

UNIT NO. 4

USING THE SBAR4 MODEL FOR MANAGEMENT OF A PATIENT WITH COMPLEX COMORBIDITIES IN THE PRIMARY CARE SETTING — A CASE STUDY

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ABSTRACT

It is a challenge managing complex patients in primary care. Complexity goes beyond the concept of multiple medical co-morbidities to include multi-dimensional mental, social, and behavioral person-centric factors that interfere with routine care delivery. It is important for primary care to identify these patients and adopt a problem based, goal orientated, person-centric approach to improve the overall outcome and care experience for these patients. This unit illustrates the use of the SBAR4 framework to approach a complex case.

Keywords: Complex Patients; Person-centric Approach; SBAR4 Framework;

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INTRODUCTION

With the ageing population and increasing burden of chronic disease in Singapore, Primary Care Physicians (PCPs) find themselves managing more patients with multiple morbidities.^{1,2} By definition, multi-morbidity is the coexistence of multiple chronic diseases and medical conditions, usually 2 or more, in the same individual.

A proportion of these patients with multiple morbidities are complex. Complexity, as perceived by PCPs, often goes beyond medical complexity.³ In practice, some of the more difficult consultations would involve patients who present with poor control of their chronic conditions, multiple medical morbidities, and recent hospital admissions. Amongst these patients, some will be labelled “complex” by the PCP, typically when they present with behaviours such as non-adherence to medications and follow-ups, or appear unmotivated to participate in self care.

Peek et al introduced the concept of care delivery complexity where there are person-specific factors that interfere with the delivery of usual care and decision-making for the conditions the patient has. These factors are often in the mental health, behavioral health, and social dimensions. An interplay of these factors determines the level of self-activation in an individual that correlates to the ability to manage one’s health or adhere to recommended lifestyle and care plans.^{4,5}

The following are some examples illustrating common presentations in practice within the various domains in a complex patient.

a. Medical Complexity

Other than the factor of multiple morbidities, literature describes specific conditions that are often associated with complex patients. These factors include the diagnosis of heart failure, anxiety, depression, and medication-related factors such as numerous medications and the use of insulin.^{3,6}

b. Social Factors

Common factors include financial problems, lack of shelter, and lack of caregiver and support, sometimes due to poor family relationships. These factors are closely intertwined to the patient’s access to care and treatment, will influence the patient’s health-seeking behaviour, and will impact his/her mental well-being.

c. Behavioral Factors

Common presentations of problematic behaviour that interfere with care delivery include non-adherence to medications, follow-ups, and recommended lifestyle changes. Another important problematic behaviour to note is the lack of motivation to participate in self-care. These behaviours ought to prompt the PCP to explore for underlying ideas, concerns, and expectations of the patient, as well as social and mental health issues that contribute to these behaviours. Addressing these behaviours is essential to improving outcomes.⁷

d. Mental Health

The presence of depression and anxiety will impact the way care is delivered and needs to be identified and addressed.

Complex patients have been described as high-cost high-needs patients. Frequent hospital attendance, admissions, multiple visits to various providers, long medication lists, and progression of existing chronic conditions with the development of complications are some reasons contributing to the increased cost in managing this group of patients. Their psychosocial circumstance predisposes them to a reduced capacity for resilience. They are also more vulnerable to fragmented care as a result of the social dimension.⁸

It is important for PCPs to identify a complex case when they see one. These patients often require more intensive medical services coordinated across multiple providers as well as a wide range of social supports to maintain their health and functioning.

However, caring for complex patients can be challenging. Time is often cited as a key challenge to the PCP and it seems almost impossible to understand and address the multiple issues in complex patients. Gaps in information transfer when the patient transfers from the hospital to the community, or between the key stakeholders involved in care, is another challenge. Care is thus

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often poorly coordinated.⁹ Problems associated with reimbursement, and access to multi-disciplinary teams is a challenge to primary care teams and even more so for small practices.¹⁰

Primary Care Physicians play an important role in the management of this group of patients. Increasingly, there is a call for primary care transformation to provide comprehensive, patient-centred, and coordinated care.¹¹ There is also a trend towards delivering this care through forming inter-professional teams or multi-disciplinary teams which has been shown to improve outcomes.⁸

The SBAR4 framework, proposed by Lee et al¹² in an earlier publication on complex care combines the elements of the SBAR model of inter-disciplinary communication as well as the tasks of consultations described by Pendleton. These elements include understanding the Situation and Background of the case. Assessment refers to identifying the active issues at hand. The “4” refers to the 4 “R” elements in the framework: Recommendation, Resource, Responsibilities, and Relationship. These 4 elements are important factors to consider when managing a complex case.

Through a case vignette, this unit will illustrate how PCPs can utilise the SBAR4 framework to re-constitute the information about a complex case, contextualise how the various factors are inter-related, and identify the key management issues.

CASE

Mr C is a 63-year-old Chinese male with the following medical problems:

1. Stage 4 chronic kidney disease;
2. Ischaemic heart disease complicated by cardiomyopathy;
3. Diabetes Mellitus;
4. Hypertension;
5. Hyperlipidemia;
6. Ischaemic right cerebral peduncle stroke;
7. Iron deficiency anaemia; and
8. Melanocytic neoplasm of the left eye, status post en-nucleation of left eye.

He presented at the polyclinic after discharge from hospital for fluid overload. This was his 2nd admission this year and he has had 5 admissions for the same problem in the past year. As advised by the hospital, he was to present to primary care for a repeat of his renal panel.

He did not complain of significant dyspnoea at rest or on exertion but had difficulty walking due to the oedema in his lower limbs. He was not sure about the total volume of liquids consumed per day as he did not keep track, but he estimated that he takes about 5 cups of fluids a day. He is community ambulant and is independent in performing his activities of daily living.

He stays in a rented room and is estranged from his family. He eats out most of the time. He quit smoking and alcohol ingestion in 2009. He used to be a photographer but has stopped

working in the last one a half years due to his medical condition. He verbalised concerns about his living arrangement, as the lease will run out next month. He receives Medifund assistance for his medical care but was concerned about the escalation of healthcare cost if he were to require renal replacement therapy. He is frustrated with the increasing difficulty in walking due to the oedema and expressed low mood. He does not take his medications daily as he feels nauseated when he takes all the medications prescribed.

He mentioned that he had “lost his confidence” in the healthcare providers as there doesn't seem to be a plan or in-depth discussion regarding his health. He attributes his current state to the eye surgery he underwent in 2015 after which his health rapidly declined as a result of an ischaemic cardiac event intra-operatively. He is unclear about the role of renal replacement therapy that his renal physician had briefly mentioned but did not explore further when he had initially rejected the idea.

Significant findings on clinical examination included generalised oedema involving the periorbital, abdominal wall, back, and upper and lower limbs. Vital signs included blood pressure of 150/70mmHg, pulse rate of 74/min and a respiratory rate of 18/min. Basal crepitation was noted at bilateral lung bases.

Table 1: The Results of His Laboratory Tests

Lab marker	Result	Range
Urea	15.3mmol/L	2.8–7.7mmol/L
Sodium	142mmol/L	135–145mmol/L
Potassium	4.1mmol/L	3.5–5.3mmol/L
Bicarbonate	22mmol/L	19–31mmol/L
Creatinine	287µmol/L	65–125µmol/L
eGFR	19	
Glucose	6.8mmol	3.1–7.8mmol/L
Low density lipoprotein cholesterol (LDL)	2.69mmol/L	
HbA1C	6.9%	
Albumin	38g/L	37–51g/L
Alanine transferase	16U/L	10–55U/L
Calcium	2.12mmol/L	2.1–2.6mmol/L
Phosphate	1.41mmol/L	0.65–1.65mmol/L
Urine protein	2+	
Haemoglobin	9.8g/dL	13–17g/dL
Iron	9.2µmol/L	11–29µmol/L
Iron Saturation	18.3 %	
Ferritin	180.7µg/L	32–294µg/L
Folate	>45.4nmol/L	> 5nmol/L
B12	627pmol/L	132–835pmol/L

Table 2: His Medications

Aspirin	100mg	OM
Omeprazole	40mg	OM
Amlodipine	7.5mg	OM
Bisoprolol fumarate	7.5mg	OM
Frusemide	80mg	BD
Potassium chloride	600mg	OM
Isosorbite Mononitrate Cr	30mg	BD
Glipizide	2.5mg	OM
Ferrous Gluconate	1200mg	BD
Cholecalciferol (Vit D3)	1000 units	OM
Calcium Acetate	2 tablets	TDS
Sodium Bicarbonate	500mg	BD
Renal Vitamin	1 tablet	OM

SBAR4 model

Let us use the SBAR4 framework to dissect this case.

1. Situation that resulted in this encounter and the expectations.

Mr C required a repeat renal panel after his recent discharge for fluid overload. He is still symptomatic from the oedema and would like to improve his condition as it is affecting his mobility. He had been under the care of the Renal and Cardiology Department at a restructured hospital, and was not on regular follow-up at the polyclinic.

2. Background of existing co-morbidities and their interdependency.

In addition to identifying the medical co-morbidities and their interdependency, the PCP should actively elicit patient's contextual information that can impact care delivery.

In Mr C's case, the presence of stage 4 chronic kidney disease (CKD) and ischaemic cardiomyopathy are likely the key reasons behind the recurrent fluid overload episodes.

He is at significant risk of further cardiovascular events in view of the presence of both macro- and micro-vascular complications. There appears to be a lack of optimisation for secondary prevention at this point. His blood pressure and LDL level were elevated. He was not on a statin or an Ace-inhibitor (ACE-I) at the point of the consult. A review of his notes showed that Atorvastatin was stopped in January 2017 due to the problem of transient transaminitis. This problem has since been resolved. He was also taken off ACE-I in November 2014 when his eGFR

dropped from 26 to 16 ml/min.

He is at risk of depression due to his poor health and the social stressors identified.

The problem of anaemia appears stable as his haemoglobin trend in the last 2 years has been between 9–10.2g/dL. It is likely a combination of iron deficiency (for which he is receiving supplements) and anaemia of chronic disease.

He will require continued surveillance of disease and treatment-related complications. Such measures include diabetic retinopathy screening for his remaining good eye and foot screening for diabetic-related complications. Active exploration for symptoms of hypoglycemia as well as assessment of his knowledge on symptom recognition and management are essential due to the increased risk of hypoglycemia with sulphonylurea therapy and CKD.

3. Assessment of co-morbidities and shared understanding among stakeholders for each of the morbidities. After understanding the situation and background, the next step is to identify the active issues at hand, taking into consideration the background problems and the contribution of contextual patient factors.

Symptomatic oedema was the cause for recurrent admissions and his reduced mobility. Non-adherence to medications, and fluid restriction advice in the presence of stage 4 CKD and ischaemic cardiomyopathy, were identified as the contributory factors.

We explored and agreed that the goal of therapy that was of priority to Mr C was the reduction of the oedema so that he would be more comfortable walking and have less need for re-admission.

There was a lack of a coherent care plan between the cardiologist and nephrologist. Mr C was unclear, at this point, of the role of renal replacement therapy. The idea had been raised by the nephrologist earlier, but there appeared to be a lack of follow up and discussion on the potential cardiovascular risk in the context of his pre-existing cardiomyopathy.

Social factors identified included financial problems, impending shelter issue, and poor social support. In addition, the patient's negative healthcare experience could have contributed to his behaviour of non-adherence and were identified as stressors that impacted his mental health.

4. Recommendation of an action plan for each co-morbidity for the patient and the stakeholder.

After coming up with a list of active problems, the next step was to discuss with Mr C an individualised care plan. It was important to note that these interventions should be patient centric and goal orientated. Goals of therapy should be discussed after having the patient understand the interplay between the medical, behavioral and social issues. Interventions should be recommended after taking into consideration the patient's

preferences and what is likely to work in the patient's context.

Addressing adherence to medications

Mr C was referred to the pharmacist who explained the indication of each medication in detail and formulated a plan for adherence. The patient was educated that this is an important part to address in reducing the oedema.

Addressing adherence to fluid restriction

Patient was educated that this was also an important factor to achieve the goal of therapy. We agreed upon a method to track fluid intake, which was to drink out of a pre-filled bottle with a volume not greater than 800ml. Patient was also educated on choosing the appropriate food that was lower in salt content.

Addressing the need for care co-ordination

We stressed the importance of re-establishing conversations with the renal team and the cardiologist. There was a need to document discussions on optimising medical therapy, and discussions with the patient on the impact of treatment options and outcome. With these discussions, the goals of therapy can be re-formulated.

Continuity of care of chronic condition

The primary care team in the polyclinic will continue to monitor and review the management of his chronic conditions such as diabetes, hypertension and hyperlipidaemia. The PCP will co-ordinate inputs from the cardiologist and nephrologist and optimise medical therapy where possible. Patient education and routine assessments such as diabetic foot screening were arranged.

Addressing social factors

Patient was already known to the family service centre as well as the hospital-based medical social worker. He was also known to the restructured hospital's Hospital to Home programme and community team. We highlighted his needs for financial assistance and shelter, and provided the context of his current medical condition. The social worker alluded to having started discussions with Mr C on addressing both problems.

The community team plays an additional role in visiting Mr C periodically, providing emotional support and information to the primary care team where relevant.

Preventive care and advance care planning

At some point, it will be important to look into preventive care, e.g. vaccinations, and to start discussions with Mr C on advance care planning.

5. Resources — both medical and social will need to be mustered to support the patient

Mr C was enrolled into the multi-disciplinary care programme within the polyclinic. The information presented in this case vignette was obtained through 2 clinical visits and through linking up with the community partners.

Within the clinic visit, the doctor, pharmacist, and care manger (nurse) obtained information that contributed to the holistic understanding of the problems at hand. This was facilitated through multi-disciplinary discussions and systematic capture of the information on a multi-disciplinary note.

It is important for PCPs to be familiar with the community resources available. Many of the resources are facilitated through the Agency for Integrated Care. Some of the useful information on financial and community resources can be found in the following websites.

<https://www.aic.sg>

<https://www.primarycarepages.sg>

<https://www.silverpages.sg>

Another useful website would be <https://www.msf.gov.sg/dfcs/sso/default.aspx> where the PCP can locate the nearest family service centre and voluntary welfare organisation.

6. Responsibilities of the patient, stakeholders and care providers and how they can be activated.

In the management of a complex patient, it is important for the PCP to assume the role of a primary care provider and play a key role in care co-ordination. It is extremely important in larger practices to have a system to allow continuity of care with the same provider for this group of patients.

Care co-ordination is important as responsibilities and roles may be ambiguous to those involved, hence it is important to identify what needs to be done and who would be doing it. Amongst the multiple stakeholders, which include the patient, the PCP, the multi-disciplinary primary care team, the hospital specialists and the social partners, clear identification of roles is an important part of the care-planning process.

The process should involve active feedback and informing upon completion of tasks.

The patient should also be empowered with knowledge and skills, and should play an integral role in monitoring and improving their own health.

7. Relationship with patient, caregivers, team members, and service providers are sustained to facilitate optimising care.

Establishing a relationship is viewed as important from both the PCP's and patient's point of view. Patients found it easier to talk about mental issues and concerns with a stable provider.¹³ PCPs on the other hand, found it easier to understand the active issues. A consistent patient-provider relationship builds upon itself, and providers find it easier to motivate the patient as care moves along due to the trust.

In practice, a patient-provider relationship can be established by having a PCP and/or team identified to provide continuity of

care. Lein et al describe a patient-centred interviewing strategy which describes the patient-centric mindset and motivational interview techniques focused on enhancing the patient-provider relationship, and ensuring effectiveness of the complex patient encounter.¹⁴

The concept of relationship building extends beyond the patient and PCP interface. In order to deliver care effectively, the primary care team is expected to communicate effectively through various means so that information gets to the provider in a timely manner. The primary care team is also expected to proactively form partnerships with the hospital providers and community care teams involved in the patient's care. Similarly, timely information transfer is essential to effective care delivery.

CONCLUSION

It is important for the PCPs to identify complex patients. Failure to identify specific non-medical factors interfering with care leads to ineffective care delivery. This leads to downstream implications such as increased healthcare costs as a result of complications due to progression of chronic medical conditions and care duplication due to fragmentation.

The SBAR4 framework is useful to help the PCP approach a complex case. It involves identifying the active problems after considering medical and contextual person-centric factors, then gets the PCP and the healthcare team thinking about interventions beyond the customary disease base interventions.

Beyond the framework, it is important to recognise the patient's self-perceived value in life, to leverage on the patient-provider relationship, and work towards motivating and activating these individuals to take control of their health through forming good habits for disease control and self-care.

It would also require a transformation in the way primary care is conventionally delivered, and how the right resources are allocated in delivering care to complex patients.^{15,16}

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