PRACTICE OBSERVED

Practising Prevention

Adolescents

ALEXANDER D G GUNN

Adolescence is an imprecisely defined time of life. It is presumably postpubertal and preadulthood, but chronologically both of these landmarks in human development vary with social, genetic, nutritional, and ethnic deviations from any arbitrarily chosen norm. Dependent on constant social change, however, it seems that in the developed world adolescence may extend from the age of 15 to 25. As an age group—just under 25% of the population in Europe and North America, but 50% of the population elsewhere—they provide the highest incidence of accidents, abortion, venereal disease, crime, drug addiction, and drunkenness, yet remain in strictly medical terms the apparently healthiest proportion of the whole population. The contrast of the high incidence of social ill-health and maladjustment with the relative freedom from disease makes adolescents relatively rare consulters of general practitioners. The opportunity, therefore, for practising preventive medicine—particularly when one of the other characteristics of this age group is a high social and geographical mobility—is infrequent once they have left school or home. Nevertheless, effective prevention for the adolescent may be defined as taking place in two areas: the practical and the hopeful.

Practical prevention

The need for immunisation and contraception provides the two most frequent opportunities for practising prevention that the general practitioner has with adolescent patients. Unfortunately, in neither case does the delivery seem to meet the demand. About 10% of young women enter their childbearing years unprotected against rubella, and about 11% of pregnancies are not wanted, which is increasing the demand for abortion each year. With regard to tetanus immunisation, school-leavers are

found in increasing numbers to require a booster, if not a full course, and every year universities and colleges find that more and more 18 to 19 year olds are insufficiently protected against poliomyelitis. With the absence of any requirement for routine medical surveillance after leaving school (and it is sparse enough at school), the general practitioner's contact with the adolescent depends almost invariably on illness occurring. In the days of age and sex registers and computerised records, however, it behoves the GP to maintain an accurate record of the immune status of his or her adolescent patients and update it continually—not leaving it to casualty departments or antenatal clinics to define the person's need for tetanus or rubella protection. Similarly, with the greater frequency of foreign travel—so often undertaken by the adolescent—providing separate immunisation clinics in the group practice to administer the cholera, tetanus, typhoid, or gamma globulin protection as well as the prescription for antimalarial preparations is essential for effective prevention of tropical disease.

Contraception is sought seemingly more often by the adolescent female from the local clinic than from the family doctor—a recognition of the embarrassment in declaring publicly a private commitment to sexual activity. Nevertheless, many young people find the requirements of an internal examination and cervical cytology distinctly unacceptable and prefer to "chance it" at first, rather than approach their sexual adventures appropriately protected. By linking the provision of contraception with illness the medical profession may have contributed to the failure of its total acceptability. Every attempt should be made to overcome this. It is necessary to provide appropriate leaflets in the waiting room and well-advertised clinics for check-ups that are seen and known to be separate from normal surgery attendance for oral contraception prescriptions. Similarly, the "signal" symptoms of disorder from cystitis to vaginitis, or balanitis to warts in young men, should initiate a discussion of effective contraception. Recommending the use of sheaths to those with transmissible genital disorders until their treatment is effective would also go far to reduce the frequency of non-specific urethritis, monilia, trichomonas, and warts that seems to increase every year.

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Injury on the sportsfield or at play, work, or on the roads is the next most frequent cause of contact with the GP, and the need for the GP to have access to facilities for physiotherapy is paramount. Rehabilitation of the active sportsman or woman is rewarding because of their enthusiasm to get better, and the development of keep-fit and exercise classes as an adjunct to the service is distinctly lacking in the National Health Service. As a result separate—and extremely popular—sports injury clinics have developed in certain areas. Skills acquired from courses given by the British Association of Sports Medicine are rightly in high demand. Tuition in avoiding further injury and the proper way to keep physically fit is well repaid when offered to the earnest adolescent. If it cannot be done by access to specialised facilities then appropriate personal instructions and leaflets on exercises are necessary.

Skin disorders cause the next most frequent series of consultations, with acne, tinea in its various forms and sites of attack, verrucae, warts, dandruff, pediculosis, and scabies being the order of frequency. At each of these consultations verbal (and ideally, appropriately written) instruction and education about hygiene, washing, cosmetics, diet, and personal care are essential. Too often it is left to the commercial advertisement to instruct, not the doctor.

Measuring haemoglobin and blood count frequently is rewarded by the detection of ever-present but insidious iron deficiency anaemia, from which one in 10 (both male and female) adolescents suffer, often undiagnosed until rejected by the Blood Transfusion Service. Growth, diet, injury, and menstruation are responsible.

Hiring Staff

Part-time staff: what may influence your choice?

NORMAN ELLIS

Many general practitioners employ part-time ancillary staff. When a full-time post becomes vacant there may be a choice between finding a full-time replacement, employing two or more part-time staff, or not filling the vacancy. Most general practitioners undoubtedly choose between these options intuitively. The choice probably depends on the availability of suitable staff, on whether existing full-time staff are willing to work longer hours, or simply on the traditions of their practice organisation. Only the GP and his or her partners can decide which staffing arrangements are best suited to their particular needs. Some factors that may need to be taken into account when reaching a decision are the costs and benefits of employing either whole-time or part-time employees, and the legal, financial, and administrative implications of these employment arrangements.

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Hopeful prevention

The hopeful area for prevention in adolescence is the influence of the physician on the young person at each consultation. Obesity, smoking, alcohol consumption, and a misplaced reliance on some pharmacological preparation to solve a personal problem all fall into this area. Health education is much less effective by poster, leaflet, or advertisement than it is at the doctor's consultation, for the patient is at that time receptive to and anxious for advice. Height and weight charts can be distributed, a firm attitude to the use of tranquilizers and hypnotics shown, and a discussion of the individual's social life initiated—so that the doctor can learn too. The adolescent is naturally curious and requires clear sensible advice—not a sermon—for the myths of teenage culture to be laid.

Summary

- (1) Give effective and up-to-date immunisation.
- (2) Provide contraception separated from the clinical routine of examination.
- (3) Encourage the use of sheaths in all appropriate circumstances.
- (4) Provide access to physiotherapy and instruction in physical fitness routines.
- (5) Provide appropriate verbal and written information on personal hygiene and nutrition.
- (6) Always offer advice, tempered with educational instruction.

Advantages and disadvantages

- Some advantages of employing part-time staff are:
- (1) Staffing levels can be matched more easily with predictable levels of work load. Part-timers can provide additional covering during busy periods and allow staffing levels to be cut during slack periods, thus reducing total staff costs.
 - (2) Most surgery staff are often reluctant to take sick leave. But there is *reputedly* a lower rate of absenteeism among part-time staff, domestic commitments and appointments can be arranged during the employee's own time.
 - (3) The use of part-time staff can reduce the need for additional payments to full-time staff for overtime or unsocial hours.
 - (4) The surgery may be more easily run continuously with part-time staff by providing cover for meal breaks and the early morning and evening shifts.
 - (5) There is a comparatively new option of job sharing, which is growing in popularity. This arrangement enables two people to agree to share the responsibilities of a single full-time job and the pay and benefits in proportion to the hours each works. Disadvantages of employing part-time staff may be:
 - (1) Problems of continuity may still arise if there is difficulty in matching morning, afternoon, and evening shifts.
 - (2) The purely administrative costs of employing two part-timers are often higher than those of one full-time employee.

- (3) The rate of turnover—that is, resignation—among part-timers is often higher; their commitment to the employer may be weaker, and their earnings may not be so important in relation to the total family income.
- (4) They may be less committed to the practice than full-time staff and thus may be less willing to acquire new skills and to be flexible in their working arrangements.

Employment rights of part-time staff

In general the part-time employee has fewer rights of employment protection than his or her full-time counterpart. But the law is precise about who is a part-time employee for the purposes of employment protection rights and which rights apply to all employees, irrespective of how many hours a week they work.

The law regards all employees who work 16 or more hours a week and also have five years' continuous service as qualifying for certain employment rights. Those employment rights which are dependent on the number of hours worked are listed below.

Employment right	Length of service* required for employees working 16+ hours a week
Redundancy pay	2 years after age 18
Maternity pay leave	2 years before 11th week before expected
Unfair dismissal	1 year (2 years where at no time during employment the employee was employed by a total number of employees equal to 20)
Written reasons for dismissal	2 weeks
Minimum notice	13 weeks
Guaranteed pay	6 weeks
Dismissal connected with medical condition	6 weeks
Time off for trade union duties, training, activities, and public duties, and parental pay	None

*The new Employment Act proposes to change the method of calculating the qualifying periods in certain instances from weeks to months or years.

Employees working less than eight hours per week have no claim to any of these employment rights. But certain other employment rights apply universally and are not dependent on the number of hours worked or length of service. These include rights under the Equal Pay, Sex Discrimination, and Race Relations Acts, victimisation or discrimination under trade union activities; and rights to paid time off for antenatal care.

What happens if the hours of work are changed?

If an employee is employed initially under a contract of 16 hours or more a week, but his or her hours are subsequently *temporarily* reduced to under 16 (but remain more than eight hours a week) each week of working this reduced week will still count towards length of service requirements, up to a maximum period of 26 weeks.

In addition, when a particular employment right requires a minimum period of continuous service and the employee has already qualified for it, if the employee's contracted hours are subsequently reduced to between eight and 16 hours a week he or she will not lose the rights already acquired.

Variable patterns of part-time working

The number of hours worked by part-timers can vary from week to week. Some may work on an arrangement alternating weeks—that is, full-time working one week and the following week off. Under this arrangement staff are considered to be

continuously in employment during the week off and therefore they do not lose their employment rights.

Administering part-time contracts

If the part-time employee has more than one part-time job income tax may be deducted by either the principal employer or by two or more employers. The tax office will make the necessary arrangements by allotting an appropriate coding.

For national insurance, the lower earnings limit is currently £29.50, and this is reviewed annually. If an employee earns less than £29.50 a week neither the employer nor the employee pays national insurance contributions on the employee's earnings. If, however, the employee earns an amount greater than or equal to this both employer and employee pay contributions on the whole of the employee's earnings. Savings may be made if a pattern of hours is agreed so that total pay does not exceed the lower earnings limit.

Married women who are part-time employees (and full-time employees) earning £29.50 or more may be paying either full-rate class 1 national insurance contributions or the lower rate married women's contributions. But since May 1977 the option of paying a married woman's rate of contribution has been phased out. Married women who paid the lower rate before May 1977 may continue to do so. If a married woman has been away from employment for two complete tax years she must pay the full rate of contribution when she returns to work.

Hours of work and pay

The hours of work of part-time staff vary greatly according to the needs of the practice. Some part-timers may be employed two or three hours a day to cover the midday meal break or the busy periods during morning, afternoon, or evening surgery. Other arrangements may require only a couple of hours a day two or three days a week, or even a few hours on alternate weeks.

It is not uncommon to find that part-time employees are paid at a lower hourly rate than full-timers. If the part-time employees are women (over 95% of part-time staff are women) it may appear that they could claim that they were being discriminated against under the Equal Pay Act. The provisions of this Act, however, now require a woman to compare her position with a man doing similar work, but the Government is reviewing this requirement after a recent judgment of the Court of Justice of the European Communities. Since it is unlikely that a man will be doing similar work to a part-time woman employee there are rarely any grounds for a case to be brought. Thus, if all your part-time staff are women there is no legislation to prevent you from paying a different hourly rate from that paid to full-time staff. But this may be affected by the EEC "directive" mentioned below.

Should part-time staff be paid overtime rates? There are different views of what constitutes "overtime" for such staff: (i) any work in excess of a full-time working week—for example, beyond 40 hours a week; (ii) any work in excess of daily full-time hours—for example, beyond eight hours a day; (iii) any work on normal business hours—for example, working well beyond the end of evening surgery; (iv) any work in excess of the contracted part-time hours.

In practice most employers pay overtime rates to part-timers only when they work beyond the full-time working week. And this will in turn depend on whether any full-time staff are paid overtime rates. The danger of paying part-timers overtime rates for time worked in excess of their part-time hours is that your full-time staff may see it as being unfair to them, and they may prefer to opt for part-time contracts so that they benefit from these premium rates. One arrangement may be to decide to fix the part-time rate as a percentage of the full time rate—say, 80%—and then to pay an overtime premium rate to part-time staff, which brings them into line with the basic full-time hourly rate.

Pension arrangements

Part-time staff rarely qualify for occupational pension schemes. Their entitlement to state basic pensions depends on their record of national insurance contributions. A married woman over the age of 60 can only qualify in her own right if she has paid full-rate national insurance contributions for a qualifying period. If she has opted for the married woman's reduced rate of national insurance contribution she only qualifies for the lower rate of pension on her husband's contributions.

Maternity arrangements

A pregnant employee may acquire these statutory legal rights: (i) to return to work with her employer after maternity leave; (ii) to receive maternity pay; (iii) to complain of unfair dismissal if her employer dismisses her because of pregnancy; (iv) not to be "unreasonably" refused paid time off for antenatal care.

A minimum period of service must be completed for the first three of these rights, but not for the fourth.

MATERNITY LEAVE

A woman employee is entitled to take up to a maximum of 40 weeks' maternity leave (starting any time after the eleventh week before the baby is due, together with 29 weeks after the birth). The period of leave may be extended in certain circumstances. Entitlement to maternity leave depends on the employee having 104 weeks' continuous service if she works 16 or more hours a week. This period of service must be fulfilled before the eleventh week before the expected date of confinement. If the woman works between eight and 16 hours a week and has had five years' continuous service before the 11th week before the expected date of confinement she also qualifies for the 40-week maximum statutory period of maternity leave. Women who work less than eight hours a week have no legal rights to maternity leave.

Any woman who qualifies for maternity leave is also entitled to return either to her previous job or to other suitable work if it is not "reasonably practicable" for her employer to offer her previous job back. But, if the employer has five or less employees the woman cannot claim unfair dismissal if she finds it impracticable to take her job back. After her maternity leave a woman may prefer to return to work part-time. There is no statutory legal obligation on an employer to agree to this arrangement, and it may be particularly difficult for an employer with few staff to adjust his staffing to accommodate this change.

MATERNITY PAY

If an employee qualifies for maternity leave she also qualifies for maternity pay. Those who qualify are entitled to six weeks' pay at nine-tenths of their normal weekly pay, less the amount of the flat-rate national insurance contribution. The full amount of this payment may be reclaimed by the employer from the Maternity Pay Fund. The employer should contact the regional office of the Department of Employment and ask for the maternity section where the appropriate claim form can be obtained. If a woman has completed two years' continuous service working 16 or more hours a week and subsequently changes her contract to work between eight and 16 hours her rights to maternity leave and pay are preserved.

UNFAIR DISMISSAL

It is automatically unfair to dismiss an employee because she is pregnant if she has qualified by length of service to complain of unfair dismissal. There are certain specific exceptions to this general principle.

PAID TIME OFF FOR ANTENATAL CARE

All pregnant employees have a right to take "reasonable" paid time off to attend antenatal clinics. Except for a request for a first appointment, the employee may be asked by her employer to produce a certificate stating that she is pregnant and an appointment card showing the time of her appointment. Because this is a comparatively new statutory legal right few problems have arisen. It may be reasonable, however, for an employer to ask a part-time employee to try to arrange the appointment outside working hours.

Sick pay and holiday pay

Current employment legislation does not require any employer to pay an employee during periods of sickness or holidays. Moreover, if you provide sick pay or holiday pay for full-time employees, there is no obligation to extend these arrangements to cover part-time employees. The same principle also applies to the arrangements you may wish to make for public holidays. But it is advisable to let your employees know in advance which arrangement you intend to apply.

The right to receive state sickness benefits depends on an employee's national insurance contributions. To qualify, an employee must have paid class 1 contributions. Married women who have opted for the reduced national insurance contributions do not qualify for sickness benefit, though they are eligible for industrial injury benefit.

After April 1983 part-time employees will be entitled to receive statutory sick pay from their employers when the new Statutory Sick Pay Scheme is introduced. They will qualify for sick pay irrespective of whether they pay the full or reduced national insurance contributions. The employer will be responsible for paying statutory sick pay for the first eight weeks of an employee's sick leave as a tax year. After this a part-time employee who is still on sick leave will only qualify for state sick benefit if they have paid the full rate of national insurance contributions for the qualifying period. The employer will be responsible for keeping certain records. (See DHSS leaflet *Employers' Guide to Statutory Sick Pay*, NI 227, July 1982, 60 pages.)

Future legislation

The EEC is considering the introduction of a "directive" that will prevent discrimination against part-time employees in their terms of service and to guarantee that they are paid in proportion to full-time employees doing equivalent work. The timetable of this legislation is uncertain, but once it is approved by the European Commission member countries will be required to introduce legislation to implement it. It is unlikely that any new legislation will be introduced in the United Kingdom before 1985.

If this "directive" is implemented it will fundamentally change the status of the part-time employee. It sets out to ensure that there is no discrimination as between part-time and full-time employees and that they enjoy proportional rights with regard to remuneration, holiday pay, redundancy pay, and pensions, and that each part-timer is provided with a written contract of employment, and that priority is given to employees who seek to transfer from part-time to full-time employment or vice-versa.

Employees should know where they stand

In deciding what arrangements to make for your part-time staff you need to make sure that all of your staff know exactly where they stand. The arrangements applying to part-timers—that is, their pay, holidays, sick leave, and hours of work—should be spelt out in a written statement of their conditions of service or in a contract of employment. In four previous articles

a detailed explanation was given of how to prepare a contract of employment.¹ BMA members may obtain a booklet of these articles from BMA regional offices. Finally, this article can only provide a general guide to the provisions of existing legislation. It does not offer a definitive statement of law.

I am grateful to Dr John Ball for his comments on this paper. The author is responsible for any omissions or errors.

Innovations in London

North Camden community psychiatric nursing service

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It is now accepted that at least 25% of patients who present at general practitioners' surgeries have problems that are of psychological origin. The incidence of mental illness is greatest in areas of social deprivation—for example, the hospitalisation rate for mental illness per 1000 residents in inner London is 5.16, compared with 3.12 in outer London and 3.18 in England.¹ By and large the failure of the generic social worker (established after the Seebohm report²) to support mentally ill people in the community has highlighted the need for other paramedical workers to help the hard-pressed GP in this task. Furthermore, the model of the primary care team³ is one of the key suggestions of the Acheson report on primary care in inner London.⁴

In some areas good work has been achieved by clinical psychologists⁵ and other counsellors who are attached to GPs, but undoubtedly specially trained psychiatric nurses working with GPs and other members of the primary care team can make a much greater contribution. In our opinion that contribution may be much greater when the psychiatric nurses are based in the community, though the problems of allocating resources and of organisation are also greater. Usually the community psychiatric nurses are based in hospital, are managed by the psychiatric divisional nursing officer, and are financed from the psychiatric hospital budget. Community nursing is managed differently and often has fewer resources. In North Camden district (KCN) is a divisional nursing officer for psychiatric and geriatric inpatient nurses as well as community nurses, so that it was easier to make the change from hospital to community.

Community psychiatric nursing schemes

The first community psychiatric service was set up in 1954 at Warrington Park Hospital, Surrey, and the second in 1957 at Moorhaven Hospital, Devon. Now community psychiatric services are found across England and Wales and more than 2000 psychiatric nurses are employed in nearly 250 teams. Parnell⁶ described the results of a postal questionnaire sent by

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References

1. Ellis N. Employment law. I. Why you need to know about it. *Br Med J* 1981;282:743-7.
2. Ellis N. Employment law. II. The importance of the employment contract. *Br Med J* 1981;282:762-9.
3. Ellis N. Employment law. III. The contract. *Br Med J* 1981;282:758-60.
4. Ellis N. Employment law. IV. Can I still do this? *Br Med J* 1981;282:1040-2.

the Queen's Nursing Institute to community psychiatric nurses, psychiatrists, GPs, health visitors, and district nurses, followed by interviews with staff who took part in the survey during 1975-6. The results of the study showed that 70% of community psychiatric nurses were based on hospital premises, 58% visited patients in their homes full-time, and the remainder had commitments in both hospital and the community. Eighteen per cent were based in psychiatric day hospitals, 6% in health centres, and 4% in other locations. It is notable that 93% of referrals to the community psychiatric nurses were from consultant psychiatrists. Moreover, 63% of respondents had had no preparation before starting work in the community, and only 12% of these had attended courses afterwards.

Nearly all the schemes described in published reports were of community psychiatric nurses based in psychiatric hospitals even when attached to GPs.⁷ Only Tough⁸ et al⁹ suggested that community psychiatric nurses should be based in the community as members of the primary care team.

North Camden Health District

After the reorganisation of the National Health Service in 1974, North Camden Health District assumed responsibility for community nursing services. At that time follow-up home visits to patients who had been discharged from the psychiatric unit at the Royal Free Hospital and from Friern Barnet Psychiatric Hospital were carried out, if necessary, by a few psychiatric nurses based at Friern Hospital. They were unavailable for clinical decisions to the consultant psychiatrist.

After KCN was appointed divisional nursing officer of North Camden Health District in 1975, she had discussions with GPs who were concerned with setting up primary care teams. Arising from this, a psychiatric nursing service, based in the community, was set up, and the clinical responsibility was invested in the general practitioner. Resources became available in 1978 and as from 1 January 1979 community psychiatric nurses took up posts under their own nursing officer, and one each was based at three community health clinics and one health centre. The nursing officer had been in post for a few months and had met with local GPs and representatives from other nursing services, local authority social services, and voluntary agencies. There was also a community orientation programme for the newly appointed community psychiatric nurses.

The North Camden community nursing service has been in

operation for three years, and there have been no problems recorded from the GPs. There are now six community psychiatric nurses in the community who are allocated to the GPs from four centres. Because the number of nurses is small it has not been possible to attach them to individual GPs, but each has built a good relationship with the neighbouring practices. The nurses visit patients in homes and see them at the health clinics as well as at GPs' surgeries by arrangement.

REFERRALS

For the year from January to December 1981 there were 340 referrals to the service—an average of 28 a month. GPs referred half of cases, and a further third were referred by another member of the primary health care team. Only 8% were referred from hospitals, thus reversing the national trend. Community psychiatric nurses are instructed to discuss cases with the patient's GP when they are referred from elsewhere.

The average age of patients was 52; 37% were aged 65 and over, 41% were between 31 and 64, and 20% were between 14 and 30. Referrals of elderly patients consistently accounted for over 35% of the work load, and there was an appreciable increase during January, February, July, October, and November. This was thought to be due to the community's anxiety in the winter months and concern for the welfare of elderly people at holiday times when they may be left on their own.

Some 27% of patients were married, 25% widowed, 25% single, 20% divorced, and 2% separated from their spouses. Seventy-five per cent were British-born, and 25% came from overseas. Seventy-seven per cent of patients lived in flats, the rest living in private houses or with wardens or in 3 homes (residential homes for elderly people), and a few in hostels.

Psychiatric symptoms.—The psychiatric symptoms of the patients are most interesting. In order of frequency they were anxiety and depression, schizophrenia and other psychosis, interpersonal difficulties, alcohol problems, dementia and confusion, and a few drug problems. Community psychiatric nurses who are based in hospital would expect to see mostly schizophrenic patients.¹⁰ Many schizophrenic patients can now be treated in the community, however, and this is encouraged by the close liaison between GPs and community psychiatric nurses, with specialist referral if necessary. There has been an increase in the number of patients referred with alcohol problems.

Referrals.—Each community psychiatric nurse saw on average 56 referred patients over the year, the average for the service being 28 patients a month. In 1981, for the first time in the three years that the service has existed, there was an appreciable number of re-referrals (64 cases), a third of whom were self-referred. It is interesting also to compare the sources of referrals for the three years (table), there has been a general

Source of referral 1979-81

Source	1979	1980	1981
General practitioner	139	148	170
Health visitor	25	23	36
Community psychiatric nurse	35	21	30
Hospital	12	15	15
Health visitor	12	15	15
Community psychiatric nurse	3	5	3
Self-referred	8	12	22
Total	209	205	240

increase in numbers with a slight drop in the second year, which can be attributed to the difficulties of having temporary staff. Most referrals continue to come from GPs and other members of the primary health care team.

TRAINING

In 1974 the Joint Board of Clinical Nursing Studies published an outline curriculum in community psychiatric nursing.¹¹ Training is provided in polytechnics for 36 weeks for nurses who hold the qualification RMN or RNMN. Subjects include developmental psychology, sociology, research methodology, health education and counselling, teaching and interviewing techniques, planning and management of care loads, and the principles and practice of community nursing and behavioural modification.

In North Camden there is a post-basic nurse training centre. Courses are given on counselling, interviewing, industrial relations, the nursing process, the management of violent patients, and the nurse and the law. Trained staff from all disciplines are seconded for training according to their needs and requirements, and local polytechnics are also used extensively for courses that cannot be given in the training centre. It is the intention in the North Camden scheme that all community psychiatric nurses should take the Joint Board of Clinical Nursing Studies' course in community psychiatric nursing. All the nurses are registered nurses and some are also State-registered. There are two women and four men in the service, three of whom have had the special training.

Relationships with others

Full discussions of cases take place with other nurses in the primary care team, and the patients are allocated by mutual agreement—for example, which nurse should give the injection to the diabetic patient who also suffers from schizophrenia. The general practitioner is kept informed and consulted on all clinical developments.

The nurses who manage the service meet monthly to discuss the way the service is developing and the needs of the local population. They also discuss any problems that have occurred so that they may anticipate and prevent other problems, the relationship between the GP and the community psychiatric nurse, case loads, and requests for a particular kind of service, such as group therapy. In addition, they review further education, personal and professional development of staff, and methods by which these may be accomplished. Community psychiatric nurses also carry out joint assessment visits with other members of the primary care team—health visitors, geriatric visitors, district nurses, and school nurses. Some visits are also made with the psychogeriatrician. There are six community psychiatric nurses and a nursing officer, which gives a ratio of 1 to 14 000 population, less than that in most parts of England and Wales, where the average is said to be about 1 to 40 000.

The GPs who use the service, especially those at whose premises the community psychiatric nurses are based, are fulsome in their praise of the service. As one would expect, the degree of co-operation depends on the compatibility of the personality of the doctor and nurse concerned, and to their particular attitudes to the mental illness of their patients. One doctor who had a special interest in psychotherapy said that he referred different types of cases to different nurses with whom he had worked.

It seems, too, that the local psychiatrists have accepted the community-based service. Although the service is only three years old the number of psychiatric patients referred by GPs to the service seems to be increasing. The policy of the North Camden Health District is that when resources are available community psychiatric nurses will take over the continuing care of patients discharged from psychiatric hospital wards. Inevitably this will increase the number of psychiatric patients who are looked after by the service and by the GPs.

We hope very much that in the reorganisation of the NHS that local medical committees will bring pressure to bear on the new

district health authorities to transfer the community psychiatric nurses to the management of the new directors of community nursing, so that they can work in the community as members of the primary health care team with the clinical responsibility of their patients firmly in the hands of GPs.

We thank Mr A G Clark, nursing officer, North Camden District CPM Service, for kindly providing the documentation about the service.

References

1. James B. Survey of primary care in London. Occasional Paper No 16. London: Royal College of General Practitioners, 1981.
2. Report of the committee on local authority and allied personal social services. Seebohm report. Cmnd 803. London: HMSO, 1968.
3. Elliott A. The primary health care team. *Nursing Focus* 1980;Nov 81-3.
4. Report of joint working group on the primary health care team. London: DHSS, 1981.
5. Primary health care in inner London. (Acheson report.) London: Health Planning Commission, 1981.

Practice Research

Does life-long exercise protect against heart attack?

H K ROBERTSON

The aim of this controlled study was to illustrate the differences in levels of general fitness and prevalence of risk factors for coronary heart disease between a group of veteran cyclists and a group similar in age drawn at random from my practice. Comparisons were made of electrocardiographic recordings.

Subjects, methods, and results

Forty-seven men cyclists between the ages of 54 and 64 volunteered to be examined after a request was made to the cycling community in London and urban Hertfordshire. The only cyclist volunteers who were excluded from the study were those who had gaps of more than 10 years in cycling. Each cyclist was paired for examination with a man from my practice. The pairings were based on date of birth and the first letter of the surname and were made by independent persons. Two controls were rejected because of low IQ and replaced. All subjects were either working or recently retired and capable of work. I examined all of the subjects. Blood pressure recordings were taken on the right arm with the subject seated. The lower of two recordings was chosen, the fourth sound being taken as the diastolic reading. Postexercise electrocardiographic recordings were made after the subject performed 30 squats over a maximum period of 90 seconds. ECG tracings were coded by me and assessed "blind" by the reader. This very modest exercise challenge, chosen because some participants were so unfit, achieved a mean exercise heart rate (maximum of

under 100 min, which is well short of an acceptable figure, and the results of this test should be viewed accordingly. Chest x-ray examinations gave no additional information.

The two groups turned out to be equally matched for statistical purposes in terms of occupation and family history of heart disease (table 1). The mean and standard errors were calculated for all the quantifiable variables, and the differences were tested using Student's *t* test. The variables were adjusted for smoking and past medical history, where they were found to be significant, using linear regression. Different regressions were done with each variable in turn as the dependent variable, and smoking and past medical history as the

TABLE 1—Details of habits and medical history of cyclists and non-cyclists

	Cyclists n=47	Non-cyclists n=47	Total n=94
Occupation			
Vocational	1	0	1
Manual	10	15	25
Non-manual	36	32	68
Smoking			
Currently	1	4	5
Former	11	16	27
Non	35	32	67
Family history			
Yes	1	8	9
No	46	39	85
Medical history			
Diabetes mellitus	1	4	5
Hypertension	1	1	2
Angina	1	1	2
Past high blood pressure	1	1	2
Present high blood pressure	1	1	2
Myocardial infarction	1	1	2
Total No. Yes	2	15	17

*A episode of hypertension in the past that required one course of treatment only.

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TABLE 2—Statistical significance of variables for cyclists and non-cyclists, giving mean and standard error of the mean

Variables	Non-cyclists		Cyclists		Significance	
	Actual	Adjusted for medical history and smoking	Actual	Adjusted for medical history and smoking	Actual values	Adjusted values for medical history and smoking
Heart rate, beats/min	122.7 ± 0.47	122.7 ± 0.47	121.3 ± 1.38	121.3 ± 1.38	0.05	0.001
Systolic blood pressure, mm Hg	162.6 ± 1.22	162.6 ± 1.22	162.1 ± 1.12	162.1 ± 1.12	0.005	0.001
Diastolic blood pressure, mm Hg	100.4 ± 0.97	100.4 ± 0.97	99.8 ± 0.94	99.8 ± 0.94	0.001	0.001
Exercise heart rate, beats/min	150.4 ± 1.19	150.4 ± 1.19	149.1 ± 1.12	149.1 ± 1.12	0.01	0.001
Exercise heart rate, beats/min	150.4 ± 1.19	150.4 ± 1.19	149.1 ± 1.12	149.1 ± 1.12	0.01	0.001
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Exercise heart rate						

*ECG graded. Normal. 1. Arrhythmias, A. Conduction defects, infarction. 2. Ischaemic changes, post-exercise ST shift of at least 1 mm in more than one lead.

Comparison: *t* test. *p* values are given. Serum cholesterol: 1 mmol/l = 39 mg/100 ml.

predictors. The residuals were examined and tested for group difference. The results are shown in table 2. There were statistically significant differences between the two groups on all the variables measured except heart rate and serum cholesterol concentrations.

Discussion

A possible explanation for the differences in the two groups is that the cyclists may be predisposed to cycling on the first instance because they are generally healthier and because the age range selected does not include those who cycled earlier in life but were unable to continue owing to ill health. A previous survey¹² however, showed that cyclists who develop angina or myocardial infarction continue cycling afterwards. Mortality from heart attack in cyclists was found in the same survey to be rare. To help overcome possible criticism that the cyclists were a self-selected group, the values for both groups were adjusted for two factors: smoking and past medical history (table 1).

Though great care was taken in the random selection of the controls and a robust statistical analysis undertaken the absence of a second control subject for each cyclist leaves a possibility of undetected bias in selection. While there is no problem in accepting conditions such as diabetes and hypercholesterolaemia as suitable for use in statistical adjustments between the two groups there is a problem in interpreting the role of hypertension. Since the cyclist's exercise load is probably more than likely prevent the development of primary hypertension it seems reasonable that hypertension, which dominates the medical history comparison, should not dominate the statistical adjustments. It is also difficult to assess the cases of myocardial infarction and angina in this context. Because of these difficulties adjustments for medical history and smoking are set beside adjustments for smoking alone (table 1). I believe that the largest adjustment lies nearest to the latter.

Though it was not the main purpose of the study, it is obvious that in comparing the medical histories of the two groups the complete absence of past or present hypertension and angina and the lower incidence of myocardial infarction in the cyclist group is not explained by the difference in smoking habits alone. I accept that such a small sample may not give results that can be applied to the wider population.

As expected, the cyclists were slimmer and had less subcutaneous fat. Their chest expansion was greater, presumably because they were leaner and fitter. Their exercise heart rate and percentage increase in heart rate were significantly less than those of the non-cyclists. There is, therefore, satisfactory evidence that the cyclists were fitter as a group. The lower systolic and diastolic readings in the cyclists were probably the result of their long-term fitness and absence of obesity. The significantly better results in the electrocardiographic recordings are in keeping with the lower incidence of morbidity and mortality from ischaemic heart disease suggested in the original survey.¹²

In studies of the highly complex cause of ischaemic heart disease the lack of physical fitness has been cited more and more as an important factor, though proof of this is elusive and may never be established. Short-term exercise programmes have failed to modify risk factors for ischaemic heart disease.¹³

It is hoped that the results of this survey will encourage those who participate in or advocate long-term physical fitness programmes.

I am indebted to Dr P M MacLoughlin for reading the electrocardiographic recordings and for valuable advice; to the pathology departments of Hertford County and Queen Elizabeth II Hospitals; to the mass miniature radiography service; to Mrs Saville and Mrs Akes of the Saint Andrew Street surgery staff; and to Mr P Perkins and his staff in the North-west Thames Health Authority statistical department.

A general practitioner research grant from the NTHA supported this research.

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References

1. Robertson HK. Heart disease in life-long cyclists. *Br Med J* 1977;1:1035-6.
2. Royal College of Physicians. *Prevention of coronary heart disease*. Vol X. No. 3. London: Royal College of Physicians, 1970:36-41.
3. Sedgewick AW, Brotherton JR, Harris-Davies A, Taplin RE, Thomas W, et al. A randomised trial of physical training programme on risk factors for coronary heart disease in otherwise sedentary men. *Br Med J* 1980;281:15-19.
4. Youngman MB. *Programmed methods for multivariate analysis*. Version 5. University of Nottingham School of Medicine, 1976.

(Accepted 5 July 1982)

THE GENERAL PRACTITIONER Sir—It is not uncommon to hear a raw licensee of the Company of the Apothecaries thus discourse: "Really, our education is now so good, that we must supersede the physicians are long. In former days, when the instruction of the general practitioner was limited by a counter in a country village, the physician might be necessary. But since every medical man now completes his education in a metropolis, and passes a rigid examination on his acquisition, we are become as skilled as the physicians." To the great father of medicine it did not seem so easy a matter to acquire professional knowledge and skill, and if those self-satisfied persons would learn to heart his first aphorism, and repeat it to themselves every day, possibly they might become wiser and less ridiculous. "Life is short, the art is long, occasion sudden, and to make perfect a dangerous, judgement difficult, A. Scaevola, APOTHECARY, AND MAN-MIDWIFE. (*London Medical Gazette* 1830; 619.)