

## Experience with computers in a small office

This is a condensed version of an article that appeared in the March 1981 issue of the *BCMJ*.

**Mel Petreman, MD**

In the past 1½ years, this five-physician practice has set about to rid itself of the paperload, improve patient flow and reduce overhead—but most importantly—to increase the pleasures of medical practice...

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My group of five general practice associates has, since November 1979, phased-in a total computer system custom-designed for office practice. With medical practice being a high overhead, small business, computers are one way to reduce or at least to decelerate the rising costs of doing business.

Ideally, the computer will enhance gross income by improved patient flow, reduce overhead by improved office efficiency, and thus increase the all-important net income.

Our aim in introducing computerization to our practice was simple: to rid the office of paper. If this goal could be accomplished, then the pleasures of medical practice—deteriorated because of increasing paperwork—could be regained.

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In choosing to computerize, after weighing the present cost against the future cost savings, we knew that in order to improve our already sound but paper-based management system, the computer should handle: patient registration; appointment scheduling; medical records; billing; and accounting.

The in-house minicomputer hardware purchased consists of a Digital System, using a PDP 11/34 central processing unit, two RK07 disc drives and a TS11 tape drive; 13 terminals and two printers.

DEC, a major manufacturer of modern, modular computer equipment, was chosen since they have an established service network to provide ongoing computer maintenance and repair. Also, the modular design allows new features to be added, as designed, thus staying obsolescence.

The software, a sophisticated set of instructions, was planned by a design consultant to ensure maximum flexibility, including future modifications.

Patient registration was brought on-line first, with patients being registered as they came into the office, thus updating our patient registry. While it necessitated operating with a dual system of both a paper file and the computer for a time, it was quite workable.

In the second phase, medical records were fed into the system using a problem-oriented record...

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In March 1980, appointment scheduling was added, to include hospital, office and private appointments, holidays, days off, and on-call time.

A simple form of wave scheduling is used which smooths patient flow through the office and increases efficiency by spreading the patient load more evenly. Physicians in the group now finish on schedule; patients love it because of decreased waiting-room

time; yet it allows the flexibility for walk-ins and emergency visits.

The scheduling shows appointment time, patient's name, patient record number, telephone number and nature of complaint. Other information can be added.

The next and most important phase is our billing system. The computer generates a tape from the medical record, along with a printout of all billings and these are sent to MSP in Victoria...

The final phase of our system, now being programmed, will provide a complete accounting package, including payroll registry and control.

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Generally speaking, the impact on our staff has been great. The routine, boring, drudgery part of their jobs has largely been eliminated. They find their work more challenging, more interesting, and more importantly, have extra time for patient contact.

Computerization is not all roses, of course. It is, after all, a machine, and as such can break down. It is, therefore, essential that at least two people in the clinic be interested and keen in learning how the support system in the computers works. Simple problems can be corrected as they crop up.

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Dr Petreman is a general practitioner in Nanaimo and a past-president of the BC Medical Association. Watch for an update from him in a future issue.

## from the archive

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The computer has had a dramatic impact on the physicians' use of records in day-to-day practice. We now use our medical records as an integral part of our daily routine. Systematic record-keeping is easy and not a tedious chore. The record is at your fingertips instantly when on the telephone. Seeing someone else's patient offers no difficulty because of the format and continuity of records and the fact that the computer printing is always legible.

Consequently, we feel our quality of care is improved. Certainly, our memory for what is happening to the patient is much better. It is possible to review systematically and logically in moments a complicated history spanning many months. This aids diagnosis, ongoing treatment, and is a useful teaching aid. To date, the computer has brought us full circle—back to the initial enjoyment of practising medicine.

## cohp

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### References

1. Child and Youth Mental Health: Population Health and Clinical Service Considerations, A Research Report Prepared for the British Columbia Ministry of Children and Family Development, April 2002.
2. Gibson, J. Northern Life. 2 May 2008.
3. Canadian Pediatric Society.
4. Child and Youth Mental Health Plan for B.C.—Progress Report 2008, MCFD.
5. Strengthening Primary Care, CPA.
6. Dr Charlotte Waddell, director, Children's Health Policy Centre, SFU.

## pulsimeter

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### BCMJ getting greener

The bag that the next issue of the *BCMJ* will be mailed in is biodegradable. The bags are made of the same plastic resin that most polyethylene or polypropylene bags are made of, but is combined with a compound (made by ECM Biofilms, Microtech Research) that makes the plastic biodegrade. The plastic has the same strength and durability of other bags, but when disposed of is metabolized into inert biomass by the microorganisms found in landfills. Unlike other plastics that need sunlight to degrade, these plastic bags will degrade in darkness, in both aerobic and anaerobic environments. In addition, the end products of biodegradation are safe for soil-dwelling organisms (such as earthworms), plants, and the water supply in general. Go to [www.ecm.biofilms.com](http://www.ecm.biofilms.com) for details, or [www.ecm.biofilms.com/report.pdf](http://www.ecm.biofilms.com/report.pdf) for the full ecological assessment.

## gpssc

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flow sheets still happen," she says. "It just takes place in a more relaxed setting, which reduces anxiety and leads to better and broader education."

The GPSC, a BCMA/Ministry of Health joint committee, administers approximately \$100 million annually through the Full Service Family Practice Incentive Program, which is designed to support improvements in primary care. These include:

- Complex care
- Facility and community case conferencing
- Prevention
- Chronic disease management
- Community Based Mental Health Initiative

## Guide to drive

The Office of the Superintendent of Motor Vehicles (OSMV), in partnership with the BCMA, is revising the *BC Guide for Physicians in Determining Fitness to Drive a Motor Vehicle* (the Guide) to ensure that it reflects changes in the case law and the best evidence available regarding medical conditions and fitness to drive.

Draft chapters may be viewed at [Drivesafe.com](http://Drivesafe.com), on the public side of the BCMA web site, and at the SGP web site.

Chapters available to date include Diabetes, Peripheral Vascular Disease, Vestibular Disorders, Hearing, Renal Disease, Respiratory Disorders, Psychiatric Disorders, Musculoskeletal Disorders, and Cardiovascular Disorders.

Feedback to the project team is encouraged, even if it is positive. Feedback instructions are in the documents themselves.

—John McCracken, MD  
Medical Consultant, OSMV

- Family Physicians for BC (FPs4BC)
- Maternity Care for BC (MC4BC)

Through the Practice Support Program, GPSC offers training modules in advanced access, group medical visits, managing patients with chronic diseases, and patient self-management.

For more information on the GPSC, visit [www.bcma.org](http://www.bcma.org) and for PSP, visit [www.practicesupport.bc.ca](http://www.practicesupport.bc.ca).

—Liza Kallstrom  
Lead, Change Management and Practice Support