

WORLD CONGRESS OF PHARMACY AND PHARMACEUTICAL SCIENCES

Drug prescribers and pharmaceutical carers in integrated health care

Our coverage of the recent International Pharmaceutical Federation Congress, which took place in Sydney, Australia, from 4 to 9 September, continues this week. Graeme Smith reports

The World Health Organization's perspective on integrated health care was outlined to the congress by Judy Canny, technical officer at WHO's Management of Noncommunicable Diseases Department in Geneva, Switzerland, during a pharmacy practice symposium on 7 September. She said that health care providers — and this includes patients, who are the ultimate providers of their own health care — need to work as teams that communicate.

Ms Canny referred to WHO's Innovative Care for Chronic Conditions project, which had been set up in 2001 to help policy makers bridge the gap between typical care (health systems that are fragmented and focused on acute symptoms) and achievable care (health systems that are co-ordinated, comprehensive, patient-centred and focused on chronic conditions).

Consideration of care of chronic conditions is important, Ms Canny said, because people are living longer resulting in an increase in the percentage of populations aged over 65 years. She told the congress that in 2000 the global population of such persons was estimated at 420 million. Of these, 75 per cent had one chronic condition and 50 per cent had two. People with chronic conditions account for around 78 per cent of all health care spending and costs are spiralling out of control.

"No nation is immune to the rising burden of chronic conditions. If not addressed, they will become the most expensive problem faced by our health care systems. Their burden can be dramatically reduced only if governments and health care leaders decide to do so," she declared.

Through the ICCC project, WHO is proposing a paradigm shift in the way that health care providers are trained to see the care of chronic conditions as patient-centred. By that she meant that the patient works with a team of providers and care is designed around the patient's needs. The key outcome should be a shift from concerns about disease status to concerns about quality of life.

There are four goals of integration:

- Optimisation of the use of scarce resources
- More effective responses to people's needs
- Reduced fragmentation
- Improved equity and health outcomes



The core of the ICCC framework is integration from multiple perspectives: micro (individual behaviour), meso (health care organisation) and macro (health policy) levels of care must work together. Boundaries must blur to allow true integration of health care organisations, communities, policies and patients. "When the components of each level of the health care system are integrated and working optimally, the patient and family become active participants in care, supported by their community and their health care team," said Ms Canny.

She explained that micro level integration involves interactions between the

patient, community supporters and the health care team. Patients and their families are the most undervalued assets in health care systems; their potential to affect outcomes is undeniable. But patients need to be informed about their conditions. Health care teams consist of multiple categories of providers who accept their roles and responsibilities according to their professional strengths, and information technology could help these teams to be prepared and informed. Likewise, prepared and informed community supporters are able to provide complementary services that can reduce unnecessary demands for follow-up services.

She said that over 80 per cent of symptoms are self-diagnosed and self-treated without professional care. Patients and their families are the ultimate providers of health care for chronic conditions, and the goal of the ICCC project is to help design enabling tools and methods that will inform, equip and empower patients for self-management and disease prevention.

Turning to meso level integration, ie, that involving health care organisation and community interaction, she said that health care systems need to be co-ordinated across primary, secondary and tertiary levels of care, across providers and across the course of the patient's condition. Multidisciplinary teams need knowledge and skills that go beyond biomedical training and incorporate core competencies in communication skills, collaborative teamwork, patient support and behaviour change interventions.

She added that community resources are vital to health care systems: they are positioned to raise awareness of chronic conditions and the associated risk factors, as well as reducing the stigma associated with such conditions.

But prevention takes on a new sense of urgency when one realises the burden of chronic conditions, she said. For example, a 1999 study had shown that tobacco smokers incur 18 per cent higher medical costs than non-smokers. A one unit increase in body mass index raises medical costs by 1.9 per cent. Each additional day of physical activity per week reduces medical costs by 4.7 per cent.

"Unless we curb increases in spending, we are not going to be able to meet future demand," Ms Canny warned. This is why WHO wants to wed public awareness campaigns and initiatives around the most press-



Judy Canny: multidisciplinary teams need knowledge and skills that go beyond biomedical training

ing public health risks: poor diet, tobacco smoking, excessive alcohol consumption, unhealthy environmental exposures and unsafe sex.

Finally, Ms Canny turned to macro level integration, which is concerned with the policy environment. She said that policy leaders must advance care for chronic conditions and create positive policy environments for patients, their communities and health care organisations caring for chronic conditions. She added that health care financing — funding, resource allocation, contracting and reimbursement — are important mechanisms for translating policies and plans into reality. Financing must also be structured so that it is sustainable.

Ms Canny told the congress that legislation and regulation can also reduce the burden of caring for chronic conditions. Controls of health-threatening products that have been made more available as a result of globalisation can help reduce the future burden of chronic care.

Macro integration also involves making strong partnerships among government sectors that have the potential to influence health. These include agriculture, food, transport, energy and labour policies. They are important to consider because they have tremendous possibilities for influencing health and preventing chronic problems. For example, she said, agricultural policies based solely on commercial objectives do not necessarily parallel national health and nutrition needs. "It is imperative to work with different sectors to identify which policies simultaneously maximise population health status while addressing economic needs," she declared.

Concluding, she said that we need to make markets work for chronic disease control and make healthy choices easy choices.

PRIMARY CARE CLINICAL PHARMACY SERVICES

The clinical pharmacy services provided by a health maintenance organisation in the United States were described by Dr Dennis Helling, executive director for pharmacy operations and therapeutics, Kaiser Permanente Colorado Region. He told the congress that Kaiser Permanente in Colorado is the largest not-for-profit HMO in the US and it runs a number of clinical pharmacy services.

One of these is "primary care clinical pharmacy services", which employs 23 clinical pharmacy specialists and three clinical pharmacists. These staff are located in busy patient care areas and they work alongside physicians and other health care providers. They are recognised as drug therapy experts and have several roles, including:

- Identification and resolution of complicated drug therapy problems
- Treatment and follow-up of hypertensive patients through group clinics
- Helping to manage medication costs
- Participation in regional guideline development
- Having an impact on health care quality



Dennis Helling: collaboration with other health care providers is essential for success

Specifically, said Dr Helling, their impact on quality led to anticoagulation services being managed by primary care clinical pharmacy staff rather than by medical staff. Pharmacy staff in the anticoagulation service provide support to more than 5,600 patients and they are available 24 hours a day. They manage chronic warfarin therapy, high-risk pregnancies and nursing home residents. They also look after outpatient management of deep vein thrombosis and follow up patients after orthopaedic surgery.

Pharmacy staff also provide a cardiac risk service, said Dr Helling. This service manages approximately 9,100 patients with established coronary artery disease and is currently expanding to manage patients with peripheral vascular disease, because they are also at high risk for cardiovascular events.

Pharmacists running the service work with physicians and nurses to ensure comprehensive cardiac risk reduction. Although that is the goal of the service, said Dr Helling, the clinical pharmacy specialists also focus on the management of medicines that have been shown to decrease the risk of future cardiovascular events, including cholesterol-lowering therapies, beta-blockers, antiplatelet agents, ACE inhibitors and vitamins such as folic acid. The pharmacists adjust doses and monitor therapy.

Clinical pharmacy services also provide a call centre that patients can telephone if they have medication-related questions; it handles over 1,000 calls a day.

Dr Helling said that the success of these centralised clinical pharmacy services has helped in the establishment of specialised disease state services for diabetes, asthma and congestive heart failure. Clinical pharmacy specialists working in these areas have completed specialty residencies and they work with other members of a multidisciplinary team, focusing on the drug therapies of these high-risk patients.

Dr Helling went on to describe the impact of the clinical pharmacy services he

had described. He said that they have resulted in unprecedented clinical and economic outcomes. For example, the efforts of Kaiser Permanente's primary care clinical pharmacy staff have resulted in significant cost avoidance — more than \$5m has been saved annually in direct drug costs compared with other health plans. The clinical pharmacists at the call centre have also had an impact on costs. More than \$13.6m has been saved in direct drug costs and around \$3.4m in saved clinic time through avoidance of visits to the doctor or the nurse, etc. The quality of care has also improved, he said. For example, the number of elderly patients with new starts on high-risk medication has been reduced by 10 per cent.

The anticoagulation service has realised cost savings of more than \$1m due to preventing admissions to hospital, and a further \$1m has been saved annually from the outpatient management of DVT. Dr Helling added that the management of anticoagulation by clinical pharmacists has saved around 25 lives since 1996 owing to a decrease in the number of bleeding complications and other adverse events.

It has also been estimated that the management of cardiac patients by Kaiser Permanente's clinical pharmacists has resulted in savings of over \$9m in six years.

Concluding, Dr Helling said that Kaiser Permanente has demonstrated that development of innovative clinical pharmacy services to support disease management initiatives can improve patient care and realise significant cost savings. But integration with medical staff and collaboration with other health care providers is essential for success.

INTERPROFESSIONAL EDUCATION AND TEAM-WORKING

Dr John Smart, School of Pharmacy, University of Portsmouth, UK, emphasised that health care teams need to be based around patients and patient care, and progress towards that ideal state, he said, can be achieved through team-working and inter-professional education.

Team-working is a good way to deal effectively with patients' expectations and the increasing complexity of health care. It reflects changes elsewhere in society and will benefit patients, he said. And inter-professional education, starting as early as possible in undergraduate courses, will help change attitudes and facilitate team-working. A further benefit is that it will stop people gravitating towards professional tribes. "We need to break down barriers and work together," he said.

Many bodies have said that team-working and interprofessional education are beneficial, including the World Health Organization, the World Federation of Medical Education, as well as the Kennedy Report of the Inquiry into Bristol Royal Infirmary. WHO said as far back as 1973 that inter-professional education would improve job satisfaction, increase public appreciation of the health care team and encourage a holistic approach to patients' needs.

The president of the WFME had said in 1994 that doctors in the future need not necessarily expect to be leaders of health care teams and the Kennedy report had said that "the days when courses were designed exclusively for doctors, or exclusively for nurses, should be behind us".

Dr Smart said that the New Generation Project (www.commonlearning.net) had been set up in the south of England to address concerns about interprofessional education. Established by the Universities of Portsmouth and Southampton and the Hampshire and Isle of Wight NHS Trust, the project involved 1,600 health professional students undertaking common learning; this figure would increase to 6,000 after five years.

Students from various health professions, including pharmacy, medicine, nursing, midwifery, occupational therapy, radiography, podiatry, physiotherapy, social work and audiology, are undertaking a common curriculum.

Through the curriculum, it is intended that students will be able to:

- Respect, understand and support the roles of other professionals involved in health care and social care delivery
- Contribute effectively as an equal member of an interprofessional team
- Understand the changing nature of health and social care roles
- Demonstrate a set of knowledge, skills, competencies and attitudes that are common to all professions and which underpin patient-focused services
- Learn from others in the interprofessional team
- Deal with complexity and uncertainty
- Collaborate with other professionals
- Understand stereotyping and professional prejudices and the impact of these on interprofessional working
- Practise in a patient-centred manner

Dr Smart said that a key part of the project would be to evaluate the effect of interprofessional education on practice. The end result, he hoped, would be that health pro-



professionals are able to put the patient at the centre of the health care team and see other health care professionals as their allies, not their enemies.

He concluded: "We have here an extraordinary opportunity to reform curriculum and prepare health and social care practitioners fit for a very different future."

The practical and pharmaceutical aspects of the recent SARS outbreak

A special symposium on SARS, organised jointly by the FIP boards of pharmaceutical practice and pharmaceutical sciences, took place on 6 September. The congress heard how the disease had spread and about measures taken to combat it.

The first case of SARS (severe acute respiratory syndrome) on 26 November 2002 involved a man in southern China's Guangdong province on the Pearl River Delta. This man was a "super-infecter" who subsequently infected four others but, strangely, not his four adult children who lived with him. By the end of December, Guangdong province had reported at least 300 cases and within the next three months the disease had spread to many other territories, including Canada, Hong Kong, Singapore and Taiwan.

Dr Mike Catton, Victoria Infectious Diseases Reference Laboratory, Australia, explained that the disease was caused by a previously unrecognised coronavirus whose genome has now been sequenced. All of the sequence, except for the leader sequence, was derived directly from viral RNA. The availability of the sequence data has had an impact on efforts to develop diagnostic tests and should help the search for antiviral agents and vaccines. This sequence information had also facilitated studies to explore the pathogenesis of the virus, he said.

Although the SARS virus appears to be a distant relative of the viruses that cause the common cold, influenza and other respiratory diseases, it is not a mutant or recombinant form of any existing infective

agent and probably developed in an animal reservoir. Initially a number of species were thought to be implicated, including the masked palm civet, the raccoon dog and the Chinese ferret badger. Studies carried out in a live animal market in China identified the presence of the virus in a number of animals destined for consumption. Subsequent evidence from other studies has been inconclusive.

Dr Catton said that it seems that SARS is spread mainly through direct contact with respiratory secretions, faeces and urine, putting health care workers and fam-

ily members at risk. However, an outbreak in a Hong Kong apartment building showed that SARS, and the way it spreads, is probably more complex than previously thought.

Control of the worldwide infection has been achieved by a number of measures of which wearing masks and hand cleansing in areas at risk have been among the most effective. Gowns, gloves and visors were also used in hospital environments. The disease is far less infectious than measles, mumps or polio but it is stable for longer, surviving in faeces for up to four days. Detecting SARS is difficult because the burden of coronaviruses builds up during the course of the disease and by the time a positive diagnosis is possible the patient could be seriously ill. Dr Catton said that his laboratory has developed a test that appears to be promising, but a lack of pathological material has hampered attempts to validate it fully.

Dr Dominic Dwyer, Westmead Hospital, Sydney, Australia, explained the importance of tracking the progress of the epidemic to facilitate the design of appropriate control measures. International and, to a lesser extent, domestic air travel have played a significant part in the spread of the disease; on one regional flight alone 30 per cent of the passengers and crew had been infected. The emergence of so called "super spreaders", people who infected large numbers of others, has been a problem in containing the disease. It is unclear whether these people shed greater amounts of virus for an as yet unexplained reason, or



Mike Catton: the way SARS is spread appears more complex than previously thought

whether their presence in particular environments facilitates easier onward infection. Because the numbers of coronaviruses build up during the progression of the disease, shedding of virus is likely to be highest while patients are in hospital, and health care workers are at particular risk of infection. Dr Dwyer said that initial symptoms of SARS resemble those of other diseases. Fever, diarrhoea and impaired oxygenation are shared by several conditions, including influenza, psittacosis and Q-fever. However, SARS is characterised by pulmonary destruction within 11 to 21 days of infection.

The roles of the pharmacist during the SARS epidemic were outlined by Sylvia Beth, a hospital pharmacist in Singapore. She said that during the outbreak working with protective clothing and masks when dealing with inpatients was extremely uncomfortable, but necessary. Hospital staff were obliged to record their temperatures three times a day. Pharmacists were involved in providing information on the various disinfectants available and in tracking of data for SARS patients as well as normal dispensing duties and optimising drug therapy in difficult circumstances. Community pharmacists played an important part in providing enhanced services to supplement the decreased access to hospital outpatient clinics and repeat medication. They also provided counselling and advice on hygiene measures, including how to use



Régis Vaillancourt: provision of information to staff and to the public is vital to reduce levels of anxiety and stress

thermometers and hand-washing procedures. Clients seeking over-the-counter antipyretics were questioned about their movements before feeling unwell and referred if thought appropriate. Community pharmacists generally did not wear masks, in order to encourage the perception that the pharmacy was a safe environment.

Lt Col Régis Vaillancourt (Canadian Armed Forces) told the congress that SARS has caused significant disruption to the provision of hospital services in Toronto. His colleagues have been involved in hand-washing workshops for children and these have been successful in raising the profile of hygiene measures. He agreed with Ms Beth that masks are uncomfortable to wear but emphasised that it is important that they fitted correctly.

Lt Col Vaillancourt said the provision of information to staff and the public is vital in an episode such as SARS to reduce levels of anxiety and stress. Stockpiling of equipment for future epidemics would be a good idea; hospitals had run out of gowns and masks quickly after restrictions were imposed. Community pharmacists had been vital in supporting the dissemination of advice and medicines during the epidemic.

Members of the audience asked the speakers about the effectiveness of face masks in controlling the spread of infection. It was agreed that the measure was probably unnecessary as far as the population in general was concerned, although it might confer some psychological benefits and reduce concern.

For persons in direct or potential contact with patients it was vital. It was suggested that there could be an emerging case for patients coughing and sneezing while awaiting treatment in doctors' surgeries to wear masks. — *Contributed by Steven Kayne.*

Advertisement