

PRACTICE OBSERVED

Practice Research

Five preventive activities carried out during general practice consultations

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More and more emphasis is being placed on preventive medicine, particularly in general practice. Indeed, the BMJ has recently published a series of articles on the subject...
Methods
A random one-in-three selection of records of all women registered with the practice was taken using the age-sex register. Because the practice is growing this gave a sample size of exactly 100 patients in 1981 and 146 in 1982. Thirty eight patients were included in the sample for both years. Of these, 15 were not seen at all during this time. The case notes were searched after one and two years for data on the five activities.

Throughout the study blood pressure was measured in the right arm with the patient sitting, using a mercury sphygmomanometer. Recordings were taken to 2 mm Hg and recorded for both fourth and fifth phase diastolic pressure (for analysis diastolic pressure was used). Rubella immunity was taken to be either the presence of rubella antibodies in the serum or a definite history of rubella infection. A history of the disease or of possible immunisation was regarded as inadequate.

Adequate cervical cytology was taken to be a report of cytology having been performed in the previous five years. Details of cigarette smoking and contraception were supplied by the patients and were therefore susceptible to bias. Simple statistical analysis comparing the two years was performed using χ^2 tests.

Results
Sixty four of the sample of 100 women had consulted me during the first year, which compares with other surveys.¹⁰ Over the two years 101 (69%) women had consulted me. This figure is lower than expected and is probably due to the high mobility of the population in this age group, with patients joining and leaving the list frequently. For all activities the results were either maintained or showed improvement between the two years. Only for rubella immunity were the differences statistically significant.

In addition to those patients known to be rubella immune the notes recorded that advice had been given to place the blood test in a further eight women in both 1981 (12.5%) and 1982 (8.3%). Cervical cytology had been advised in a further five cases (8%) in 1981 and eight cases (8%) in 1982. In both years a few girls were virgo intacta and therefore ineligible for cytology. No seriously abnormal smears were detected. In 1981 10 patients (16%) had either a systolic blood

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Occupational Medicine

Adventures in industry and aviation

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During the same year that I became medical superintendent for Cunard I was approached by the newly appointed chief executive of an old firm of gas appliance manufacturers in Liverpool who also ran a brass foundry. He was fresh from ICI, where he was accustomed to occupational medical services, and he wanted such a service for his company. The company's medical department was reached by crossing a machine shop, which to my surprise had escaped the notice of the Science Museum, turning through a mist of cutting oil and a continuous hail of brass turnings, and finally reaching a filthy lavatory like enclosure. Here, an elderly man with emphysema and alcohol dependence depended elastoplasts without pausing. The mouthfuls of crab sandwiches, which he always seemed to be eating, and with a greasy index finger deftly removed brass foreign bodies from injured eyes.

Under the aegis of the chief executive I established a safety committee, selected a safety officer, appointed two full time state registered nurses, and built into a gutted portion of a warehouse a medical centre of which I was very proud. Indeed it is still used. The factory had many occupational health hazards, in common with other light engineering works. Asbestos was a major problem and there were all the risks of a chrome plating plant. The noise and heat from the power presses that were operated by women in bedroom slippers was horrifying. The inferno like foundry had lurking in it a man with one eye who felled brass castings without eye protection on a huge grind wheel that was also unguarded.

Know the workplace

An understanding of occupational medicine comes not from having a good medical unit or from a knowledge of legislation, or even from a training in toxicology, but from a basic appreciation of the workplace and the workforce. It is vitally important therefore to walk round the plant frequently and to look, listen, and talk to the workers. Then the job and its effect on their health becomes evident.

Slowly but surely, with enormous help from management and the nurses, the attitude of the employees at all levels to health and safety was changed—without resistance from many. Pre-employment medical examinations, executive screening, reviews of those working in hazardous areas as well as initial treatment on site were started. It was most important to establish and maintain good working relationships among general practitioners, hospitals, casualty departments, and consultants in the area. Reviews of the working environment enabled us to improve the factory and its safety and efficiency. An increase in productivity naturally resulted.

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My weekly visit was and still is preceded by lunch with the directors so that they may ask their own medical questions, many of which are unassociated with the factory. This regular meeting allows me to give my views on their occupational health needs. It also gives me an overview of the state of the business—when to develop a screening programme and when to remain tactfully silent behind a gin and tonic.

The formula was so successful that after a few years the group's chief executive invited me to extend the programme to all 13 companies scattered throughout the United Kingdom. Some already had a medical service, others none at all. What we finally achieved was to raise those that provided a poor or rudimentary service to a higher standard. The most successful department was staffed by a dentist and a chiropodist and a brilliant young man whom I appointed as the medical officer. I am delighted that he is now a professor of occupational medicine.

The group's health service was administered centrally by me. The large to medium sized sites were staffed by full time state registered nurses and were covered by local general practitioners who had an interest in occupational medicine and were engaged on a sessional basis. The smaller sites were staffed with full time nurses but doctors acted on an item of service basis. I visited each plant at least twice a year and the management and medical staff could reach me at all times by telephone.

The group is a conglomerate, manufacturing products ranging from gas meters and domestic electrical appliances to steel fabrications, precision control systems, cabinets, iron founding, and expansion bellows. It covers a fastidious range of industrial hazard, a nationwide geographical distribution, and an interesting collection of personalities and personnel. From this mix, different attitudes to occupational medicine and sickness absence emanated.

The workers in Yorkshire were used to a Dickensian factory environment but refused to accept the possibility of ethnodical carcinoma resulting from inhalation of hardwood dust, which they literally lived in; while the Cornishmen, recruited from agricultural or fishing families to the newly built factory, regarded everything in the plant with suspicion and hated working indoors but were very highly unaccustomed to a factory environment.

I always look forward to my visits to all these plants, where I am well received and until recently, when it was closed because of the recession, enjoyed the privilege of using the chairman's luxurious West End apartment.
By the late 1960s the jet aircraft rapidly began to replace the passenger liner for safe, rapid travel. The coincident introduction of container freight ships and super tankers and the seasonal strike of 1966 almost ended the British shipping industry. Manning levels were changed, a different breed of seafarer was in the making, many older vessels were being scrapped, and the remaining passenger tonnage was diverted into cruising. Cunard, however, were committed to building the replacement of the old Queens—736 as she was known on the stocks at John Brown's yard of Clyde Bank. We were later to know her as *Queen Elizabeth II*.

TABLE 1—Five variables recorded for women in sample (and percentage of those who were seen)

Table with 5 columns: No. of women seen, No. who were seen, No. who had blood test, No. who had cervical smear, No. who had rubella test. Rows for 1981 and 1982.

TABLE 2—Number of cigarettes smoked by women in sample (and percentage of women whose smoking behaviour had changed)

Table with 3 columns: No of cigarettes a day, 1981, 1982. Rows for 10-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, 46-50, 51-55, 56-60.

pressure of ≥ 140 mm Hg or a diastolic pressure ≥ 90 mm Hg or both. This was the only one was known to be hypertensive, one had poly cystic disease of the kidneys, one was grossly obese and she was undergoing endocrinological investigations. In 1982, 12 patients (12%) had raised blood pressure—two of these were grossly obese.

Regarding smoking there was an apparent increase in the proportion of non-smokers in the sample, but this difference was not statistically significant. The oral contraceptive pill was the most popular form of contraception in 1981 (64%) and 1982 (60%), as might have been expected. In both years the percentages of women who were pregnant, trying to get pregnant, or were virgins were similar. A few used barrier methods of contraception, and in one case the husband "was careful."

Discussion

Both general practitioners and doctors in community medicine have suggested that general practice is the most logical setting for carrying out preventive medicine for organisational and financial reasons.¹ Others have argued that there is insufficient time by busy surgeries to practise worthwhile prevention. This study shows that it is possible to carry out a "package" containing five preventive activities within the time constraints of the consultation and that reasonable levels of preventive activity may be achieved over two years. I admit that a list size of 1850 patients is below average and that a consultation time of 10 minutes may be considered by some as a luxury. But these

figures are in line with the projected aims of the Royal College of General Practitioners for the future.

One of the benefits of doing an analysis such as this is that it shows the general practitioner where levels of prevention are inadequate. Thus the figures for rubella immunisation at one year prompted me to be more diligent in pursuing rubella immunity in young girls than I had been. Roughly 90% of patients consult their general practitioners over three years. If such preventive activity was to be widely adopted most patients could be screened during the consultation over three years. The few patients who do not consult during this time could, if necessary, be picked up at special screening clinics.

Conclusions

A package of five preventive activities, consisting of blood pressure measurement, cervical cytology, data on smoking, contraception, and rubella immunisation is carried out in a not very large London health centre. Analysis of the results of these activities in a subgroup of young women aged 17-30 showed that it is possible to carry out reasonable levels of preventive activity in the ordinary consultation in general practice. If such a package was used more widely a large proportion of the population could be screened in a short time.

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Diary of Urban Marks: 1880-1848

Marshall came sometime in June and I went over to Brook. I had a very happy time with Elsworth, under whom I learn a good deal of surgery. He operated once only in the week but that was on a Monday afternoon. We started at 2 pm and did the major cases. We broke off at 4.30 pm for tea and cigarettes and then resumed, often going until nine or 10 o'clock. By this time everyone was "all in" excepting Elsworth himself, who seemed to have an inexhaustible fund of energy and at the end of the operations appeared as fresh and cool as a daisy. The reason for the one long operating afternoon was that he had a tremendous practice both surgical and medical. He went—as did Brook—all over West Wales, but at that time there were only two surgeons in the area. They both did all kinds of operations, including gynaecological and ear cases. Elsworth was a good old rural surgeon, quiet and methodical, cool and never flurried. He was an excellent diagnostician, in days when there was very little help from x-rays or the pathological department. I learn also a good deal of medicine from him. In later years he took Dr Clarke Begg as a partner and turned over the medical part of the practice to him while he confined his practice to surgery pure and simple. It was Elsworth who attended my wife and first diagnosed her complaint as

rheumatic purpura. He was very decisive and the manner of his death and burial were in keeping with this characteristic. One Saturday night he was suddenly seized with internal pains and vomiting after eating meat pies. He called in Dr Begg and told him that this was a chronic, inviolable through paralysis. Elsworth had taken a house for her at Church Stretton in Shropshire. She was taken with herself internal pains which her husband diagnosed as gall stones. Without more ado he bundled her into an ambulance and himself drove her into Swansea, put her into a nursing home, and with supreme self confidence in himself operated then and there successfully. She survived many years after this and only about two years before her death had developed paralysis. Truly Dr Elsworth was a remarkable man.

THE QE II

This led to perhaps the most interesting assignment in my career in occupational health. I was asked to design and equip the hospital of the QE II, a task very much to my liking, for as an architect's son I was well used to plans and planning. I worked under the aegis of Cunard's chief medical architect, planning what was to be the largest and most modern floating hospital in the world. I was 35 at the time and calculated the working life of the ship to be about 25 years, which might very well coincide with the remainder of my own life. I was cognisant of the role played by the *Queen Mary* and *Queen Elizabeth* in wartime and realised that even if there was not a war the ship might be the only hospital available in a disaster area in the future. The events of last year have vindicated this philosophy.

The hospital was to be six wards with 15 beds in all, each with television and bathroom, allowing for isolation and flexible use, and a single room for intensive care. A combined pharmacy and laboratory, separate waiting consulting, and treatment area for passengers and crew, duty room and pantry, operating theatre, x ray room, darkroom, physiotherapy department, dental surgery, sluice, store, and fridge mortuary were included.

Much of the standard hospital equipment had to be modified because of the ship's movement and the low deck heads compared with ceilings of hospitals on shore. It was fascinating and rewarding to watch the mighty vessel grow on the banks of the Clyde from her keel upwards. It has been just as pleasurable to work in the hospital during my periods at sea. Other shipping companies engaged me to work for them but Cunard and my general practice were my main commitments, and took most of my time.

When I joined Cunard they were divorcing themselves from their disastrous aviation venture into aviation. My predecessor had supplied medical services to their airline at Liverpool airport. When the companies separated they continued the arrangement with me. Aviation medicine is a much more refined speciality than nautical medicine, as I learnt through my later membership of NASA and my associate fellowship of the Aerospace Medical Association in Washington. Ship owners are reluctant to allow medical research into their industry, fearful that operating costs may increase. My attempts to study the effects on the circadian rhythm of seafarers superimposed on a watch keeping system were firmly disallowed by the company, despite a university department wanting to cooperate.

Because the facilities at British Eagle's premises were not extensive I built a small medical unit in their office block and attended half a day each week. My remit included the flight cabin staff and the personnel of the aeronautical engineering and flight catering companies, which they also ran at Speke. Unfortunately the policy of the medical department at the Civil Aviation Authority did not allow me to examine the aircrew because of my connection with a commercial airline, a policy that they have recently completely reversed. British Eagle allowed me free travel at almost any time, provided that they had space. They took me to Farnborough to the open day and to Brands Hatch to a motor meeting they sponsored. It was somewhat unusual for me to go shopping in Pisa on Saturday afternoon and dine on the Mirral in the evening, and once I enjoyed Monday lunch time on the beach in Senegal, having left home late on Sunday, and was back in the surgery on

Tuesday morning. After the collapse of British Eagle the Civil Aviation Authority allowed me to examine all categories of aircrew.

Most of my work with Ellerman's was providing primary care to seafarers on their ships berthed in the port. Once more my continued general practitioner status was extremely important, and I was again brought into contact with Indian and Pakistani seafarers, the nationalities of Cunard's ships owing to the conflict between their countries. The experience I had gained years before with Clan Line and Brocklebank proved invaluable. My passion for Asian food on board was recharged, and again I suffered from a persistent "cruiser gastritis." This condition is very prevalent in the crew members and the highly spiced diet causes peptic ulceration in many of them.

Oil refiners

The large oil refineries of Merseyside were supplied with crude oil by enormous tankers, and when an opportunity arose to provide them with general practitioner services during their rapid turn rounds I accepted. The position was well paid but inconvenient, demanding round the clock availability. It was also potentially dangerous. Waiting on a wind swept landing stage in the middle of a winter's night for one of these huge ships to come alongside, never at the scheduled time, then to climb seemingly endless ladders swinging limply from their oily, salty black hulls, was difficult and often frightening. I can remember no occasion on which the seafarers, whatever their nationality, were not particularly kind and courteous, grateful for every help that was given, even if sometimes a trifle demanding and insulated from the realities of medicine on shore. It was rare to find them that a request for 40 chest x ray examinations, with no advance notice, at 4.00 pm on a Sunday afternoon and full reports by 6.00 pm was unreasonable whether through the National Health Service or the private sector of medicine on Merseyside. Ship owners know that to divert one of their tankers for any reason, including illness, is extremely costly. None of the vessels that I was concerned with carried a doctor but they were manned by an intelligent, highly trained crew of officers and men, well used to courses of instruction in various disciplines and with well developed learning skills. I suggested to Shell Tankers UK that the normal first aid course was inappropriate for their needs, even if coupled with the advice contained in that excellent volume *The Ship Captain's Medical Guide*, which I had contributed to years before on behalf of the then Board of Trade. I therefore ran for several years a two day course held every two months at a large hotel in Liverpool, near the main line station and linked to a multistory car park; the proximity of pubs, clubs, and "brothels" catered for the sailor's every taste after the toils of the day and made attendance on the course convenient and popular. Instruction was given by demonstrations, visual and other aids, and lectures from colleagues to Shell tanker officers in small groups to prepare them as paramedics for self help in the event of illness or accident at sea. The courses had to be held at the weekend because of other commitments and always seemed to coincide with the best gardening weather of the year.

This is the second of a three part article.