Pharmaceutical overload may be putting lives at risk

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Tablet 'overload' may be causing harm. Credit: Aston University

Uncertainty and confusion over medicine use is affecting thousands of patients and their carers and, potentially, putting lives at risk, warn researchers.

Research suggests that about 5,700 people die every year in the UK because of 'medication related adverse events', which includes side-effects and when incorrect medicines, dosages or strengths are administered. The cost of these events is estimated at £750 million, with a further £300 million bill for wasted medicines which aren't taken. Internationally, medication related problems are believed to be the fifth most common cause of death in the USA.

According to researchers at Aston University, the problem is particularly pronounced among older people taking many different medicines. Older people, particularly older people with dementia, often rely on family members or other carers to manage their medication, and these carers often have their own medication to manage as well.

A team led by Dr Ian Maidment at Aston University is undertaking a ground-breaking 20-month study into the problem, with funding from the National Institute for Health Research (NIHR). The Aston project is titled MEMORABLE – Medication Management in Older People: Realist Approaches Based on Literature and Evaluation.

As well as reviewing the scientific evidence, the team will interview older people and carers, and health and care practitioners to learn from their experiences. The work will take place predominantly in the West Midlands, where the population is broadly representative of the UK as a whole.

Dr Maidment said: "With an ageing population, this problem is very likely to get worse. More people will require medication for long term conditions and the responsibility for helping those patients manage their drugs will frequently fall on older carers, who will often have their own medications to deal with as well.

"I worked as a pharmacist for 25 years and it's my belief that we do not

have a system for handling complex medicine regimes well. When a patient is being prescribed several drugs – it's known as polypharmacy – there are many risks.

"The patient themselves may make mistakes, taking the wrong pill or dosage. And where responsibility for looking after medication moves to a family carer, they may find this role a burden. We need to find a way to make this safer and easier, based on what we can learn from the experiences of patients, carers and practitioners, and from good evidence of what works well. That's what makes this study novel."

Some carers can find themselves in an impossible position. One such carer is Graham Price, from Birmingham, who was left to treat his 65-year-old wife Maureen with 11 different medications – even though he is blind.

Graham, 77, said: "Imagine a blind person left to medicate a vulnerable person with 11 medications each day, at variable frequencies, one of which was given five times a day. What sort of care is that?

"I fumbled to find the mouth of my loved one and then wasn't sure if the pill or liquid medication had been swallowed; it was a distressing experience five times daily for both of us.

"A friend suggested I request a seven-day monitoring tray of medications from the chemist, as they were understandably worried I could make an error taking pills from an array of individual boxes. Unable to remind myself of their contents, their use certainly required reliance on a good memory.

"But the segmented monitoring medication trays posed their own difficulties. Each covered segment held the appropriate medication for specific times. With variable frequencies of use, it was imperative the

covering film was removed from the correct segment – alertness isn't always at 100 per cent and there was an ever-present risk of a mistake.

"When the absurdity of this situation was raised with clinicians they understood the difficulty but appeared powerless or unwilling to act and affect change. Surely they have a voice and should use it when the operational process is plainly wrong?

"In November 2011, after four-and-a-half years of coping with the madness of medicating Maureen, and with the health of both of us deteriorating, I refused to medicate my loved one. This caused mayhem, with already hard-pressed community nurses required to take on this role.

"Exhausted and feeling suicidal after four years of unrelenting 24/7 care for Maureen, I rang the clinicians and said: 'If you don't get help out here, you'll have two rather than one on your case load.' Help from social services arrived immediately after that; why did it take so long?'

"Then the arguments who should pay for this service, health or social care authorities, began. My tenacity prevailed and the NHS accepted their responsibility – but should this fight have been necessary?"

Someone else who has seen the effects of such problems first-hand is Shirley Nurock, 73, whose life was turned upside-down when her GP husband Leonard began to show symptoms of early-onset Alzheimer's Disease in his fifties.

Shirley, from London, said: "Issues around medication management still stand out as being a cause of extra and unnecessary stress.Caring at home, it was difficult to know whether or not prescribed drugs, particularly for agitation, were really necessary and whether or not the dosage was too high.

"Looking after a husband with young-onset dementia, it was hard to keep up with his wandering, to remember to ask him if he had remembered to take his pills, and I am sure some pills were often missed.

"After he was admitted to a nursing home, there were more major and problematic areas. Drugs were prescribed PRN (Pro Re Nata, or as needed) – but who was checking if they were needed? On some days he appeared overdosed on particular medication and slept for 20 hours, which was deeply unsettling; on other occasions, it appeared that medication was being under-supplied, with other upsetting consequences.

"He was on so many medications, all for relatively minor conditions, but cumulatively they were causing multiple side-effects. I rarely saw a pharmacist going through the residents' medication lists and even more rarely saw the GP, but all these things could have been picked up if a community pharmacist had regularly checked these things."

GPs also have concerns about the issue. Dr Geoff Wong, of the Nuffield Department of Primary Care Health Sciences at the University of Oxford, also works as a GP in Swiss Cottage, North London.

He said: "Along with many of my fellow NHS GPs, I find many older patients have complex medication regimes. I get a lot of guidelines on the conditions they have but fewer, if any, that target the issue of how to help them manage their complex medication regimes.

"Instead, I often have to draw on clinical experience to help me manage complex medication regimes.

"What's needed is a better understanding of the challenges that older people with complex medication regimes face. Only then will be it be

possible to work out who needs what kind of help, when, how and why with their complex medication regime. That is what I hope this project will do."

Jo Rycroft-Malone is Programme Director for the NIHR Health Services and Delivery Research Programme, which is funding the research.

She said: "We felt this study, focusing on the needs of older people managing complex medication regimes, addressed an important issue in health service provision.

"This research will gather information from the people with first-hand experience of medication management and provision – carers, patients and medical professionals – in the hope of providing evidence that can inform future practice. The NIHR prides itself on funding studies that address priorities for patients and the NHS.

"This study is also a good example of how our organisation, researchers, medical professionals and patients and the public have a combined role to play in the future of health services and research."

A third of people aged 75 or over regularly take six or more medicines and it is predicted that up to three million people will be regularly taking multiple medicines within the next year.

Polypharmacy can happen when patients move between care providers, or when the side effects of one drug are treated as if they are a new medical condition, rather than a side-effect.

More information: Developing a framework for a novel multi-disciplinary, multi-agency intervention(s), to improve medication management in older people on complex medication regimens resident in the community. www.journalslibrary.nihr.ac.uk …

Ian D. Maidment et al. A qualitative study exploring medication management in people with dementia living in the community and the potential role of the community pharmacist, *Health Expectations* (2017). DOI: 10.1111/hex.12534