows the principal findings.

COLLATION OF RESULTS

Table IV highlights four conditions of the 20 tabulated in the study: asthma or chronic bronchitis (a common physical illness), stress (the most common mental health problem), HIV infection or drug misuse (a particular problem in the neighbourhood), and smoking. Asthma or chronic bronchitis was shown to have a high prevalence by the postal survey and by the review of practice data. Few outpatient referrals were made for this condition, but it was associated with a substantial number of admissions and several deaths. Eighteen per cent of respondents of the survey (rising to 26% of women aged 16 to 44) reported that they had trouble with stress, depression, or "bad nerves." However, stress was documented in only 12% of medical records. Census data revealed high unemployment, many single parents, and other potential stressors, and the appraisal gave unique insights into the lives of individual people. Substantial data about drug misuse, HIV infection, and smoking were revealed by each method. In general, unique information was provided by each method.

Table V compares the prevalences of some specific conditions estimated with the different appraisal methods. The postal survey yielded a higher prevalence of each chronic illness than did the review of practice data. Roughly only half of self diagnosed illness was also diagnosed by a general practitioner: the number of patients who thought that they had a heart problem or angina was three times higher than the number so recorded by their doctor; the number who thought that they had high blood pressure was four

times higher than the number recorded; and the number who thought that they received regular medication from their doctor was nearly twice as high as the number recorded.

Except for the traditional use of hospital information, all methods of appraisal showed that the most prevalent problems in the community were arthritis, "stomach problems," and stress or depression. Asthma or chronic bronchitis, ischaemic heart disease, and hypertension were less prevalent. Similar estimates of limiting long term illness were obtained by each method. The postal survey yielded a higher prevalence of car and house ownership than the 1991 census and a higher telephone ownership than the review of practice data. The medical records of the non-respondents to the postal questionnaire revealed an excess of psychosocial but not physical illness.

TABLE III—*Results from analysis of practice held data (values are percentages unless stated otherwise)*

	Residents of all ages (n=538)
Chronic illness:	
Anxiety or stress	13
Arthritis	12
Stomach problems	12
Back problems	8
Asthma or chronic bronchitis	6·4
Ischaemic heart disease	3·5
Hypertension	3
Repeat prescriptions:	27
Bronchodilator	6
Analgesic	4·4
H_2 blocker	3·3
Inhaled corticosteroid	3·2
Antiplatelet drug	2·7
Use of resources (No/1000/year):	
Laboratory sample	520
Attendance at accident and emergency department	110
Outpatient referral	350
Acute illnesses in past year:	
Upper respiratory infection	32
Dermatological	34
Musculoskeletal	27
Gastrointestinal	19
Psychiatric	12
"Symptoms"	11
Consulted for acute illness	66
Contacts with health care team (No/patient/year):	7·3
Doctor	5·1
Practice nurse	0·7
Health visitor	0·6
District nurse	0·4
Telephone advice	0·5
Health promotion data:	
Current smokers	About 50
Drinking more than approved limit	15
Cervical cytology coverage	91
Paediatric vaccinations	100

TABLE V—*Comparison of prevalences of some conditions estimated by different assessment methods (values are percentages)*

	Assessment method		
	Routine statistics	Postal survey	Practice data
Arthritis		31	12
Stomach problems		20	12
Stress or depression		18	12
Asthma or chronic bronchitis		14	7
Hypertension		13	3
Heart disease or angina		10	4
Upper respiratory tract infection in past six months		46	20
Limiting long term illness	20	22	17
Repeat prescriptions		46	27
House ownership	20	34	
Car ownership	15	25	
Household with telephone		81	67

Discussion

ADVANTAGES AND DISADVANTAGES OF INDIVIDUAL METHODS

Rapid participatory appraisal encouraged a broad multidisciplinary approach to assessing health need. The role of selected users, community leaders, and workers in prioritising and planning care was developed. A neighbourhood profile was generated which detailed needs and available resources and contained suggestions for change. The process itself facilitated change. Little quantitative data was obtained. Coordinating the team was logistically difficult, and the work was intense and time consuming but also rewarding. Because people's broad priorities were heard, health service interventions were weighed against other options to improve the quality of life locally.

The postal survey yielded detailed information about acute and chronic illness and the perceived need for existing and potential services for both users and non-

TABLE IV—*Collation of results from different assessment methods*

	Practice data	Local statistics	Postal survey	Rapid appraisal
Asthma or chronic bronchitis	6·5% Prevalence 6% Taking bronchodilators 3% Taking inhaled corticosteroids	Few outpatient referrals 13% Of all admissions 3 Deaths	14% Prevalence 9% Saw doctor in past six months for this	"Many toiling for breath" Damp housing causes asthma in children
Stress or depression	12% (Medical records search) Medical records of 100 non-respondents to the postal survey reported stress or depression in 20, drug misuse in 8, and alcohol problems in 6	Census revealed many potential stressors; high unemployment; many single parents	18% Prevalence of being anxious or depressed or bad nerves 10% Saw doctor in past six months for this 72% Requested help or advice 16-44 Age group scored highly on Nottingham health profile on emotional reaction and social isolation subscales A helpline with someone who would listen was suggested	Stressful environment and lifestyles Regular citizens' advice, a course about alternative therapies, and a crèche were suggested
Drug misuse or HIV infection	Many patients receiving methadone substitution lived in Dumbiedykes High turnover of drug addicts Several children with needlestick injuries Moving out of Dumbiedykes was the solution some patients gave for their drug problem	HIV carrier was fifth most common reason for adult hospital admission in 1991 Many indicators of socioeconomic disadvantage revealed by census	6% Wanted help or advice about illegal drugs 26% Wanted help or advice about HIV "Would like HIV test without documentation"	Interviews revealed a broad and detailed picture Some young families and socially isolated single parents were misusing drugs Drug users received prescribed substitutes and also bought extra drugs from suppliers within Dumbiedykes Drug misusers were not concerned about HIV infection; even the few who still injected were not using condoms Domestic violence was common Most residents, old and young, knew of drug misusers and many commented: "This used to be a really nice area" Needles found by residents in bin stores
Smoking	50% Current smokers Many smokers had died of smoking related diseases	Frequent admissions for disorders of circulatory and respiratory systems High smoking related mortality	47% Current smokers 50% Of smokers want help or advice about giving up Opportunistic advice is most popular method of health promotion	Smoking perceived as cause of ill health in community but a necessary coping mechanism or just a habit More young girls smoke 30% Of local shop's turnover was for cigarettes

users. The instrument could be reapplied to the same population or to a different population for comparisons over time or across areas. Individual community members identified their own needs. However, respondents were less likely to raise their own agendas, and there was a low response rate in young men. Considerable time, resources, and specific skills were again required.

Routine local statistics gave a descriptive account of morbidity and socioeconomic indicators and allowed comparison with regional norms. Collaboration between public health and primary care allowed sharing of perspectives and skills and permitted comparison of ward based and practice based data sets.

Collection of practice held data facilitated teamwork. Much information was available from computerised data, medical records, annual reports, and financial statements but this had to be analysed and "cleaned." Much local knowledge of the neighbourhood was implicit and was explicitly documented only with some effort.

CAPACITY OF EACH METHOD TO FACILITATE CHANGE

The participatory appraisal was the only method which brought about change during the data collection itself. After the participatory appraisal many of those responsible for non-health services responded to suggestions from the community. The local bus route has been altered to run into the council estate and, as a result, there has been a 30% increase in passengers. The district council's housing department has provided fenced off play areas. The community room is now used by district and regional counsellors, community education classes, and by two residents' associations. Three companies are tendering to construct a local supermarket. Many practical suggestions for improving local medical facilities were also made and have been acted on: a second telephone line has been installed in the doctors' surgery, there are toys in the surgery play area, patients are addressed in a fashion more acceptable to them, and a ramp is provided. The potential of the other methods to cause change was not tested. It may be that changes will happen on a longer timescale.

ABILITY OF METHODS TO TACKLE DIFFERENT ISSUES

Different methods gave complementary insights into health needs generally and into specific problems. Practice held data and the results of the postal survey were most useful for assessing asthma or chronic bronchitis and ischaemic heart disease (examples of ongoing physical problems). The problems of drug misuse and HIV infection in the community were best revealed by rapid appraisal and data collection within the practice, a combination that was also useful for exploring other psychosocial issues. The postal survey usefully supplemented practice held data about acute illness in the community. Comparison of inpatient admissions for Dumbiedykes residents with those for the rest of Lothian provided a proxy of need for secondary care. The postal survey was able to show different prevalences of perceived and formally diagnosed illness. Information about the context of provision of health services was best supplied by the rapid participatory appraisal and from routine statistics. Indeed the rapid appraisal emphasised a more immediate need for "non-health" services rather than "health" services.

PUBLIC INVOLVEMENT

Community involvement in health is important, both as a democratic goal and as a potentially useful means of achieving an improvement in health. The extent of public involvement in the assessment methods was, in decreasing order, rapid participatory appraisal (when providers and patients interacted and learnt from each other), postal survey (when respondents' perceptions and suggestions were analysed), practice data gathered by a team in daily contact with patients over many years, and analysis of routine statistics supplied without any patient involvement. Rapid appraisal ensured that the voices of patients and community leaders were heard directly. Giving people an effective voice in the shaping of health services locally will call for a radically different approach from that used in the past.[16]

CONCLUSION

A coherent, practical, and explicit approach is required to assess needs for community based, primary, and hospital health care services. Caution must be exercised when using only a single method of assessment. Practice held data may understate the prevalence of disease in the community. Postal surveys should be interpreted carefully, especially when doctors and patients may understand words such as hypertension differently. A small number of in depth interviews does not set out to sample a representative section of the study population. A few unusual events may skew very small area statistics. The number of inpatient admissions for most diagnoses is not a proxy for morbidity in the community.[17] Results are likely to be more widely relevant and accurate if data from one source are checked against data from at least two other sources. Thus different approaches to the assessment of needs may be required to inform the commissioning process.

All the methods we used took considerable time and effort. They were carried out in some detail in this study to assess the most useful data that each method could yield. Each could be simplified with the experience gained. A locally appropriate mix of methods could use data from various sources according to ease of access, potential utility, and possible resources. A composite practice based model may be as follows:

- Start with practice held knowledge and experience of working in the local community
- A public health physician joins the assessment team to draw up a practice profile including mortality, morbidity, and demographic data
- Conduct a rapid participatory appraisal to identify broad areas of perceived health need
- Conduct a survey to clarify specific issues as necessary
- Help implement and review changes.

Further work is necessary to develop and test models for assessing health needs. Larger neighbourhoods, practice populations, or localities could be studied with composite methods. Time, inclination, and training are necessary for practice based assessment of health needs (whether led by a public health physician, general practitioner, or health visitor). For a general practitioner to be realistically involved in commissioning that is based on needs, a radical assessment of the necessary resources is necessary. With increasing workloads, primary care teams will need protected time to plan effective, efficient, and evidence based care.

The challenge for public health and primary care is to work increasingly together to address social and environmental causes of ill health and thus to improve the health of regions and neighbourhoods. Their combined perspectives and skills can effectively inform the commissioning process. In 1883 Professor Tennant-Gardner, the first medical officer of health in Glasgow, warned of the danger of divorcing everyday clinical care from the population aspects. In 1993 Hannay called for general practitioners and public

Key messages

- Practical strategies for assessing local health needs are required
- In this study we used practice held data, routinely available local statistics, rapid participatory appraisal, and a postal survey
- Each method yielded particular insights into health and health care needs
- Many locally important health needs could not be met by health services alone
- A mix of assessment methods may provide more information about health needs than one method alone

health physicians to rediscover their common roots and core values.[18] Perhaps collaboration in assessing health needs could be such an activity and a powerful force for change in local communities.

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PROBLEMS OF PRACTICE

The silent appendix

Many years ago I was in a country practice during a severe influenza epidemic. One week three of us had 83 new calls on the Monday and 75 on the Tuesday. Things settled down a little and then it was my weekend on. I had about 15 new calls from people who had influenza or thought they did.

I waded through the list, dispensing medicine and reassurance. Towards lunch time I visited a country council house and was duly ushered into a downstairs room. There sitting in front of the fire fully clothed was a young lady in her 20s, muffled up in blankets and looking miserable. "Been coughing awful these past three days doctor," says mother. "I think it must be the flu." Well what was the trouble?

"Cough? How long?"

"About three days."

"Any pain?"

"No."

The chest was clear. I took my pen out to write the usual medication but then stopped. Something wasn't quite right.

"Are you sure there is nothing else wrong?"

"No."

"No pain at all?"

"Well my stomach hurts a bit when I cough."

"Where?"

"Top left hand corner."

"Nothing further down?"

"No."

Lunch time had come and gone. "Tell you what," I said. "Pop upstairs to bed and I'll come back and have a look at you shortly."

An hour or so later, duly fortified, I returned to the house again. The young lady was now in bed and we started again.

"Cough?"

"Yes."

"Three days?"

"Yes."

"Nothing else at all?"

"No."

"Then we'll have a look at your tummy shall we?"

I placed a hand on her tummy and a voice shouted "peritonitis." Surely not. But it felt like it, sounded like it, or rather didn't sound like it. Could it be a silent appendix—a very silent appendix—or was my surgical apprenticeship too long past?

The local surgeon, however, was a nice obliging fellow. I was sure he wouldn't mind coming out on a Saturday afternoon in mid winter. Of course he didn't. Two hours later I returned to the house for the third time, escorting my surgical friend.

"Well," he said. "It certainly feels funny and I agree with you. We had better have her in. I suppose it could be an appendix."

And, of course, it was. A ruptured gangrenous appendix was successfully removed and she made an excellent recovery but I wonder what the headlines would have looked like—"Patient treated for flu dies of appendicitis."

—JOHN N S SIMPSON *is a retired general practitioner in Newcastle upon Tyne*