

# The British Telecom radiopaging service in general practice

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**SUMMARY.** This paper reports a new radiopaging service supplied by British Telecom that will eventually cover the whole United Kingdom. The use of this service by a three-man practice is described. The service is considered to be a major development in communications that will be of interest to most general practitioners.

**G**ENERAL practitioners have to ensure that they or their deputies are available at all times to provide general medical services for their patients. They must also give an efficient service that copes with routine demands and yet is able to handle emergency calls promptly. It is preferable that they should be able to provide these services in such a way that they can have time to relax, pursue other interests and be with their families when on call. That these demands conflict was appreciated as far back as Hippocrates, who said that "a doctor should understand how he earns his income, be able to make friends and learn to live with his family and provide for them" (Elliott-Binns, 1978). However, only in modern times have the organization and equipment been developed that can enable the general practitioner to cope with this dilemma.

The problem of being available for emergency calls while pursuing routine medical work or relaxing was solved for some general practitioners when radio-telephones were introduced in the early 1950s (Hodgkin, 1954). Later developments (Rivett, 1966) extended the use of radio-telephones to both urban and rural general practitioners. However, the expense and operating problems have limited their usefulness to a select group (Rivett, 1965).

Radiopaging services, where the needed person is beeped and then has to contact his or her base, have been developed in some parts of the country in the last few years. Messages cannot be transmitted, but the service is relatively cheap, compact and simple to operate. Silverston (1975) succinctly describes the advantages of the private radiopaging service that operates in Cambridge.

This paper describes a radiopaging service developed by British Telecom (part of the Post Office). It also shows how one practice has used the system to provide a more efficient medical service at greater convenience to the doctors and their families.

### The radiopaging service and equipment

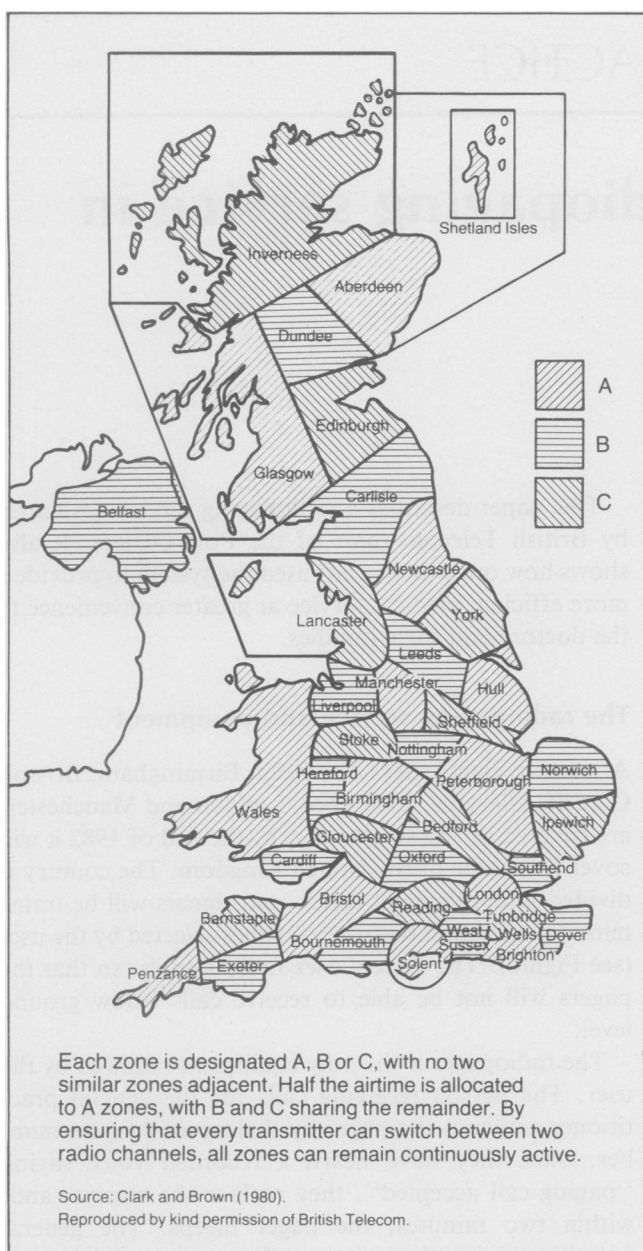
At present eight cities (Aberdeen, Birmingham, Bristol, Cardiff, Glasgow, Liverpool, London and Manchester) are covered by the service, but by the end of 1982 it will cover the whole of the United Kingdom. The country is divided into 40 paging zones, and signals will be transmitted only within the zone or zones selected by the user (see Figure). The system uses radio signals, so that the pagers will not be able to receive calls below ground level.

The radiopager is the only equipment required by the user. The person receiving calls for the general practitioner activates the pager by dialing a 10-figure number; once they have heard a recorded voice saying "paging call accepted", they replace the receiver and, within two minutes, the pager beeps. The general practitioner can then contact the person receiving his calls using an ordinary telephone.

Two models of the pager are generally available. Both have a memory facility and can be programmed to give a different bleep tone from two different locations, for example home or surgery. The quarterly charges are at present £21 or £30 (plus VAT), depending on the inclusion of the two-tone bleep facility. Calls to the pager are free, and charges are included in the telephone account. Full technical details of the system have been described by Clark and Brown (1980).

### Practice experience

The practice, which has 8,000 patients, consists of three principals and a trainee based at a health centre in Castle Vale, a housing estate on the north-east outskirts of Birmingham. The principals live in Sutton Coldfield, three to five miles from the practice, and the present trainee lives eight miles away near the city centre. We



*Map showing proposed paging zones for the national system.*

sometimes use a deputizing service for out-of-hours calls when a partner is away. Home visits are shared among the doctors after morning surgery and, thereafter, one doctor is on call for emergencies and maternity calls until the following morning. We each have a day on call per week, and Fridays and weekends are by rota.

We heard of the British Telecom radiopaging system soon after it was introduced to Birmingham in October 1979. We failed to arrange a mutually convenient time to meet their representative, so accepted the pager (Model 2c) which was left with the practice manager in January 1980 and which was programmed with the basic facilities only.

Because of our arrangements for emergency calls we initially decided to have only one pager, carried by the doctor on call. This created problems when the doctor

did not come in to the surgery next day, for example on Fridays and when a weekend is followed by a public holiday, so we now have a second pager for these occasions, and for the partner covering the trainee.

We have met only minor problems and even these are being ironed out with experience. Initially, one partner had difficulty remembering to switch on, but a continuing problem is when the pager is left on unnecessarily, which drains the batteries. After a year's use, we are now on our fourth set of batteries. There have been no reception problems, despite the fact that the practice is near the boundary of the paging zone. 5p coins are now an essential part of our emergency bags, enabling us to use coinboxes to contact base. The pager has been insured for £100 on our surgery policy at no extra cost. Although it has a loud bleep we have to be careful not to bury it beneath too many layers of clothes, as in a noisy environment, for example on a busy road, the bleep may not be heard. Presumably the same would apply if the pager were carried in a handbag or case. Model 2c fits comfortably in a breast pocket but not in a trouser pocket or on a belt. A patient who is a driving instructor and uses Model 3c finds this one comfortable in any position; this is therefore the model of choice for the doctor who works in his shirt sleeves.

During November and December 1980 we kept records of the occasions the pager was used. Ninety-seven out-of-hours visits were made and the doctor was contacted by the pager on 26 occasions. On 14 occasions the doctor was attending another emergency call, on 10 he was either with friends or engaged in family activities, and on 2 occasions he was involved in other medical activities. The pager allowed us to shop, visit friends or go out for a walk when on call. Occasionally, the pager was carried by the doctor's wife when she was out. The doctor then stayed at home by the telephone. If he was called out by a patient, he could contact his wife, who would then return home and be available to answer the telephone while he was out.

The doctor reported back to base on 14 occasions within 5 minutes, and on 4 occasions within 5 to 10 minutes. Twice the doctor took a long time to respond—35 and 38 minutes. On the first occasion he was making a citizen's arrest of a drunken driver and, on the second, the receptionist was not able to respond to his first call because of a temporary telephone fault.

Six of the 26 emergency calls were thought to have been unnecessary and could easily have been handled by telephone. All other calls were thought necessary, but only three were urgent enough for the patient to have benefited from the prompt arrival of the doctor. Two were because of asthma, and the third because of ophthalmia neonatorum.

## Discussion

All the members of our practice team—doctors, receptionists (and wives) have appreciated the pager. It has

not helped us to save lives by providing urgently required medical care (that rarely happens in any practice), but it has certainly enabled us to provide a more efficient service. We have saved quite a few gallons of petrol, some time and a few telephone calls. Perhaps the greatest benefit has been in allowing the doctors and their families to lead a more normal life—we do not necessarily have to spend evenings and weekends on call waiting at home for the phone to ring. All this is provided at relatively little cost.

Without doubt, this service is a major development in radio communications which will enable many general practitioners to provide a more effective and efficient service at greater convenience to themselves. It may also prove useful to other NHS workers such as community nurses and midwives.

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## Smoking

A controlled study was carried out among parents of children in 14 primary schools in Sheffield to investigate a possible 'spread of effect' from a school anti-smoking project. The study showed that children are an important source of information for parents on smoking hazards, but it was not possible to isolate the effect of this information on parental smoking behaviour from the many other influences involved. However, a favourable effect on attitudes to school health education was detected.

Source: Wilcox, B., Gillies, P., Wilcox, S. *et al.* (1981). Do children influence their parents' smoking? An investigation of parental smoking behaviour and attitudes to health education. *Health Education Journal*, 40, 5-10.

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