mental health co-morbidity
Chris Naylor discusses the effect of co-morbidity for people with long term conditions and mental health problems. People with long term conditions are two to three times more likely to experience mental health problems than the general population.

long term conditions
Professor Krysia Dziedzic, Arthritis Research UK Professor of Musculoskeletal Therapies, gives an overview of the prevalence, management and impact of long term conditions for the individual, for primary care and for the wider UK community.
Many readers of this issue of Innov-age may be living with or know someone with a long-term condition. In England alone more than 15 million people have a long-term condition i.e. a health problem that cannot be cured, significantly impacts on a person’s life and has lasted a year or longer. This can range from respiratory and musculoskeletal diseases through to diabetes, neurological and mental health problems amongst many others.

Quality of life for suffers is dependent on the severity of the condition, how well it is controlled, and a number of other factors including the multiplicity of problems and social demographics.

The usual first line of management is drug intervention but as this issue of Innov-age shows, this is not the only way forward. The limitations of a GP consultation time frequently mean that optimum care requires a multi-disciplinary team approach and more creative strategies for intervention including self and group care programmes. Self-help and self-management programmes can be moderately effective but as many authors describe, a range of factors can affect motivation and impact. Particularly vulnerable are those patients with mental health problems such as anxiety and depression.

It would appear that a lot of work is still required before we fully understand the optimum management of people with long-term conditions. New approaches to models of care, integrated care, and self-management seem to be the way forward. Some of these are described in this issue and as this is such an important area of research, I am sure many others will follow in future publications of Innov-age.

Jackie Oldham
Honorary Director, Edward Centre for Healthcare Management Research
Contents

Editorial Foreword

4

Insight – Long Term Conditions

8

Long Term Conditions, Ageing and Sexual Health

10

News...

12

Long Term Conditions and Mental Health

14

Cochrane Corner – Review

16

2014 Bionow Innovative Ageing Award Winner – HMA and CATCH

19

Spotlight on... Krysia Dziedzic

20

Spring Issue – Exercise


Long term conditions

Krysa qualified as a physiotherapist at Manchester Royal Infirmary and completed her PhD at Keele University. In 2000 she was appointed Arthritis Research UK Senior Lecturer in Physiotherapy and was awarded a personal chair by Keele University in 2010. Currently Krysa is academic lead for Implementation and Patient and Public Involvement (PPI) lead for the Research Design Service in the West Midlands. Her implementation work is in collaboration within the Academic Health Sciences Network (AHSN) and the Collaboration for Leadership in Applied Health Research and Care (CLAHRC) - West Midlands. Krysa is a NICE Fellow and co-authored the NICE osteoarthritis (OA) guideline (2008) and the Update OA guideline (2014).

The Global Burden of Disease

Non communicable diseases and long term conditions are the major cause of disability worldwide with musculoskeletal conditions, after mental health being the leading cause of this disability (Murray et al., 2012). With the advancing age of the population, increases in long term conditions such as in dementia, diabetes, hip/knee problems and risk factors for poorer health such as obesity and reduced physical activity will be the main cause of physical disability in older adults. Figure 1 provides a summary of the years lived with different types of physical disability.

Figure 1: Global Burden of Disease

YEARS LIVED WITH DISABILITY (YLDs)

Years lived with disability (YLDs) are estimated by weighting the prevalence of different conditions based on severity. The top five leading causes of YLDs in the United Kingdom are low back pain, falls, major depressive disorder, neck pain and other musculoskeletal disorders.

The size of the coloured portion in each bar represents the number of YLDs attributable to each cause. The height of each bar shows which age groups had the most YLDs in 2010. The causes are aggregated. For example, musculoskeletal disorders include low back pain and neck pain.

Long term conditions in primary care

In the UK long term conditions are primarily managed in primary care and there is evidence that patients consulting their general practitioner, particularly older adults with conditions such as joint pain, are more likely to receive pharmacological treatments than non-pharmacological treatments (Kingsbury et al., 2012). Polypharmacy has now been recognised as an undesirable consequence of a biomedical approach for the management of multimorbidity (Wallace., 2013) so an annual review is a key requirement for many long term conditions (e.g. NICE, 2014).

www.healthmetricsandevaluation.org
The UK National Institute of Health and Care Excellence (NICE) recommendations for long term conditions have also highlighted the importance of support for self-management and emphasised the use of non-pharmacological therapies (for example NICE, 2014). There is good evidence for the effectiveness of non-pharmacological approaches such as therapeutic exercise, though this approach has usually been considered the domain of allied health professionals rather than general practitioners (Uthman et al., 2013). This has been in part due to the complex nature of these interventions and the limited time available in general practice to address them. Older adults are more likely therefore to receive medication than lifestyle approaches, and practice nurses often lack opportunities to integrate evidence based recommendations in their long-term condition management. Overall there is often a lack of interdisciplinary working to enhance consistency and continuity of care which is in contrast to what people with long-term conditions and healthcare professionals actually want and need.

**Figure 2: Self management in long term conditions**

![Figure 2](image)

**Living with a long-term condition**

Figure 2 shows an illustration handed in by a patient at a long-term condition conference. The red bars indicate the frequency of consultations with a health care professional, the green wavy line represents the person living with their long term condition. This figure shows consultations are episodic and irregular. Between primary care consultations, research evidence shows that self-management is on-going in one form or another throughout a person’s life (Morden et al., 2011). Self-management can take many forms and is either self-learned from experience or disseminated via social networks (Morden et al., 2014). Self-management can be defined as coping with difficulties, getting on with life and maintaining ‘self’ and relationships whilst living with the long term condition (Morden et al., 2014).

**Self-management support**

A model of supporting self-management called WISE (Whole system Informing Self-management Engagement) (Kennedy et al., 2007) describes:

i. informed patients receiving support and guidance from

ii. trained Health Care Professionals who are working within

iii. a healthcare system that is responsive to patients’ needs.

WISE requires a whole systems approach, which engages with practitioners and service organisations as well as the patient (Kennedy et al., 2007) The WISE model has been used in a number of long-term conditions (Kennedy et al., 2003; Dziedzic et al., 2014) and describes informed patients receiving support and guidance from trained health care professionals who are working within a healthcare system responsive to patients’ needs (Kennedy et al., 2007).

...continued on next page
Written information can be of benefit to both practitioners and patients and most guidelines emphasise the importance of quality information (Morden et al., 2014). Information should provide:

a) a balanced source of information for patients and;

b) a resource to aid practitioners when discussing self-management (Morden et al., 2014). The provision of written information about health conditions can facilitate patient centred shared decision making (Kennedy et al., 2007; Kennedy et al., 2013). It has also been proposed that information needs to be unbiased and convey information on the likely benefits and harms of treatment (van der Weijden et al., 2012).

The provision of condition specific written information is an important component of this model of care because it can potentially be of benefit to both primary care practitioners and patients when discussing supported self-management (Kennedy et al., 2007; Morden et al., 2014).

### Table 1: The changing view of long term condition management for osteoarthritis (OA)

<table>
<thead>
<tr>
<th>OA... Past</th>
<th>OA... Today</th>
<th>OA... Tomorrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>location</td>
<td>Tertiary, Secondary Care</td>
<td>Primary Care, Support for Self Management</td>
</tr>
<tr>
<td>modality</td>
<td>Medical model, x-ray</td>
<td>Person with OA, Bio-psycho-social model</td>
</tr>
<tr>
<td>advice</td>
<td>‘Nothing can be done’, damage, wear &amp; tear</td>
<td>‘Something can be done’, wear &amp; repair, remodelling</td>
</tr>
<tr>
<td>evidence</td>
<td>Limited evidence</td>
<td>NICE OA Guidelines</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data prepared in 2014 by the Chartered Society of Physiotherapy, UK:

- 1 in 5 people will see their 100th birthday
- 15 million people have more than one long-term condition
- Lack of physical activity is the fourth largest cause of disease and disability and of 1 in 6 deaths in the UK
- 70-80% of people with LTCs can be supported to self-manage
- For every £1 invested in self-management for LTCs £3 is saved on avoidable hospital admissions
- Adding on the social value such as return to work, this can be increased to £6.50

Integrated care

There has been a shift over time in the approaches to long term condition management particularly for those experiencing joint pain (Table 1). Core non-pharmacological approaches are the cornerstone of long-term condition management and include: access to written information and advice; support for self-management; and advice on exercise and physical activity. Non-pharmacological approaches can be delivered in consultation with healthcare practitioners and patients feel that these approaches can enhance their consultation.
Models of Care

New models are needed to redesign care. Evidence suggests that practice nurses are the healthcare professionals most likely to provide self-management support for patients with chronic disease (Macdonald et al., 2008), and predominantly for patients with long term conditions linked to the NHS Quality and Outcome Framework (QoF). While recognizing that a broader multidisciplinary team (e.g. physiotherapist, occupational therapist, podiatrist, and rheumatology nurse) could offer established programmes of care based on the core recommendations, practice nurses can offer long term condition consultations early in their presentation (Dziedzic et al., 2014). Quality Indicators of care can be used to support the measurement of uptake of NICE recommendations (Edwards et al., 2013).

Key innovations can increase the uptake of quality care for long term conditions and include:

1. Information on long term conditions written by patients and health professionals for patients (Kennedy et al., 1999; Kennedy and Rogers, 2002; Grime and Dudley, 2011)
2. A model consultation for primary care that embeds NICE core recommendations
3. Training for general practitioners, practice nurses and allied health professionals to deliver the model consultation
4. The development of quality indicators of long term condition management (Dziedzic et al., 2014)

Summary

Whilst core non-pharmacological approaches are effective in adults with long term conditions, older age individuals are more likely to be offered analgesics than exercise and poly-pharmacy with multimorbidity is an increasing concern. Patients prefer non pharmacological approaches and support for self-management over analgesia but general practitioners and practice nurses feel uncertain about and lack confidence in giving such interventions. There is also evidence that patients don’t receive treatments with proven clinical and cost effectiveness despite being recommended by NICE guidelines. New models of care including integrated care and support for self-management have the potential for reducing the impact of long term conditions for the individual, for primary care and for the wider community.

References


Research that explores sexual relations, health and wellbeing, in the context of a coupled relationship is important as sexual gerontology often struggles to deal with the issues of how male and female partners interact in a partnership.

The literature around sexual intimacy suggests that sexuality might not be important in later life and as such the focus of research has been on biological factors or medical management of changes that impact on the ability of a couple to engage in penetrative sexual activities (DeLamater and Sill, 2005). This narrow focus fails to take account the social and cultural influences that may impact on the sexual activities and relationships of an older couple (Galinsky and Waite, 2014).

Against this backdrop the latest phase of English Longitudinal Study of Ageing (ELSA) included a new set of questions about sexual relations and sexual activities. Men and women (n=7079), primarily in a coupled relationship, were asked to answer a series of questions about their attitudes to sexual relationships and their own sexual activities. The questions were aimed to gain insights into the ways in which sexual relations and activities related to their health, well-being and other aspects of their lives. The survey was also designed to explore whether, and how, sexual relations and activities change as people grow older. The primary mode of data collection was a tick box response to a series of questions. At the end of the questionnaire an open comment box was provided, which asked respondents whether there was anything else that they would like to say. Over 1000 respondents provided additional information and these comments created a unique qualitative data set.
Analysis of the quantitative data identified that more than half (54%) of men and almost a third (31%) of women over the age of 70 reported they were still sexually active, with a third of these men and women having frequent sexual intercourse – meaning at least twice a month. The data also showed that chronic health conditions and poor self-rated health seemed to have more obvious negative impacts on the sexual health of men compared to women (Lee et al., 2015). Furthermore, the data also identified how long-term health conditions such as cardiovascular disease, Chronic Obstructive Pulmonary Disease (COPD), diabetes, and prescribed medications negatively impact on people’s sexual relations and activities in later life. It was also found that older people do not always feel able to raise issues associated with sexual health and wellbeing with health care professionals.

This study has shown that a greater understanding of the impact of physical health on sexual relations is important. Also, of equal importance, are the development of mechanisms and opportunities to encourage health professionals to discuss issues of sexual wellbeing and health with older people.

References


Older people who regularly use the internet may have a better access, understanding, and use of information to maintain their health

Regular internet use in older people has been associated with good health literacy, a term used to describe an individual’s ability to gain access to, understand and use information in ways which promote and maintain good health.

A study involving 4,400 adults aged 52 and over, recruited from the on-going English Longitudinal Study of Ageing (ELSA), found those who regularly used the internet were less likely to experience a drop in health literacy as they got older. Carried out by researchers from University College London and published in the Journal of Epidemiology and Community Health, the study aimed to assess whether regularly reading newspapers, using the internet, and being active socially could protect against an age-related reduction in health literacy skills. This was measured using a reading comprehension test of a fake medicine label at the start of the study compared with seven years later. The researchers concluded that, “Internet use and cultural engagement, including attending the cinema, art galleries, museums, or the theatre, appear to help older adults to maintain health literacy skills during ageing regardless of cognitive functioning.”

To find out more about this study please visit http://jech.bmj.com/

Age UK encourage older people to keep warm during the coldest months

The number of excess deaths during the coldest months last winter decreased by 42 per cent to the lowest level on record, but Age UK urges people not to be complacent. The Office for National Statistics figures show that there were still an excess of 18,200 winter deaths last year from cold-related illness such as heart attacks and strokes.

Caroline Abrahams, Charity Director at Age UK, said “Fewer older people died last year compared to recent years, but the winter was exceptionally mild; we must not be complacent about cold homes which cause so many deaths among older people.”

The Office for National Statistics reported that the predominant strain of flu last winter was one more likely to affect younger people than the elderly and could have helped mute the annual spike in deaths, in combination with mild temperatures.

Through its ‘Spread the Warmth’ campaign, Age UK aim to help older people keep warm this winter.

Commenting on the current cold spell, Caroline Abrahams said “The cold weather can be particularly dangerous for older people who are more at risk of suffering health problems when the temperature drops. During this current cold snap we are urging all older people to keep warm and take basic precautions to protect their health – for example sleeping with the windows closed at night to lower the risk of heart attacks and strokes caused by raised blood pressure brought on by the cold.”

Overall, there were 18,200 more deaths recorded in England and Wales between the months of December 2013 and March 2014 than in the spring, summer and autumn months. A year earlier there were 31,280 extra deaths in the winter months.

Although the overall number of excess deaths has gone down from the previous winter, the vast majority of these deaths were among older people, with a deeply troubling 15,900 in the over-65 age group. Over the last ten years a staggering quarter of a million older people have died from the cold: 1 older person every 7 minutes.

To find out more please visit www.spreadthewarmth.org.uk
Chronic loneliness threatens health of 1 in 10 older people

Around a million, or 10 per cent of older people are termed ‘chronically lonely’ at any given time in the UK, seriously increasing their risk of suffering mental and physical illness, according to a new report from Age UK and The Campaign to End Loneliness.

The two organisations are warning that this number is set to rise by 50 per cent by 2028 as our ageing population increases. The report, Promising approaches to reducing loneliness and isolation in later life, raises concerns that the issue is becoming a major public health challenge. Not only does the issue have implications for people’s mental health, recent research shows it can be as harmful as smoking 15 cigarettes a day and increases the risk of conditions including dementia, high blood pressure and depression which in turn can lead to greater reliance on health and social care services.

The report highlights that despite growing recognition of the need to take action there is a knowledge gap among funders and commissioners within local authorities on what really works in addressing loneliness. The report sets out a new framework for understanding how to tackle the problem, presenting a range of projects and examples from around the country demonstrating the many, varied solutions needed for an effective response to a very personal problem.

The report identifies, for example, that technology and access to transport are two vital components to keep older people socially connected and bring communities together. Yet worryingly, Age UK evidence shows older people in rural areas are finding it increasingly difficult to access public transport due to cuts to bus services and are unable to afford taxis. In addition, while progress has been made helping older people online, almost 5 million people aged 65 plus had never used the Internet in 2014.

Laura Alcock-Ferguson, Director of the Campaign to End Loneliness, said “Although facing tough budget choices, local authorities want to know what can be done to tackle loneliness. We are offering this framework to the 51% who have promised to tackle this issue in their health and wellbeing board strategies – with this they can put into place a comprehensive network of community services to prevent and alleviate isolation and loneliness.”

To find out more please visit www.campaigntoendloneliness.org

Upcoming Events...

Social Care 2015: Better Guidance, Better Care 17th February 2015
Aimed at senior health and social care professionals to address the various national policies, funding frameworks and minimum standards under development and already published as part of the Better Care Fund. www.better-care社会效益reform.co.uk

World Glaucoma Week 8th -14th March 2015
World Glaucoma Week (WGW) is a joint global initiative of the World Glaucoma Association (WGA) and the World Glaucoma Patients Association (WGPA), to raise awareness of glaucoma, what it does to sight, and how it might affect you. www.worldglaucoma.org/

Making integrated care a reality 30th – 31st March 2015
A RCN Older People’s Forum and BGS joint conference to celebrate how older people’s experiences of services can be improved through multi professional, multiagency collaboration. Includes, keynote speakers who are UK leaders in older people’s medicine, nursing and social care. www.rcn.org.uk/newsevents/

Elderly Care Conference 2015 - reducing legal risk in an ageing Britain 20th April 2015
This annual event brings together leading experts to discuss and explain common and growing causes of litigation in an elderly care setting, liabilities and legal issues, how to protect yourself, your organisation and your service users and the future of funding and integration. www.kingsfund.org.uk/events
Long-term conditions and mental health: Why we need a better response to co-morbidity

Chris Naylor is a Senior Fellow in Health Policy at The King’s Fund, an independent charity working to improve health and health care in England. He conducts research and policy analysis on a range of topics, including integrated care, health system reform, community involvement and mental health.

Living with a long-term condition can exert a heavy toll on a person’s health and wellbeing, particularly for those who receive limited support from carers or family members. For many older people, daily life involves managing not one but multiple conditions. Among the most common and pernicious forms of co-morbidity is the presence of mental health problems alongside physical disease.

People with long-term conditions are two to three times more likely to experience mental health problems than the general population. For those living with two or more physical conditions, this rises to a seven-fold increase. Overall, estimates suggest around 30% of people with a long-term condition also have a mental health problem such as depression, anxiety or dementia (Naylor et al., 2012). Added to this are many more who may not have a diagnosable mental health problem, but who struggle nonetheless with the psychological aspects of physical disease.

The effect of these co-morbid problems on the prognosis and outcomes experienced by people with long-term conditions is striking. Mental health problems can complicate people’s physical health conditions significantly, resulting in them spending more time in hospital, experiencing poorer clinical outcomes and lower quality of life, and requiring more intensive support from services. The research evidence on this is extensive, for example:

- People with diabetes and co-morbid depression have a 37 per cent increased risk of all-cause mortality over a two-year period (Katon et al., 2004)
- Mortality rates from respiratory disease are three times higher among people with schizophrenia (Saha et al., 2007)
- Cardiovascular patients with depression experience 50 per cent more acute exacerbations per year (Whooley et al., 2008)

There is also a significant impact on service costs. By interacting with and exacerbating physical health problems, mental health problems raise per patient medical costs by between 45 and 75% (after controlling for severity of physical disease). This effect is seen across a wide range of very different conditions, including diabetes, heart disease, arthritis and respiratory conditions. Based on these numbers, it was calculated that between 12 and 18% of all expenditure on long-term conditions is linked to poor mental health – at least £8 billion across the NHS in England (Naylor et al., 2012). It is important to stress that these are the indirect costs of poor mental health exacerbating physical illness, rather than any direct mental health treatment costs, which would be additional to this.

One of the most significant reasons for the close interaction between mental health and long-term conditions is that mental health problems can significantly reduce people’s ability and motivation to manage their condition, and are associated with poorer adherence to treatment plans and increased rates of unhealthy behaviours such as smoking. There is also evidence that poor mental health - for example, chronic stress - can have a direct impact on the cardiovascular, nervous and immune systems, leading to increased susceptibility to a range of diseases (Contrada and Baum, 2010).
The impact of poor mental health on patient outcomes and service costs is made stronger still by harsh socio-economic conditions. For people with multiple long-term conditions living in socially deprived areas, co-morbid mental health problems are the rule rather than the exception, affecting over 50 per cent of patients (Barnett et al., 2012). Supporting the mental health needs of people with long-term conditions should therefore be a particularly important concern in less affluent areas.

Despite the strength of the interaction between mental and physical health, services in the UK and many other countries are not currently organised in a way which supports an integrated response to the multiple needs that patients often present with. A separation of mental and physical health is hard-wired into institutional arrangements, payment systems and professional training curricula. As a result, mental health problems commonly go undetected among people with long-term conditions, and where problems are detected the support provided is often not effectively linked or co-ordinated with care provided for physical problems.

**How can this situation be improved?**

There is growing evidence that supporting the psychological and mental health needs of people with long-term conditions more effectively can lead to improvements in both mental and physical health, and can also reduce the excess costs associated with co-morbidity. There are at least three levels at which opportunities exist.

First, the interface between mental health and primary care is a critical part of the answer. International evidence suggests that developing closer working arrangements between primary care and mental health specialists can lead to financial and quality benefits. For example, a mental health integration programme developed by Intermountain Healthcare in the USA led to substantial reductions in inpatient and emergency department expenditure (Reiss-Brennan et al., 2010). Key elements of the approach include integrating mental health specialists within primary care teams; using shared electronic medical records; screening for mental health problems among high-risk groups; and making maximum use of extended community resources and peer support.

Second, there is evidence that integrating psychological interventions such as cognitive behavioural therapy into disease management programmes for long-term conditions can improve outcomes for both mental health and physical conditions (Fenton and Stover, 2006; Yohannes et al., 2010), and in doing so can potentially reduce costs (Howard et al., 2010; Moore et al., 2007).

Third, liaison psychiatry services also have an important role to play. The Rapid Assessment Interface and Discharge (RAID) service in Birmingham demonstrates the economic as well as clinical case for investing in improved psychiatric liaison. By facilitating earlier discharge and reducing re-admission rates, the RAID service has delivered savings which exceed the costs of the service by a factor of at least four to one (Parsonage and Fossey, 2011). A critical function performed by the service appears to be the role it plays in training acute hospital staff in mental health skills and spreading psychological literacy across the workforce, in addition to assessing and treating patients directly.

Integrated care has become a rallying call for change in the NHS, and it is important that this includes coordinating mental and physical health care more effectively. The new models of care being introduced in the wake of the NHS Five Year Forward View represent a significant opportunity to improve the way the system supports people with long-term conditions. However, this will be an opportunity missed unless mental health is a central part of these integrated models of care.

**References**


Self-management and self-monitoring of long term conditions

As the burden of long-term conditions increases globally alternative types of management are required. A number of Cochrane reviews investigate the effect of self-management or self-monitoring for people with long term conditions such as people on oral anticoagulation, type 2 diabetes, osteoarthritis, respiratory conditions, and epilepsy.

Approaches to self-monitoring e.g. blood tests and self-management e.g. education, group based training, education led by lay leaders, written action plans, specialist nurses, and the use of computers and mobile phones can differ according to condition. They are also used in different places such as hospital clinics, the wider community and the home.

Oral anticoagulation

Patients who self-test can either adjust their medication dose according to a pre-determined dose-INR schedule (self-management) or they can call a clinic to be told the appropriate dose adjustment (self-monitoring). Results from 18 studies including 4723 people showed that both methods can lead to fewer thromboembolic events (blood clots) and lower mortality, without a reduction in the number of major bleeds. However self-monitoring and self-management are not feasible for all patients.

Type 2 diabetes mellitus

Results of 12 studies involving 3259 people with type 2 diabetes mellitus who are not using insulin showed that self-monitoring of blood glucose has a minimal effect in improving glucose control at six months, which disappears after 12 months follow-up. The clinical benefit is limited and the cost of self-monitoring is high (almost double) compared with usual care.

Better use of computers might be one way of helping more people learn about self-management. The results of 16 studies involving 3578 adults showed that existing computer programmes to help adults self-manage type 2 diabetes appear to have a small positive effect on blood sugar control and mobile phone interventions appeared to have larger effects. There is no evidence to show that current programmes can help with weight loss, depression or improving health-related quality of life but they do appear to be safe.

Adults with type 2 diabetes who have participated in group-based training programmes show improved diabetes control (fasting blood glucose and glycated haemoglobin) and knowledge of diabetes in the short (four to six months) and longer-term (12 to 14 months) whilst also having a reduced need for diabetes medication. There is also some evidence that group-based education programmes may reduce blood pressure and body weight, and increase self-empowerment, quality of life, self-management skills and treatment satisfaction. These results are based on 11 studies involving 1532 people and showed that for every five patients attending a group-based education programme one patient could be expected to reduce diabetes medication.

Osteoarthritis

Self-management education programmes may slightly improve self-management skills, pain and function but may not improve active and positive engagement in life, osteoarthritis symptoms, quality of life and dropout rates compared with usual care. Furthermore self-management education programmes probably do not improve outcomes compared with provision of information alone or compared with other interventions (exercise, physiotherapy, social support or acupuncture).

Long-term illnesses

Mobile phone applications such as Short Message Service (SMS) (also known as text messaging) and Multimedia Message Service (MMS) can support people to better manage their long-term illnesses by sending medication reminders and supportive messages, or by offering a way for people to communicate important information to their healthcare providers and receive feedback. The results of four studies involving 182 people provided moderate evidence that under some
conditions these types of applications may have some positive impact on the health status of patients with diabetes, hypertension and asthma, and on their ability to manage their own condition, although for some outcomes no significant effect was observed.

Self-management education programmes led by lay leaders (rather than health professionals such as doctors or nurses) are becoming more common as a way of trying to promote self care for people with chronic conditions. The results from 17 studies involving 7442 people with chronic conditions including arthritis, diabetes, hypertension and chronic pain showed that these programmes may lead to modest, short-term improvements in patients’ confidence to manage their condition and perceptions of their own health. They also increased how often people took aerobic exercise. Whilst there were small improvements in pain, disability, fatigue and depression, the improvements were not clinically important. The programmes did not improve quality of life, alter the number of times patients visited their doctor or reduce the amount of time spent in hospital. No adverse events were reported in any of the studies.

Respiratory conditions

Self management training improved health-related quality of life in patients with chronic obstructive pulmonary disease (COPD) compared with usual care. Also, the number of patients with at least one hospital admission related to lung disease and other causes was reduced among those who participated in a self management intervention. These patients also experienced less shortness of breath. These results are based on 29 studies involving 3189 people.

Guidelines for the treatment of asthma recommend that patients be educated about their condition, obtain regular medical review, monitor their condition at home with either peak flow or recorded symptoms and use a written action plan. The results of six studies showed that self-adjustment of medications according to a written action plan gave a similar improvement in health outcomes to adjustment of medications by a doctor. Either symptom diaries or peak expiratory flow monitoring may be used for monitoring asthma and reducing the intensity of the education appears to dilute the effect.

The results of studies comparing asthma self-management education to usual care showed that asthma sufferers who were educated about their asthma, visited the doctor regularly and who used a written action plan had fewer visits to the emergency room; less hospital admissions; better lung function; improvement in peak expiratory flow; fewer symptoms; and used less rescue medication.

Only two studies with a total of 408 participants evaluated the effect of a mobile phone-based asthma self-management intervention on asthma control by comparing it to traditional, paper-based asthma self management. One study showed that the use of a smartphone app can result in better asthma-related quality of life and lung function, and reduced visits to the emergency department. The other study failed to show any significant improvements in asthma-related outcomes after using a smartphone app as a delivery mechanism.

Epilepsy

There were 13 studies looking at the effectiveness of a range of interventions, including specialist nurses and management strategies, in improving outcomes for adults with epilepsy. Seven types of interventions were identified, with varying amounts of evidence available. While there was some evidence of benefit from specialist epilepsy nurses and self-management education, other intervention types lacked evidence of effectiveness. Based on the literature, it is not possible to advocate any specific intervention type in the care of adults with epilepsy.

References


2014 Bionow Innovative Ageing Award Winner

HMA Digital Marketing and the Centre for Assistive Technology and Connected Healthcare (CATCH) at the University of Sheffield

Suite of mobile apps for the elderly to promote self-care, independence and healthy living

Ceri Batchelder is Business Development Director at HMA Digital Marketing, a Yorkshire-based creative and digital agency. Ceri’s focus is to develop HMA’s science and healthcare activities, both in digital marketing services and digital healthcare, through collaboration and innovation. Trained as a PhD bioscientist and having worked as a postdoc in the UK and US, Ceri has used her science background in a number of commercial roles before joining HMA: at the University of Manchester knowledge transfer company and in business development positions at biotechnology firm Epistem Ltd and global medical technology company Smith & Nephew PLC. Ceri holds an MBA from Manchester Business School.

Peter Cudd is a senior researcher at the Centre for Assistive Technology and Connected Healthcare, University of Sheffield. Originally graduating in computer science and doing a PhD in electrical engineering he has migrated to health services research and development around use of digital technology in health and social care contexts. He specialises in assistive technologies for people with complex disabilities and the elderly, especially across dementia, mobile health and innovation – doing academic research and industrial collaborative research with user involvement. He is on the board of the Association for the Advancement of Assistive Technology in Europe.
Human Technology
The University of Sheffield and HMA Digital Marketing, a Barnsley-based creative and digital agency, have formed a special collaborative partnership to develop mobile healthcare solutions for vulnerable people. This includes people who may have failing memory or other conditions such as visual impairment or hearing loss, where quality of life is very dependent on receipt of care and support from others. Through the expertise within the University’s Centre for Assistive Technology and Connected Healthcare (CATCH), all projects are centred around the needs of the user and people involved in their care. Members of the public and patients are consulted in all the Centre’s work, some becoming part of the team.

There are five key elements to the vision of the Centre designed to improve quality of self-care and professional care for vulnerable people:

- Promote the confidence of the user, and reduce any stigma associated with having a particular condition.
- Provide support in gaining more sustainable access and high quality, expert online services.
- Tailor support and services through personalised digital solutions.
- Reflect that life includes a combination of health care, social care and leisure/social activities (and is not divided into silos).
- Ensure that solutions are affordable.

To achieve the vision the centre is developing a tailored suite of internet services that are friendly and very straightforward to use from portable digital technologies (i.e. smart phones and tablets). The number, content and control of the services can be customised to ensure they are in proportion to the individual’s needs and capabilities. Reducing complexity avoids the situation with current mass market technologies that are appropriate for the majority but exclude those who struggle to, or cannot, use them. It is forecast that there are likely to be many people in this situation, e.g. people with Alzheimer’s, Parkinson’s, hearing loss and sight loss - or indeed anyone with a long-term condition who might panic when having a sudden adverse health episode.

...continued on next page
If a person is diagnosed with dementia or another condition, they can find that they are suddenly ‘labelled’ as such, and it can be this categorisation as much as anything that can knock confidence and affect independence. As a result, the centre chooses hardware that looks and feels like other devices on the market that everyone is using.

Through the flexibility and adaptability of user interfaces, access is individually tailored to support and services so that successful use is maintained for as long as possible. Whether users are at home or outdoors, the intent is to improve their ability to live independently, reducing the impact of their dependency on others.

Underpinning activity is a strong focus on affordability, largely driven by the globally expressed need to have cost-effective health and social care services that maintain citizens’ health, wellbeing and independent living. Affordability is essential because the numbers needing daily life support are set to increase significantly in each of the coming decades and there will not be enough people to deliver care in the way it is now. If vulnerable people can care for themselves more, it means there should be less frequent need for low level help, thereby reducing overall costs. As a result, when people do need a greater level of support, more professional time and resources can be directed to delivering an improved quality of care.

The mobile healthcare market is growing rapidly and can be challenging to enter, as well as to succeed in. To help manage this, partnerships with charitable organisations that have connections with user groups, and healthcare companies with the necessary commercial infrastructure and global reach to bring a product to market are sought proactively. Through collaborating over several years, CATCH and HMA have formed an integrated research and development partnership which provides a solid basis for digital healthcare projects. For HMA, this relationship has allowed a digital agency (that typically provides online marketing services) to apply its technical and creative capability to developing its own products and services for elderly and vulnerable people. It brings a new dimension to the team’s activities and one that they are very keen to continue.

The most recent influential project is a collaborative partnership with Tunstall Healthcare, a leader in telehealthcare solutions. The project is funded by the Creative England NHS Digital Fund, HMA and Tunstall, with the purpose of creating a mobile assistive device for vulnerable people to support self-care and independent living.

CATCH and HMA welcome discussion and collaboration globally, in the endeavour to make their vision a reality.

www.catch.org.uk
www.hma.co.uk

The initial article, commissioned by the Wellcome Trust, was first published in October 2014 (Holden et al., 2014). It was updated in January 2015 with news of the Bionow awards and adapted slightly for publication in this issue of Innov-age.

References:
What is your current position and what was your career path that took you there?

I’m currently an Arthritis Research UK Professor of Musculoskeletal Therapies but I started out as a physiotherapist in the NHS having trained at Manchester Royal Infirmary. I specialised in hand therapy and then rheumatology before becoming a research physiotherapist in Stoke on Trent when I started my part-time PhD at Keele University. To further my research career in primary care I left the NHS and secured a number of grants and Fellowships to support my work in Primary Care Sciences at Keele. I’m currently a NICE Fellow and I have recently increased my engagement with the NHS via the Academic Health Sciences Network – West Midlands, to help primary care practitioners and patients take the findings from our research and implement them into everyday practice.

What challenges do you face in your current position and which has been the greatest one?

My current challenge is balancing my time between important but competing deadlines whilst still having the resources to support colleagues and step up to the plate for new challenges. My greatest challenge was also my greatest opportunity when I joined the National Institute for Health Research Leaders’ initiative as a Learning Set on the National Institute for Health Research Leaders’ alumni at Ashridge. Working as part of a Learning Set really stretched my vision and capabilities.

In your opinion, what are the top 3 issues affecting the care of older people?

The overall increase in the age of the population; the general lack of integrated, holistic care and support for self-management; and the gap between routine care and best care for example recommended by NICE guidelines.

What changes in elderly care do you anticipate in the next few years?

The NICE annual conference 2014 suggested that older adults presenting to primary care will find more services supporting self-management nested within community and social care. Patient and public involvement in the delivery of health care will receive greater prominence and Health Care Professionals will be more confident in consultations with patients with long term conditions such as osteoarthritis.

If you hadn’t become a researcher, what might you have done?

I would have continued as a clinical physiotherapist.

What experience has influenced your career the most?

My Learning Set on the National Institute for Health Research Leaders’ initiative was career-changing. It helped me focus on what was important to me, what values I hold dear in my work and what should drive my research and implementation endeavours. I’m pleased to say that my colleagues have encouraged and embraced my new direction with enthusiasm.

What advice would you give to someone contemplating following in your footsteps?

As you advance your career in the NHS or academia remember that both junior and senior colleagues of today may have the strongest influence on your work of tomorrow. Be nice to them!

Where do you go for advice and information?

Google.

Who would you most like to work with?

I’m very fortunate to work with extremely talented people so I normally try and persuade people to join us! I would have to say that Professor Jackie Oldham and Professor Ruth Boaden from Manchester would be on my wish list. They’re both extremely talented leaders and fun to be around.

What do you enjoy doing when you are not working?

Swimming, walking, researching family history, drives in the Peak District and viewing art.

What do you do in a typical working day?

Study and implementation design, grant applications, writing for publications, reviews of PhDs and journal manuscripts, mentoring, meetings, patient and public involvement, knowledge mobilisation activities, email.

If you were stranded on a desert island what would be your one luxury?

A painting by Mark Elsmore.
In our next quarterly issue of Innov-age we will be looking at Exercise and Older People, including maintaining quality of life and rehabilitation. The team will be looking at the impact this can have on the health of the ageing population; considering how to overcome the challenges that some may face who have long term or age related conditions; what opportunities are available to help; and other important eldercare issues...

To subscribe for free or comment on any of our features please email the team at info@innov-age.org and visit our website www.innov-age.org for more information.