

PRACTICE OBSERVED

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Practice Research

Does the underprivileged area index work?

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Abstract

The underprivileged area index was developed by Jarman to identify areas with the greatest need for general practitioner services and where general practitioners were under the greatest pressure. We found that in wards that scored the worst on the underprivileged area index the doctor:patient ratios were the highest. We suggest that the index needs to be used with other indicators to identify variations in need in small areas.

Introduction

Doctors, nurses, and social workers know all too well that working in socially deprived areas is a lot tougher than working elsewhere. Despite this, proposals for positive discrimination in primary health care have met with little success in the past. One of the difficulties with such proposals has been how to identify deprived areas. To help district health authorities and family practitioner committees to do so, Professor Jarman, a member of the Acheson committee, developed the underprivileged area index. The background to the index, some preliminary results, and a study showing that the "worst" wards identified by the index agreed with five local medical committees' perceptions of such areas were published in this journal in 1983 and 1984. More information about the index appeared in an article in the *Health and Social Services Journal* in January 1985. Before using the index one question that district health authorities and family practitioner committees need to ask is: Does it work?

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AIMS OF THE INDEX

It is necessary to begin by asking what the index is intended to identify. What exactly is meant by an underprivileged area? In his first paper Jarman explained that the index was a response to the need recognised in the Acheson report to identify urban areas "where the difficulties are greatest... with a view to improving services".

The key characteristics of areas of "greatest difficulty" implicit in this paper are: areas with the greatest need for general practitioner services, areas where general practitioners are under the greatest pressure, and areas where hospital and community health services are "deficient". In Jarman's second paper the most important characteristic of an underprivileged area emerged as being one where general practitioners or their representatives—members of local medical committees—believe that "the population is such that it causes the greatest workload or pressure on the services of general practitioners".

Though it is possible to make an analytical distinction among areas of the greatest need, the greatest pressure on the services, the most deficient hospital and community services, and the "worst" areas in the opinion of general practitioners, these areas may or may not overlap in practice. It is, therefore, important to look at the empirical evidence and to assess the value of the underprivileged area index in the light of the available data.

Potential workload

There is no simple way of measuring the relative need for general practitioner services or even for primary health care services—that is, general practitioner services together with the community health services provided by health authorities. Any approach inevitably runs into problems of values and objectives.

In practice the need for general practitioners is determined by a central body, the Medical Practices Committee, in relation to doctor:patient ratios. Does the underprivileged area index then identify wards with the lowest doctor:patient ratios? Data on doctor:patient ratios are not routinely available by ward at national level. But in three selected family practitioner committee areas, Manchester, Salford, and Trafford, doctors in the "worst"

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not great, and leaving aside the question whether high or low rates are desirable, the pattern is at least consistent. The analysis presented in table II suffers, however, from depending completely on the law of averages. Though averages can tell us something about the volume of patient contact in an area, they tell us nothing about the amount of patient contact individual general practitioners have. As table II shows, variations in the amount of patient contact by individual general practitioners within wards with similar underprivileged area scores were greater than the differences between the averages for wards with different scores.

Table III—Variation in individual general practitioners' workload by underprivileged area ward scores

Workload indicators	Ward scores			
	Over 10	10-29	0-9	Below 0
Consultation rate per year	5.11	6.28	4.1	4.14
General practitioners with highest workload	0.27	1.82	0.9	1.72
General practitioners with lowest workload	2.32	2.85	2.09	2.22
General practitioners with lowest workload	26	34	42	48
No. of hours spent in patient contact	16.1	19.1	14.2	14.0
General practitioners with highest workload	0.9	1.4	0.7	1.0
General practitioners with lowest workload	1.0	1.0	1.0	1.0

Table IV—General practitioners' perception of workload by underprivileged area ward scores

Workload	Ward scores			
	Over 10	10-29	0-9	Below 0
Overloaded	10	11	11	11
Very overloaded	0	1	1	1
Not overloaded	10	4	2	2
Not general practitioners	46	42	46	46

Two lessons emerge from this. Firstly, if the aim is to identify general practitioners with above average workloads—as judged by the amount of face to face contact with patients—then relying on the index will allow many general practitioners with heavy workloads to escape notice while pinpointing some general practitioners who do not have above average workloads. Secondly, it seems that the type of area in which a general practitioner works is a less important influence on the volume of patient contact than has previously been supposed.

Perceived workload

Though it is difficult to show conclusively that the index does or does not identify small areas where the population has above average needs for general practitioners, the results of a survey conducted in this unit among above average workloads, it is less difficult to test whether the index identifies areas where general practitioners believe their workloads are high. Indeed, Jarman chose to use this approach to validate the index. On the basis of a study conducted among members of five local medical committees he concluded that "it may identify underprivileged areas which have been shown to fit well with the opinions of general practitioners in the areas concerned".

It was not clear from this study, however, whether the opinions of members of local medical committees agreed or disagreed with those of other general practitioners. The results of a survey conducted in this unit among all general practitioners in Manchester, Salford, and Trafford family practitioner committee areas in 1981 suggest that general practitioners in the worst wards, on the basis of their scores on the index, may disagree with local medical committee members. As table IV shows, fewer general practitioners in the worst wards than in the best wards, in this survey, claimed that they felt very or moderately overloaded.

Deficient services

Finally, does the index identify areas where hospital and community health services are "deficient"? It is not possible, of course, to answer that

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Table I—Average for ward* by underprivileged area ward scores

	Ward scores			
	Over 10	10-29	0-9	Below 0
Average no. of patients per GP	22	22.2	24.6	24.8
No. of general practitioners	16	41	46	46

wards that were identified by the index—that is, those with the highest scores—on average have the highest doctor:patient ratios. Many people, however, have been dissatisfied for a long time with this crude approach to identifying the population's health care needs since it assumes that all patients, all areas, and all general practitioners are equal. In practice analyses of census data for small areas show that there is more ill health, using certain indicators, in some areas than in others. Does the index then pick out the wards where the challenges to health are greatest? Using standardized mortality ratios and using the proportion of babies who were born weighing less than 2500 g and the proportion of the population who reported being permanently sick or disabled at the time of the 1981 census as indicators of ill health there was a fairly high correlation between ward scores on the index and each of these indicators (0.68, 0.85, and 0.86 respectively). In the three selected family practitioner committee areas there were analyses of the worst and best wards. The worst ranked on the index compared with these health indicators. For example, in Manchester the worst 18 wards scored on the index excluded six of the 18 wards with the worst standardized mortality rates, five of the 18 wards with the highest proportion of low birthweight babies, and six of the 18 wards with the highest proportion of people who were permanently sick or disabled. Also, the ward with the highest standardized mortality rate (172) ranked twentieth in terms of its underprivileged area score, whereas another ward which ranked sixteen on a combined ranking of these health indicators ranked thirty seventh in terms of its underprivileged area score.

Some evidence about this is available from a study conducted by the primary care research unit at Manchester University in 1982. Comparing the patient contact indicators for general practitioners who participated in this study and who worked in the "worst" and "best" wards according to their scores on the index there was no evidence that general practitioners in the worst wards were under greater pressure on average than their colleagues in the best wards. On the contrary, as each of the patient contact indicators in table II shows, general practitioners with surgeries in the worst wards were spending less time on average with their patients than general practitioners with surgeries on the best wards. Although the differences are

Actual workload

Just as there is no simple way of identifying areas with an above average need for primary care, so there is no simple way to identify areas where general practitioners have high or above average workloads—indeed, this is part of the rationale given for designing the index. Clearly, it is not easy to define what constitutes a general practitioner's workload. None the less, one important and generally accepted dimension of general practitioners' workload is the amount of time they spend face to face with their patients. Some evidence about this is available from a study conducted by the primary care research unit at Manchester University in 1982. Comparing the patient contact indicators for general practitioners who participated in this study and who worked in the "worst" and "best" wards according to their scores on the index there was no evidence that general practitioners in the worst wards were under greater pressure on average than their colleagues in the best wards. On the contrary, as each of the patient contact indicators in table II shows, general practitioners with surgeries in the worst wards were spending less time on average with their patients than general practitioners with surgeries on the best wards. Although the differences are

Table II—Patient contact indicators by underprivileged area ward scores

Average for general practitioners in 1982*	Ward scores			
	Over 10	10-29	0-9	Below 0
Consultation rate over 50 weeks	2.10	1.47	2.94	2.76
No. of consultations seen on average per week	1.10	1.29	1.76	1.76
Time spent in patient contact	14.1	14.6	15.0	15.1
Time spent in surgery per week (h)	17.2	19.4	19.1	19.1
Time spent in surgery per week (h)	17.2	19.4	19.1	19.1
No. of general practitioners	67	67	67	67

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question in the absence of any agreement about the specific dimensions on which hospital and community health services are to be judged adequate or inadequate.

Interestingly, in response to a question about which aspects of their work they found frustrating, general practitioners in the worst wards were more likely to mention the hospital and community health services as a cause of frustration than their colleagues elsewhere. To this extent, there is slight support for the belief that the index may help to identify wards where general practitioners judge the hospital and community health services to be deficient.

Conclusion

High ward scores on the underprivileged area index in general appear to be associated with greater needs for health care, as judged by mortality, low birth weight, and prevalence of disability. To this extent, our findings are consistent with Charlton and Lakhan's, which showed a relation between high index scores and other measures of need. But, as a means of pinpointing and selecting needy small areas for special attention the index has its limitations.

References

- 1 Jarman B. Identification of underprivileged areas. *Br Med J* 1981;283:1705-9.
- 2 Jarman B. Underprivileged areas: validation and distribution of scores. *Br Med J* 1984;289:152-7.
- 3 Irving D. How to identify the needy. *Health and Social Services Journal* 1983;1:118-9.
- 4 London Health Planning Commission. Primary Health Care Study Group. Primary health care in inner London. London: LHPCC, 1981. (Acheson report.)
- 5 Wood J, McCall D. Last but not least: general practice in general medical practice. *Br Med J* 1984;289:150-5.
- 6 Charlton RW, Lakhan A. Is the Jarman underprivileged area score valid? *Br Med J* 1985;290:1714-6.

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Essays on Practice

Essays of up to 1000 words on any aspect of practice are welcome for consideration.

GP obstetrics: safe but endangered

DAVID JEWELL

General practitioners who are concerned with delivering babies have for some years resembled a primitive tribe. Depleted in numbers, threatened repeatedly with extinction, and continuing to practice their quaint, colourful skills according to age-old precedents, they have been overtaken by the march of civilisation. Successful government reports, the drop in family size, and decisions made by general practitioners themselves, have all contributed to the increasing proportion of deliveries done in consultant units. Despite such pressures there are some areas where general practitioner obstetrics has flourished, thanks to local enthusiasm and the support of women who are sceptical about the benefits of high technology medical care.

Low cost, such an apparently anachronistic, low technology service is defended when the potential cost of failure is so high? Women with first hand experience give positive accounts of the personal service they get from their own doctor and midwife, but such soft anecdotal evidence carries little weight. The results of studies that compared general practitioner and consultant care in the John Radcliffe Hospital in Oxford have confirmed the safety of the general practitioner unit by retrospective survey of case notes.

More recently a prospective study was done in the John Radcliffe to compare women's reactions to consultant and general practi-

tioner care and the results published by the Royal College of General Practitioners. *Booking for Maternity Care. A Comparison of Two Systems.* Women who were booked for delivery in the consultant and general practitioner units were interviewed at 36 weeks' gestation and twice after delivery, at about 10-14 days and three to four months postpartum, and their reactions to antenatal care and to events during and immediately after delivery were compared. An encouraging picture emerges of both systems, with generally positive feelings expressed towards all aspects of care. The accounts of the two groups are broadly similar, but a few differences were found, all in favour of the general practitioner unit. Women who booked for the general practitioner unit tended to come into hospital in more advanced labour, probably because a midwife was more likely to have seen the woman at home in early labour, and there was a shorter average time from admission to delivery. They were seen by fewer medical staff during labour and were more likely to be surprised those whom they did see. They also found antenatal visits more helpful and enjoyable, but there was no difference between the two groups in their experience during labour.

Safe?

We now know enough about general practitioner obstetrics to answer the question stated above. It has been consistently demonstrated to be as safe as consultant care for women of low obstetric risk.¹ Indeed, the findings of one study that compared data from different areas suggested that it might be safer, and before that argument is dismissed out of hand, consider whether being booked after labour in staff whom women know and trust might have a

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measurable effect on outcome. It has also been shown to provide a more acceptable system of antenatal care,² and now a more personal, equally acceptable system of intrapartum care.³ Answering the immediate question, however, raises broader issues that a considerable literature to general practice beyond that of obstetric care.

There is the ethical dimension of patient autonomy. One of the most satisfying aspects of using a general practitioner unit is being able to offer patients a real choice. If, however, we give patient autonomy a high priority that may mean respecting their choice of a more acceptable service with, perhaps, a small increase in risk (unless we think that they are not competent to act in the interests of their unborn child). It is important to acknowledge that a patient might legitimately choose to take a small risk whereas someone who is allowed to act for them might choose the option of least risk regardless of other considerations. Unfortunately, Klein and his colleagues did not examine low risk women, but those who chose one or other system of obstetric care. They ignored possible selection bias introduced by patients' choice, and the issue is addressed only in terms of women choosing their doctor, not the system of care, with the implication that the choice of system was made randomly. They did establish that none of the women had chosen their general practitioner on the grounds of the doctor's obstetric practice. This is a credible reminder of our patients' unwillingness to exercise their right to change doctor, and by implication also a reminder that the same right does not exist with choice of midwife, which may have more relevance to pregnant women.

Data or opinion

But before a lot of money and effort go into providing access to integrated general practitioner units for more women, there would have to be reasonable confidence that they would be used. Of the 623 511 births in England and Wales in 1982, 21 029 (3.4%) took place in general practitioner units and 6944 (1.1%) at home. It seems that many hospital doctors and general practitioners continue to use general practitioner obstetrics as unsafe despite the evidence—an example of a habit, possibly more widespread than we should care to admit, of disregarding data that do not match our cherished opinions. We might ask whether six months of practising as a hospital obstetrician teaches future general practitioners that there is no other safe way of handling pregnant women.

Other possible reasons for general practitioners choosing not to undertake intrapartum care can be identified. They may feel that the financial and personal rewards fail to compensate for the disruption to their own private and professional lives. There is some inconsistency about what a general practitioner actually does when attending the delivery. In some units, for instance, the midwife does the delivery if normal, and the hospital staff otherwise. If the general practitioner attends to ensure the health of the baby, should

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be or she be trained in resuscitation techniques and regarded more as a practitioner in neonatology than in obstetrics? Houghton has recently accused general practitioners in Britain of willfully avoiding contact with hospital doctors.⁴ While this separation persists in obstetrics it prevents general practitioners from practising the skills that would give them a fuller and more satisfying role. One effort to achieve closer integration with hospital doctors showed that it was feasible, but in time it was used by fewer and fewer general practitioners,⁵ in another it was difficult to provide general practitioners with sufficient facilities.⁶ Using their skills fully might mean taking responsibilities for partners' patients and diluting personal continuity. Nevertheless, the concept of general practitioners looking after their patients in district general hospital beds with the help of consultants is already familiar in other countries and could be tested out in other specialties.

General practitioners could be responsible for the antenatal care of many more women than at present. To do so they require appropriate facilities, sympathetic support from both consultants and their own partners, and a different approach towards training. Like other endangered tribes their healthy survival depends on the policy makers seeing them as bearable of a useful role in a modern world, not just as picturesque relics of a bygone age.

References

- 1 Murray H. *Report of the maternity review committee.* London: HMSO, 1984. (Crosland report.)
- 2 Jarman B. *Identification of underprivileged areas.* London: HMSO, 1981. (Acheson report.)
- 3 Houghton RB. *Booking for maternity care. A comparison of two systems.* London: HMSO, 1984. (Acheson report.)
- 4 Houghton RB. *Booking for maternity care. A comparison of two systems.* London: HMSO, 1984. (Acheson report.)
- 5 Houghton RB. *Booking for maternity care. A comparison of two systems.* London: HMSO, 1984. (Acheson report.)
- 6 Houghton RB. *Booking for maternity care. A comparison of two systems.* London: HMSO, 1984. (Acheson report.)

100 YEARS AGO

At the last meeting of the Hospitals Association, a paper by Miss Louisa Twining, on the diet of nurses in hospitals, raised some old questions which have hardly yet been satisfactorily settled. The duties of the hospital nurse have decidedly increased since the days of Florence Nightingale, and other changes, they are undertaken, on the whole, by a higher grade of women, and more skilled labour is expected. Many improvements have been made in their conditions of life, but in respect to their diet, still, we cannot help thinking that, in the improvement of their diet, Miss Twining is right in saying that something still remains to be done. It should never be forgotten that what proves, not immediately, but ultimately, the most economical must be carefully considered in the management of large charity hospitals, and it would be quite out of the question to remodel a hospital kitchen because some ladies accustomed to dine at the table, or upon plates have taken up the business of nursing. But monogamy of diet, with careless and indifferent cooking, are the chief charges brought against the food of the nurses, and these certainly do not lead, as a rule, to economy. Badly baked shoulders of mutton, with overcooked potatoes, on six days out of the seven, are not a cheap diet. Much more attractive meals, even at a less

cost, may be made out of soups, fish, milk-puddings, the great variety of cheap available vegetables, and some of the higher qualities of imported tinned meats. It does not need the genius of Fracastello to do this, or the taste of a Brill Savarin to appreciate it. A Restaurant-Dual forms a part of the Exhibition of Inventions that year, a faint shadow of the reality, no doubt, but novel in some ways to England, and offering some hints at what is possible with little trouble or expense. And the reason why it is worth while, and, indeed, in the long run economical, to take some trouble with the nurses' food is that a hospital-life so often leads to uncertain appetite and a refusal of monotonous and uninteresting diet, and this again to excessive tea-drinking, or even worse, with many discomforts of malnutrition, and all tend ultimately to make it the main point for the hospital to consider, namely, *how nursing, by women in poor health, can be done on the sick diet.* It would be quite unfair to attach such blame to all managers of hospital-kitchens; but that there has been, and still is, some want of attention to the matter is a fact which has been made even clearer.

(British Medical Journal 1885:1:116.)