

**ABSTRACT**

**This article shows how a typical patient with multiple chronic medical problems can be managed well by a Family Physician despite the pressure of time in Singapore. Resources like the Agency for Integrated Care, Community Health Centres, Centre-based Services, and Social Service Offices will be discussed in the context of how they help the busy Family Physician to stabilise multiple chronic medical problems in the community based on a multidisciplinary team care model. Optimal utilisation of such resources by family physicians can significantly alleviate the chronic patient load in the hospitals and government polyclinics. Furthermore, this will promote the Ministry of Health's vision of "One Singaporean, One Family Doctor."**

**Keywords: Chronic Medical Problems; Family Physician; Multidisciplinary Care; Agency for Integrated Care; Community Health Centres; Centre-based Services; Social Service Offices;**

SFP2016; 42(4): 34-38

**CASE STUDY****A typical scenario faced by a solo-practice GP in the heartlands of Singapore**

It is 10.30 am and you are seeing your 20th patient, with a queue of another 10 patients waiting to see you.

An Indian gentleman comes into the consultation room in his wheelchair, aided by his wife. He presents you, his neighbourhood Family Physician (FP), with a discharge summary written by the house officer from XY hospital requesting continuation of care for his acute and chronic medical problems.

The letter states:

Dear Colleague,  
Kindly see Mr. Jaya, a 68-year-old Indian male who is an ex-lorry driver for follow-up care of his chronic medical problems. He sustained an infection of the right 2nd and 3rd toes on 1 July 2016, had initial ray amputation, and subsequent BKA due to non-healing of the wounds secondary to peripheral vascular disease.

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He has a past medical history of poorly controlled diabetes mellitus, HbA1c of 12%, has been started on subcutaneous Insulatard 16 units once per night and metformin 850 mg BD, BMI of 35 and LDL of 3.5, and commenced on Atorvastatin 20 mg ON. His BP was 146/88 mmHg and is currently on Losartan 50 mg OM. He has severe tinea pedis with callosities on the foot, has dry skin, and is currently on Miconazole 1/1 BD and Aqueous cream 1/1 BD. He is also on Aspirin 100 mg OM and Omeprazole 20 mg OM. He is now able to use the wheelchair independently after a month of physiotherapy. Currently, he lives in a two-room flat with his wife. Kindly review his chronic medical conditions and do the needful. Thank you.

Yours sincerely,

Dr. AB,

For Dr. CD, Consultant Internal Medicine,

Department of Internal Medicine, XY Hospital, Singapore.

**What should you do now?**

You are running a busy FP clinic with a case mix that is predominantly a mixture of acute and simple chronic cases. You look at the referral and the patient in front of you. You are keen to do the best for the patient but concerned about the multidisciplinary team resources available for you to support this patient. You have only one clinic assistant at any one time in the clinic, and it would be difficult to toggle the needs of patients with complex medical needs in such a setting.

This short article will give an outline on how to manage this patient well using the multidisciplinary team resources available in the community, in order to achieve the best outcome in a cost-economical way for both the patient and doctor concerned.

**DEFINITION OF MULTIDISCIPLINARY CARE**

Wagner described the multidisciplinary team as a team comprising diverse healthcare professionals who communicate regularly about the care of a defined group of patients and participate in that care on a continuing basis.<sup>1</sup>

The rise of care planning in many areas of chronic disease has resulted in the increasing role of FPs in multidisciplinary care.<sup>2</sup> Team-based care in primary care clinical areas such as diabetes, aged care, mental health, and disability have led to the emergence of systematic approaches of team-based care, both within and outside the practices.<sup>3</sup>

It is important to ensure that everyone in the team understands one another's scope of practice and individual strengths and

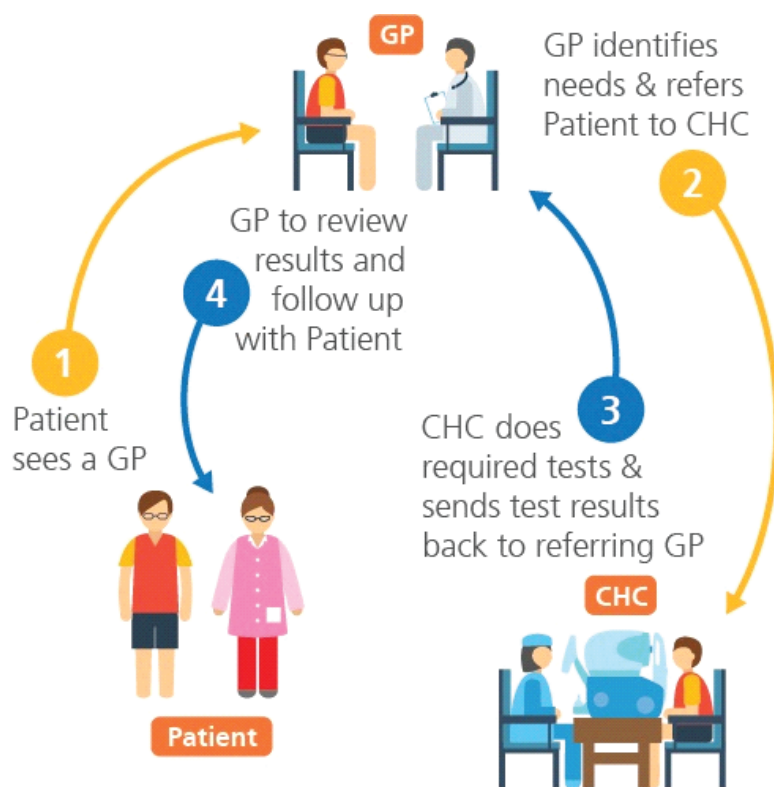
experiences. This lays the groundwork for developing the shared language, culture and philosophy of the team. There must be an agreement on the goals of care, as well as communication (both formal and informal), policies, and procedures on how to deal with conflict. All of this requires a sharing of power, trust in one's colleagues, and being self-aware.<sup>4</sup> The FP has to devise a care plan for the patient. A care plan is a written, comprehensive, and longitudinal plan of action that sets out the healthcare needs of a patient and the type of services and support needed to meet those needs.<sup>5</sup> The FP is ultimately responsible for the overall care of the patient. The multidisciplinary team helps the FP achieve the target therapeutic goals as established in various clinical guidelines and policies.

## COMMUNITY HEALTH CENTRES

In Singapore, the Ministry of Social and Family Development introduced Community Health Centres to serve as one-stop service centres. Community Health Centres make available the

medical services that are normally provided to doctors that are working in government polyclinics, e.g. availability in the clinic of nurse practitioners, therapists, medical social workers etc. to assist in the care of the patient. These polyclinics have been designed to handle patients in a holistic manner as they have a dedicated healthcare team that is adept at giving health counselling, handling chronic diseases, and providing public education, social support, podiatry and dietician services, physiotherapy, diabetic retinal photography, and diabetic foot screening for patients with diabetes.

The Community Health Centres (CHCs) are sited near clusters of FP clinics to help provide the nursing and allied health multidisciplinary team support. CHCs offer convenience to both FP and patient, since cases are usually referred to a CHC for ancillary services. Solo FPs do not need to relocate or change their current form of practice.<sup>6</sup> (Figure 1 on the referral pathway to CHCs.)



Step 1	Patient sees an FP for a medical condition.
Step 2	FP assesses and refers the patient to the CHC for relevant tests.
Step 3	An appointment is made for the patient at the CHC. On the day of the appointment, healthcare staff at the CHC perform the required tests on the patient.
Step 4	Test results are sent back to the referring FP for a review and follow-up with the patient.

**Figure 1: Referral pathway for an FP to a Community Health Centre (CHC)<sup>7</sup>**

## Services That Are Available in a Typical Community Health Centre (Table 1)

- Diagnostic imaging: general X-rays and ultrasound imaging services;
- Dietetics: advice to patients on their diets, to suit their medical conditions;
- Nurse counselling and education: healthcare advice on diet, lifestyle, and medication to help patients better manage their medical conditions; diabetic retinal photography (DRP) and diabetic foot screening (DFS);
- Podiatry;
- Physiotherapy services; and
- Health wellness programme: counselling and lifestyle modification advice to help patients better manage their mental well-being.

Health assist and pioneer generation cardholders enjoy subsidised rates for CHC services. Table 1 shows the services available at the various CHCs in Singapore.

The National Healthcare Group (NHG) Mobile Community Health Centre (CHC) has been bringing accessible and affordable healthcare services directly to patients living in large parts of Singapore since November 2014. Patients with chronic conditions such as diabetes, hypertension, and high cholesterol can be referred to the mobile centre for secondary health screening and nurse counselling services. They operate from a retrofitted bus that stops monthly at various locations, including community centres and HDB car parks, providing convenience

to patients in the neighbourhood.

If at least 10 patients can be present for the screening, the FP can even make arrangements for the bus to be parked outside his or her clinic to render services. The fees for the CHCs are comparative to the polyclinic. Community Health Assist Scheme (CHAS) and Pioneer Generation cardholders pay subsidised rates for services at the CHCs.<sup>8</sup>

Although the FP is overall responsible for the care of the patient in this multidisciplinary team, nevertheless, mutual respect and inclusiveness of each other's capabilities with clear lines of communication between the various team members of the CHC team to the FPs are essential.

Good clinical governance are in place as they are run by centre managers who are registered mainstream healthcare practitioners such as nurses or allied health professionals with at least five years of relevant experience in healthcare operations. They oversee and manage the CHC's day-to-day administration and are employed by one of the public health clusters or private healthcare providers.<sup>7</sup>

## MANAGEMENT PLAN FOR MR. JAYA

With these resources in mind, you devise a care plan for this patient.

You determine that his knowledge of his chronic diseases and how he prevents further complications are suboptimal. He is

**Table 1: Services available at the various CHCs in Singapore<sup>7</sup>**

Community Health Centre (CHC)	Diabetic Foot Screening (DFS)	Diabetic Retinal Photography (DRP)	Nurse Counselling & Education	Physiotherapy	Dietetics	Health Wellness Programme*	X-Ray	Ultrasound	Podiatry
CHC @ Ang Mo Kio Hospital	✓	✓	✓		✓				
Eastern CHC (Bedok North)				✓			✓	✓	
Eastern CHC (Bedok South)	✓	✓	✓		✓	✓			
Eastern CHC (Tampines)	✓	✓	✓	✓ ^	✓				
Jurong East CHC	✓	✓	✓	✓					
NHG Mobile CHC	✓	✓	✓						
Tiong Bahru CHC	✓	✓	✓	✓	✓				✓

Counselling and lifestyle modification advice for better management of mental well-being.

Physiotherapy services at Eastern CHC (Tampines) are temporarily unavailable until October, 2016.

aware that his diet is high in fats, salt and sugars, but he is not sure of how better food choices can be made.

You meticulously dress the wound with a hydrocolloid dressing and teach him how to look after it by asking him to show it back to you using the “teach back” technique. Patients basically are asked to “teach back” what they have learned from their physician. Patients use their own words to explain what they need to know about their health, or what they need in order to get better. Those who can read are encouraged to review the website stated in the reference to better understand how self-care understanding is established. You reinforce the technique to the patient on how the stockinet is placed back on the leg stump.<sup>9</sup>

His compliance to his medication regimen is questionable. You decide to use aspects of motivational interviewing skills over a few consultation visits to make the patient more willing to adopt behavioural change, especially in exploring and resolving the ambivalence towards complying with his diet, exercise, and medication.<sup>10</sup>

Motivational Interviewing uses four basic principles.<sup>11</sup>

- Engaging — used to involve the client in talking about issues, concerns and hopes, and to establish a trusting relationship with a counsellor.
- Focusing — used to narrow the conversation to habits or patterns that clients want to change.
- Evoking — used to elicit client motivation for change by increasing clients' sense of the importance of change, their confidence about change, and their readiness to change.
- Planning — used to develop the practical steps clients want to use to implement the changes they desire.

You make a referral for him to be seen and counselled by the dietician nurse practitioner on how he can prepare more wholesome meals and how he can better manage his difficulty in being compliant with the multiple medications he is taking.

He also has financial difficulties, as he has been out of work since his illness, with multiple bills to pay. You refer him to the Social Service Office (SSO) near his home for social and financial assistance.

The SSO disburses advice and coordinates various assistance schemes under ComCare that are focused on the developmental needs of children, family, health, and employment. They are designed as stepping stones to assist the patient to achieve stability, self-reliance, and re-integration into the community. Mr Jaya obtains his PG (Pioneer Generation) and blue CHAS (Community Health Assist Scheme) card, and the SSO officers help his wife obtain a day-time job to support themselves.<sup>12</sup>

### Centre-based Services

Centre-based healthcare services cater to older persons who require care services during the day, usually on a regular basis. These centres are mostly located within the community, enabling those in need to receive services in a familiar environment close to their homes, and allow working caregivers

to conveniently drop off and pick up their seniors.

As the wife works during the day, after the course of physiotherapy at the CHCs, you arrange for the patient to be engaged during office hours at the community-based healthcare service centre. The cost of the physiotherapy is highly subsidised after means testing. Over the weeks, the physiotherapy and occupational therapy enable Mr. Jaya to become initially capable of carrying out ADL and finally to be IADL independent. The application for Enhancement for Active Seniors (EASE) was activated as he is staying in an owner-occupied two-room flat and above 65 years old. The EASE programme helps with the cost of making his home elder friendly, such as for the installation of grab bars and ramps in the flat, and application of slip-resistant treatment to the floor tiles. Home Care Services, e.g. Meals on Wheels, Housekeeping Services, that are provided under the Senior Mobility Fund, and home medical and nursing care are options available to Mr. Jaya if required.<sup>13</sup>

### Six Months Later

Over, the course of a few consultations with his FP, his diabetes mellitus control became good, with HbA1c of 6.9%. His stump wound recovered and the tinea pedis infection on his foot was resolved. In addition, Mr. Jaya's lipid and blood pressure levels improved to within therapeutic goals. This was augmented by the excellent multidisciplinary care given by the CHCs. The regular written updates on his progress by the team enabled the FP to better tailor the care of his patient.

## ASPIRATIONS FOR MULTIDISCIPLINARY CARE FOR OUR PATIENTS IN THE FUTURE

In the future, the author hopes that we would be able to have secure virtual remote consultations between the team members at the CHCs and the FPs during a specified time and day of the week, to discuss how to devise a better care plan for the patient. With appropriate funding and subsidies by the government to garner the new technologies available, along with the desire of the FPs and CHCs/SSOs to work together in a coordinated manner to achieve the shared goals agreed for the patient, such arrangements will not appear to be too far-fetched.

## CONCLUSION

The short article shows how an FP can be using the resources available in the community, and can have a de facto multidisciplinary team to help manage his patient with complex chronic medical problems within a tight time pressure environment. The FP can thus provide the patient and his family with personal, primary, preventive, comprehensive, continuing, and coordinated healthcare, in order to achieve a personalised effective care plan for each patient. The vision of Singapore having “One Singaporean, One Family Doctor” working in a multidisciplinary setting would hopefully be a reality soon.

## REFERENCES

1. Wagner EH. The role of patient care teams in chronic disease management. *BMJ*. 2000; 320:569–72.
2. Harris MF, Jayasinghe UW, Taggart JR, Christl B, Proudfoot JG, Crookes PA, et al. Multidisciplinary Team Care Arrangements in the management of patients with chronic disease in Australian general practice. *Med J Aust*. 2011; 194:236–9.
3. Mitchell GK, Tieman JJ, Shelby-James TM. Multidisciplinary care planning and teamwork in primary care. *Med J Aust*. 2008; 188:S61–4.
4. Freeman TR, editor. *McWhinney's Textbook of Family Medicine*, Fourth Edition. New York, NY: Oxford University Press; 2016. p. 424–5.
5. Shortus T, Hermiz O, Burns J, Comino EJ, Harris M, Zwar NA. Do multidisciplinary care plans result in better care for patients with type 2 diabetes? *Aust Fam Physician*. 2007; 36:85–9.
6. Wong TH. The Primary Care Masterplan: some thoughts. *SMA News*. November 2011:17–9.
7. Agency for Integrated Care. Singapore Silver Pages. <https://www.silverpages.sg/CHC>. Accessed on 9 August 2016.
8. Chung ICAWH. Bringing care closer to the home—a mobile Community Health Centre. *The College Mirror*. 2016; 42(2):18.
9. The SHARE approach—using the teach-back technique: a reference guide for health care providers by Agency for Healthcare Research and Quality, US Department of Health and Services. <http://www.ahrq.gov/professionals/education/curriculum-tools/shareddecisionmaking/tools/tool-6/index.html> Accessed on 9 August 2016
10. Channon S, Smith VJ, Gregory JW. A pilot study of motivational interviewing in adolescents with diabetes. *Arch Dis Child*. 2003; 88:680–3.
11. Motivational interviewing from Wikipedia, the free encyclopaedia at [https://en.wikipedia.org/wiki/Motivational\\_interviewing](https://en.wikipedia.org/wiki/Motivational_interviewing). Accessed on 9 August 2016.
12. Intermediate and Long-Term Care (ILTC) services. [https://www.moh.gov.sg/content/moh\\_web/home/our\\_healthcare\\_system/Healthcare\\_Services/Intermediate\\_And\\_Long-Term\\_Care\\_Services.html](https://www.moh.gov.sg/content/moh_web/home/our_healthcare_system/Healthcare_Services/Intermediate_And_Long-Term_Care_Services.html). Accessed on 9 August 2016.
13. Agency for Integrated Care. The Silver Pages. <https://www.silverpages.sg/caregiving>. Accessed on 9 August 2016.

## LEARNING POINTS

- **The rise of care planning in many areas of chronic disease has resulted in the increasing role of FPs in multidisciplinary care. Team-based care in primary care clinical areas such as diabetes, aged care, mental health and disability have led to the emergence of systematic approaches of team based care, both within and outside the practices.**
- **In Singapore, the Ministry of Social and Family Development introduced the Community Health Centres to serve as one-stop service centres to make available the medical services that are available for doctors to tap on in a typical government polyclinic.**
- **The SSO disburses advice and coordinates various assistance schemes under ComCare that are focused on the developmental needs of children, family, health, and employment.**
- **Centre-based healthcare services cater to older persons who require care services during the day, usually on a regular basis. These centres are mostly located within the community, enabling those in need to receive services in a familiar environment close to their homes, and allowing working caregivers to conveniently drop off their seniors during working hours.**
- **The EASE programme helps with the cost of making a home elder friendly, such as the installation of grab bars and ramps in the flat, and application of slip-resistant treatment to the floor tiles.**