

Experience with Portfolio-based Learning in Family Medicine for Master of Medicine Degree

J L K Lim, N F Chan, P Y Cheong

ABSTRACT

Background: The Private Practitioners Stream (PPS) of the Family Medicine Traineeship Programme for the Master of Medicine (Family Medicine) (MMed (FM)) was started in 1995. The portfolio-based learning approach was used as the staple learning method in the tutorial system. Due to the autonomy given to Family Medicine trainees in choosing the topics for the portfolio-based presentations, the completeness of coverage of the Family Medicine training syllabus is a research question.

Aim: To study if portfolio-based presentations in a tutorial system covered the broad based Family Medicine training syllabus.

Method: Data in the one-page portfolio-based records developed were used to categorise the presentations according to the topics in the Family Medicine Modular Course.

Results: In the three-year period since the introduction of the PPS, 83 tutorials were conducted in which 87 portfolio-based presentations were made. Thirteen (15%) were in the Whole Person Medicine category, 70 (80%) in the Disease Management category and 4 (5%) in the Practice Management category.

Conclusion: The portfolio-based learning is recognised as useful in continuing medical education because of the autonomy it gives to the adult learner. In our three years' experience, the one-page portfolio-based record developed was effective as the staple learning tool to cover the broad range of topics required in the defined syllabus of training and to meet the focus of the MMed(FM) examination.

Keywords: portfolio-based records, tutorial system, family medicine, master degree

INTRODUCTION

The degree of Master of Medicine in Family Medicine, MMed (FM), was announced in 1992 by the National University of Singapore for doctors working in the Ministry of Health (MOH) who had completed a three-year traineeship programme⁽¹⁾. An alternative two-year graduate programme for non-MOH doctors, called the Family Medicine Traineeship Programme, Private Practitioners Stream (PPS) was started in July 1995 for general practitioners in private practice⁽²⁾.

In addition to other prerequisites, they were required to be in general practice for at least six years of which two years should be under a supervised programme before they are eligible to sit for the common MMed (FM) examination⁽³⁾ with the MOH trainees.

Trainees from both streams undergo certain common training components namely, the Family Medicine Modular Course (FMMC) of lectures and an intensive two-week pre-examination revision course. The FMMC consists of 8 modules with each module comprising of four lectures on Whole Person Medicine, three lectures on Disease Management and one on Practice Management. In addition, PPS trainees have to go through a clinical skills refresher course, a practice management audit and the two-year supervision carried out through the PPS tutorial system.

The PPS tutorial system comprises weekly meetings following the Ministry of Education's school calendar of 4 terms of ten weeks each. The weekly meetings may be workshops held once a month for all PPS trainees or small group tutorials. The tutorials are usually conducted at the supervisor's clinic in the evening between the afternoon and night clinic sessions. The first half-hour of the tutorial is for portfolio-based presentations and the remaining hour for structured learning. Portfolio-based presentations are based on real-life clinical experience of interest to the trainees and could be from any area of medicine. The topics for the structured learning segment are based on the lectures given in the preceding module of the FMMC.

As autonomy was given to the PPS trainees to choose the topics for the portfolio-based presentations, the completeness of coverage of the Family Medicine training syllabus is a research question. This study describes our three-year experience in the portfolio-based segment of the tutorial system for the training of private practitioners for the MMed (FM) examination.

METHODS AND MATERIALS

A one-page portfolio-based record (PBR) consisting of four sections was developed viz., topic and objective of presentation, key data and its interpretation, references and learning points. An example of a completed PBR is given in Fig 1.

Graduate Family
Medicine Centre
76 Jalan Jurong Kechil
Singapore 598589

J L K Lim, MBBS, MMed (FM)
Assistant Supervisor

P Y Cheong, FCFPS, FAMS,
FRCP (Edin)
Supervisor

Department of Community
Occupational &
Family Medicine
National University
of Singapore
Lower Kent Ridge Road
Singapore 119074

N F Chan, FCFPS, FAMS,
FRACGP (Aust)
Adjunct Senior Lecturer

Correspondence to:
Dr P Y Cheong

Portfolio-based Record

Topic: GINGIVAL HYPERPLASIA

Date: 25/7/1997

Presenter: Dr Philip Koh Kheng Keah

Date: 25/7/1997

Place: Cheong Medical Clinic **Chaired by:** Dr Cheong Pak Yean

Objectives of Presentation

- | | | | |
|--|-------------------------------------|---|--|
| <input checked="" type="checkbox"/> Knowledge-Base | <input type="checkbox"/> Skills | <input type="checkbox"/> Update | <input type="checkbox"/> Review |
| <input type="checkbox"/> Diagnostic | <input type="checkbox"/> Management | <input checked="" type="checkbox"/> Problem | <input checked="" type="checkbox"/> Interest |

- (1) Gingival hyperplasia as an oral manifestation of systemic illness
 (2) To distinguish between local (gum) and systemic causes.

Data & Interpretation 35mm slide (to be projected).

Article from:

Clinical Data from

Patient initials: SAL Age: 49 yrs

Clinic Ref: 1023

Patient since: 14/06/1997

Sex: M

Ethnic Group:

Chinese/Malay (Indian)

- (1) Presentation of gingival hyperplasia as an incidental finding.
 (2) Review of drug history reveals coincident onset with nifedipine taken for TBP.
 (3) _____
 (4) _____

References:

Attached

- (1) T. Tagawa et al. Marked gingival hyperplasia induced by nifedipine
~~Int. J. Oral Maxillofacial Surgery 1989;19:72-73~~
 (2) Gokbuget et al. Systemic causes of gingival enlargement

Notes on Portfolio learning:

1. Local (gum) eg plaque-induced gingivitis affects marginal and interdental gingiva whereas systemic causes affects the attached gingiva.
 2. Leukaemia and drug-induced gingivitis must be excluded among the systemic causes - see reference 2 for details.

Fig 1 - An example of a completed portfolio-based record.

All the PBR presented in the tutorials conducted during the three academic years from 1995 to 1998 at the Graduate Family Medicine Centre (GFMC) was studied. From the data recorded, each PBR was assigned to a topic under the syllabus of the FMMC.

RESULTS

In the three-year period between 1995 and 1998, a total of 113 meetings were held, comprising of 24 workshops, 6 field visits to community healthcare facilities and 83 tutorials. In four of these tutorials, an additional topic was presented giving a total of 87 topics for that period. Table I shows the distribution of the portfolio-based presentation according to the topics in the FMMC syllabus.

DISCUSSION

The Family Medicine Traineeship Programme (Private Practitioners Stream) is presently the only part-time clinical master's degree programme offered by the Graduate School of Medicine, National University of Singapore. Unlike the other programmes where the trainees work in the same clinical department as their tutors and teaching can be based on direct patient encounters, most of the PPS trainees work as solo general practitioners.

We developed the PBR as a learning tool so that the trainees can base their learning on real patient encounters. The learning process begins with the trainees recording key data of cases that interest them while attending to patients in their clinics. This record then becomes a springboard for further reading and study.

Table I – Portfolio-based presentations according to the topics in the FMMC syllabus

Topics in FMMC syllabus	No	Total (%)
Whole Person Medicine		13 (15%)
Practice skills	0	
Child & adolescent	5	
Continuing care; terminal care	1	
Elderly patient	0	
Community, family & patient	1	
Adult patient	1	
Female patient	3	
Pregnant patient	2	
Disease Management		70 (80%)
Respiratory & cardiovascular diseases	11	
Gastro-intestinal diseases	11	
Urinary tract, blood diseases & oncology	12	
Psychiatric disorders	3	
Skin diseases, STD & AIDS	8	
Rheumatic, bone & joint diseases	9	
Neurology, Eye & ENT diseases	7	
Endocrine, metabolic & nutritional diseases	9	
Practice Management		4 (5%)
Medical records, confidentiality	1	
Notification, certification, dispensing	2	
Managing the practice	0	
Computer use, medical information system, GP research	0	
Practice issues	1	
Setting up practice	0	
Financial management	0	
Quality assurance	0	
Total		87 (100%)

This process of recording only key information in the limited space provided puts them through a regular cognitive exercise in crystallising essential data before recording. This ability to discern key features from details is increasingly recognised as a competence outcome that can be tested in written examination of clinical decision-making skills⁽⁴⁾.

The recording stage is followed by a protected time of study and reflection based on the cases that were captured. The trainees are free to choose what cases for reflective study. Irby et al⁽⁵⁾, writing in *Academic Medicine*, emphasised that respecting the autonomy of the learner and nurturing self-directed learning are key elements of teaching effectiveness in the ambulatory care setting. The other sections in the PBR are then completed i.e. the topic and objective of presentations, the interpretation of the key data and the references. Dissemination follows the research stage. The selected PBR is then faxed to the other trainees prior to the tutorial for individual preparation. Relevant reference materials and details of the case are sometimes circulated as appendices.

The next stage in the process is presentation. Through this process, the trainee is made to bring his practical knowledge to the surface together with the refinement that comes with reflective study. The last section of the PBR is deliberately left blank for the cases that are chosen for presentation. This is to allow other trainees to derive and record their own personal learning points after the tutorial.

Implemented as such, ownership of the case that is presented is shared and the learning individualised. Each completed record is therefore unique and added to each trainee's collection. Our implementation of the PBR is an enhancement of the concept of portfolio-based learning discussed in the occasional paper of the Royal College of General Practitioners published in 1993⁽⁶⁾. The term portfolio, which is borrowed from the graphic art world, simply means a personal collection of evidence of such learning. Portfolio-based learning is therefore a learning method based on recording real-life experiences of the trainee and emphasises the importance of experience as an opportunity for learning and defining learning needs.

Besides being a learning tool in the tutorial system, several of the portfolio-based presentations were written up as case commentaries for submission to the MMed (FM) examination. Two were published as case reports in the *Singapore Medical Journal*^(7,8). These are evidences of the educational and potential academic value of this tool for adult learning in the postgraduate ambulatory setting.

Although portfolio-based learning allows for autonomous selection of topics by trainees that is necessary in adult education, there are concerns that such "spontaneous" and "random" selection may lead to gaps in the coverage of the syllabus. The findings of this study showed that there is a balanced coverage of the topics in the category of Disease Management. This may be due to an unconscious effort by the trainees not to select for presentations, cases relating to topics already presented. The reasons for the under-representation of psychiatric disorders, however, need to be further studied to determine if it is due to a paucity of such problems in the general practice case mix, relative disinterest of the trainee, or the lack of confidence in presenting such problems.

Whole Person Medicine comprised only 15% of the topics presented although it constituted 50% of the FMMC lectures. While these lectures under the category of Whole Person Medicine emphasised the holistic approach to Family Medicine, discrete clinical problems encountered in practice often relate to disease management per se. Hence, it is important for the trainer to relate the PBR presented to give the whole person perspective and to use the structured learning segment of the tutorial to cover the potential gaps identified.

Practice Management issues accounted for 5% of all presentations. This reflected the trainees' greater interest in clinical topics in keeping with the emphasis of the examination.

CONCLUSION

The portfolio-based learning is recognised as useful in continuing medical education because of the autonomy it gives to the adult learner. In our three-years' experience, the one-page portfolio-based record developed was effective as the staple learning tool to cover the broad range of topics required in the defined syllabus of training and to meet the focus of the MMed (FM) examination.

ACKNOWLEDGEMENTS

The authors wish to acknowledge the contributions made by Dr Henry Yeo, honorary clinical supervisor of a PPS group that meets at the GFMC. We are grateful to A/Prof Goh Lee Gan for his valuable and critical comments.

REFERENCES

1. Goh LG. Postgraduate Family Medicine Training Programme: Ministry of Health System. Singapore Family Physician 1997; 23(2):114-22.
2. Cheong PY. An overview of the Family Medicine Traineeship Programme (Private Practitioners Stream). Singapore Family Physician 1997; 23(2):123-4.
3. Goh LG. The MMed (Family Medicine) Examination. Singapore Family Physician 1997; 23(2):128-31.
4. Page G, Bordage G, Allen T. Developing Key-feature Problems and Examination to Assess Clinical Decision-making skills. Acad Med 1995; 70(3):194-201.
5. Irby DM et al. Characteristics of Effective Clinical Teachers of Ambulatory Care Medicine. Acad Med 1991; 66(1):54-5.
6. College of General Practitioners. Portfolio-based Learning in General Practice Report of a Working Group on Higher Professional Education. Occasional paper No. 63 London 1993 Royal College of General Practitioners.
7. Tan APK, Thoo FL, Cheong PY. Tendon Xanthoma in Familial Hypercholesterolemia - A Clinical and Ultrasonic Study. Singapore Med J 1997; 38:37-40.
8. Ong Y, Cheong PY, Low YP, Chong PY. Delayed Diagnosis of Tuberculosis Presenting as Small Joint Arthritis - A Case Report. Singapore Med J 1998; 39(4):177-9.

1999 JULY INTAKE

FAMILY MEDICINE TRAINING PROGRAMME

(PRIVATE PRACTITIONERS STREAM)

The Family Medicine Training Programme (FMTP) is a structured 2-year part-time 'supervised' Private Practitioners Stream (PPS) Course. It offers an opportunity for private General Practitioners who wish to enhance their skills and knowledge in the whole area of Family Medicine without disrupting their professional practice. The course consists of weekly tutorials, monthly workshops, short hospital attachment, FMTP Modular Courses and a short Family Medicine refresher course conducted by Visiting Lecturers. Private GPs who wish to seek admission into the MMed (Family Medicine) Examination must undergo this supervised training.

Those interested in finding out more details about the PPS training programme, such as admission requirements and programme structure may wish to purchase the PPS guidebook (S\$5) and the MMed (Family Medicine) Training Guide (S\$5) available at the School.

Application Fee : *\$ 20.60 (non-refundable)
Registration Fee : *\$ 51.50 (non-refundable once application is accepted)
Course Fee : *\$ 3,400.00 (excludes FMTP Modular Courses)

* Please note that all fees are subject to change without notice.

Cheques or bank drafts should be made in Singapore Dollars payable to the 'National University of Singapore'.

Closing Date : Friday 30 April 1999

For application forms for the course, kindly contact Miss Faridah, Tel 874 6576.