

How to navigate ethical dilemmas

Addressing whistleblowing concerns

Why we need to address the postcode lottery of wound care in the UK

Pressure-redistributing equipment — an overview

Chronic cough in adults: diagnosing and resolving the problem

Skin integrity needs of older adults in care homes: prevalence audit

Challenges of pressure ulcer prevention in the community setting

Faecal incontinence — a forgotten symptom

Recurrent lower urinary tract infection in older women

Non-modifiable and modifiable risk factors for dementia:
role of the community nurse

Palliative care of the elderly patient at home

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References: 1. Comparison of the skin hydration of Doublebase Once emollient with Epaderm Ointment in a 24-hour, single application study, in subjects with dry skin. Extract report summarising skin hydration results for wiped off sites. Data on file. Dermal Laboratories Ltd, Hitchin, UK. Epaderm® Ointment is a registered trademark of Mölnlycke Health Care. 2. Antonijević MD & Karajić J. Ointments or a gel emollient? Randomised and blinded comparison of the hydration effect on *ex-vivo* human skin. Data presented at the 17th European Academy of Dermatology and Venereology (EADV) Symposium, May 2022, Ljubljana, Slovenia.

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Effectively coping with ethical challenges



I can still remember when I started my nurse training and attended my very first lecture introducing ethics into my nursing curriculum. I clearly recollect my concerns in relation to the enormity of the subject and wondered how I was going to relate the ethical principles to my daily practice. Years later, I often reflect on situations and feel that my own moral principles and my need to respect others and their wishes has really supported my decisions. This, alongside the guidance I have received from other professionals, has supported the many

ethical dilemmas I have encountered. Please do make time to read our 'community matters' piece relating to ethics (pp. 8–10). It contains a great deal of relevant information and includes examples of commonly encountered ethical dilemmas, along with suggestions on how to navigate them.

With wound care being such a part of community nursing caseloads, it's heartening to read about the work being undertaken by Ellie Lindsay OBE at policy level to raise its profile on the health agenda and reduce the disparities and postcode lottery so that everyone with lower limb disease has access to the wound care they deserve (pp. 14, 16).

As always, this issue aims to cover a breadth of areas to reflect the diversity of day-to-day practice in the community and help you deliver high quality care and advice to patients of all ages throughout their life course. For example, Samantha Bridgwood provides an insightful look at the pivotal role community nurses play in palliative care, a specialised area of health care which involves physical, emotional and psychosocial support both to the individual and their families to help them experience calm, comfort and peace during this challenging time, while also ensuring that their preferences and wishes are met (pp. 60–63). Caring for those with dementia is another aspect of community nursing, especially with numbers set to rise, so I was interested to read Karen Harrison Denning's article on risk factors for developing dementia, and the opportunity that community nurses have to promote brain health and dementia prevention throughout a person's life course (pp. 53–59). Monitoring and safeguarding the health of children is another key area for community nurses and promoting vaccination uptake, including for measles, is crucial. Our 'comment' feature on measles vaccination explores why at every opportunity we should promote vaccination uptake to prevent the spread of this contagious disease (pp. 64–66).

I hope that you enjoy reading this issue as much as I have and please do write in with ideas for topics you would like to see covered.

Annette Bades, editor-in-chief, JCN

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I am a district nurse, nurse teacher in practice, associate lecturer and Queen's Nurse who believes that excellent community nursing is vital and that community nurses should be more visible. Care should be available to everyone who wishes to remain at home. I have an interest in dementia, end-of-life care and teaching in practice to support newly qualified nurses. I am very pleased to be a part of the JCN editorial board, an accessible journal for all community nurses to inform their practice and strive for excellent care.
Gail Goddard

I am a district nurse and an academic with a passion for end-of-life care, older people and nurse education. I believe that care at home gives people the best opportunity to remain in control of their own health and wellbeing. It is a privilege to be a guest in a person's house and to help them achieve their goals. It is also a privilege to train nurses of the future to adopt this personalised care approach to really make a difference. I am excited to join the editorial board of the JCN where I can see the hard work that community nurses undertake.
Amanda Young



I am a freelance tissue viability nurse (TVN) and health visitor. My true passions are in pressure area care and moisture-associated skin damage. I sit as a registrant panel member on the NMC Fitness to Practice Hearings, and work with the Institute of Health Visiting (IHV), where I have recently supported the development of a training package on domestic violence and abuse (DVA). I am delighted to be part of the JCN editorial board, where current best practice can be discussed.
Melanie Lumbers

I've been working in district and community nursing for 20 years. My particular passion is for continuity of care in community nursing, which encourages healthy behaviour, builds trusting relationships, can reduce healing times, and makes people feel more positive about their healthcare experience. We have a responsibility to prepare for the future by continuing to develop leadership and clinical skills. The JCN is a great resource for support, education and to share best practice.
Hattie Taylor



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In each issue of the *Journal of Community Nursing*, we investigate a topic affecting our readers. Here, we look at...

How to navigate ethical dilemmas

For most people, workplace ethical dilemmas involve relatively little soul-searching. Should they tell the boss that they used the company credit card to buy her birthday present on expenses? Is it wise to let their line manager know that he ought to invest in some deodorant? And do they really need to tell HR that Darren from accounts tried to kiss them at the Christmas party?

Of course, all of these scenarios might involve some degree of personal embarrassment, not to mention professional risk. However, when it comes to the day-to-day work of community nurses, ethical dilemmas involving patient care can have very real implications, and even result in life-and-death decisions.

Here, we examine what exactly constitutes an ethical dilemma in community nursing, and what action you might take if you're unlucky enough to be confronted with one.

HOW DO ETHICS APPLY TO NURSING?

In general, ethics represent the moral principles that dictate how an individual conducts themselves and treats others. Ethical principles are essential for healthcare workers whose role is to care for all types of people in all kinds of challenging circumstances. However, personal ethics are particularly relevant in nursing due to nurses' role as direct caregivers ('What is the nursing code of ethics?' — nurse.org).

In the UK, the Nursing and Midwifery Council (NMC) Code does not mention ethics specifically, but it does set out the standards of professionalism and conduct required for nurses to practice, which is based



This article is timely as anecdotally it feels as though many community nurses are facing a higher number of ethical dilemmas since the Covid pandemic. Inadequate staffing and high reliance on temporary staff can leave nurse leaders with challenging decisions about which nurse to allocate to complex, frail and palliative patients. Uncertainty of the skill level of an unknown nurse can lead to difficult decisions forcing choices between individual patients. We trust that individual nurses who claim competence in a particular skill will provide high quality care, but sadly this is not always the case. It is also difficult to provide continuity of care, so deterioration can be missed which detracts from care. Deferring patients due to lack of capacity is also an ethical challenge — who do you choose to defer? What will the impact be on that individual?

As a senior nurse, I often have discussions with newly qualified nurses about their frustration when patients choose to make what they see as an unwise decision about their treatment. This can lead to feelings of inadequacy and failure, as the nurse has not managed to persuade the patient to a course of treatment despite their best efforts based on evidence. The impact on the individual nurse can be difficult to process and come to terms with, and can have a lasting effect on their practice.

Every decision we make must be underpinned by ethical principles, professional standards, and the NMC Code, but it is not easy and at times causes heartache and distress. Nurses must be encouraged to seek supervision, advice and support in trying to cope with these challenging dilemmas, and I hope that the required support and expertise is available to assist when they do.

Gail Goddard

Mobile district nurse team manager, Hounslow and Richmond Community Healthcare; associate lecturer, Bucks New University

on four themes — prioritise people, practise effectively, preserve safety and promote professionalism and trust ('The Code' — www.nmc.org.uk).

Underpinning these professional standards are commonly held ethical

principles. For community nurses, understanding these principles will help them come to better clinical decisions, navigate any ethical dilemmas with patients and colleagues, and most important of all, stay out of trouble.



Being presented with ethical issues when practicing in the community can often feel a very dark, frightening, and grey area to nurses and clinical colleagues. However, ethical dilemmas will continue in this increasingly complex and demanding arena and can cover a wide number of factors in practice.

At times this will include the dilemma of community nurses wishing to deliver the best quality care to all their patients/service users, but also needing to consider the impact that this may well have on other patients/service users, carers, themselves, colleagues and their team, other professional organisations, as well as financial implications.

The consumer voice is becoming louder and stronger, quite rightly so, but this is at a time when there are resource implications, including human costs such as the staffing crisis, and financial impacts, including the increasing cost of products. Expectations of service users and their families, and also the clinician's themselves, have increased due to technological developments, better quality of care and increased life expectancy — but this, by its very nature, impacts on resources and can be a source of tension.

However, there are a number of support strategies which can be explored by community practitioners to assist them when considering and facing areas of concern. These are two-fold and may incorporate the written and human side.

The written side includes a wide variety of supporting strategies such as best practice principles, trust or employer policies, procedures and protocols, valuing the essence of personal-centred integrated care, professional values and the NMC Code of Conduct (www.nmc.org.uk).

There is also the side of human support to consider when faced with ethical dilemmas, including the use of multidisciplinary teams (MDTs) to discuss ethical issues around certain patients and service users, and colleagues and team support to discuss such concerns with a view to formulating sensitive, appropriate, transparent, and best practice actions. In some teams and services, there is also the use of supervision sessions with a supportive and knowledgeable supervisor.

The educational arena is also a useful place for students, both pre- and post registration, to tease out and debate the impact of ethical issues in a supportive way with a structured format that encourages discussion and dialogue.

Despite being in a challenging and changing arena, community nurses and teams are particularly well situated to deal with ethical issues due to experience and commitment to quality care and the support services presently in place. Community nurses are also prepared to amend existing services and develop new ones that support the discussion of ethical issues that impact on our patients and service users now, and that community practitioners will also face in the future.

Teresa Burdett
Principal academic, Bournemouth University

The four main healthcare ethical principles that community nurses need to be familiar with are ('Nursing code of ethics, and its ethical principles — an explainer' — nursesgroup.co.uk):

- ▶ Non-maleficence — the principle that healthcare workers should strive to do no harm, or in other words choose actions that inflict the least amount of harm to achieve the desired clinical outcome. The nurse practising non-maleficence should prioritise

the patient's safety at all times, considering their best interests in any care decision

- ▶ Beneficence — requires the nurse to always consider the 'good' of the patient and take actions that benefit them. Beneficence requires that the nurse should act with compassion and attempt to understand the patient's individual value system and wishes
- ▶ Autonomy — this can be understood as the patient's right

to have choices in any decisions regarding their care. For nurses, this involves making sure that patients have the necessary information to make decisions about treatment based on their beliefs and values. Importantly, autonomy applies even if the patient's wishes contradict those of the nurse

- ▶ Justice — this principle dictates that the nurse should apply fairness in any treatment decisions or care. This means applying the

same level of care quality and professionalism to all patients, irrespective of factors such as financial circumstances, social status, gender, race religion or sexual orientation.

WHAT IS AN ETHICAL DILEMMA?

Essentially, an ethical dilemma forces you to choose between being honest and dishonest, or between what you know to be 'right and wrong'. As a community nurse, you might face an ethical dilemma when asked to perform a task that contradicts your moral or religious code. In essence, an ethical dilemma results in a conflict between two courses of action that may both be interpreted as 'correct', but involve a clash of principles or values.

In your day-to-day work, you may be confronted with any number of ethical dilemmas, all of which can test your character, professionalism and ability to put the needs of the patient above your own opinions and values ('Why ethics in nursing matters' - www.nursingworld.org).

Examples of common ethical dilemmas you are likely to come across in your work as a community nurse include ('20 common examples of ethical dilemmas in nursing and how to deal with them' — www.nursingprocess.org):

- ▶ A patient refusing treatment that you believe to be necessary
- ▶ Being asked to perform a nursing task or administering a treatment that contradicts your cultural or religious beliefs
- ▶ When you witness one of your colleagues being incompetent
- ▶ When inadequate staffing means you and your colleagues cannot provide appropriate care
- ▶ Where patients or their relatives have to make life or death treatment decisions.

THERE IS NO RIGHT OR WRONG

A typical ethical dilemma for community nurses recently might have been the case of a parent who refused to have their child vaccinated against Covid-19 even though the child had a preexisting

medical condition such as diabetes. The parent may have insisted that vaccinating their child was a violation of their rights. For the nurse, the dilemma would lie in their knowledge that protecting the health of the community involves vaccination against preventable diseases, but also that the parent has a right to choose which treatment to give their child ('NHS expands Covid vaccinations to the most vulnerable 5 to 11 year olds' — www.england.nhs.uk). In this case, the nurse may have tried to persuade the parent to vaccinate by relying on scientific evidence and emphasising the low risk of side-effects versus the need to protect the community. They might also have cited the need to protect vulnerable adults, such as grandparents or teachers ('The pros and cons of giving Covid vaccines to UK children' — www.guardian.co.uk).

Another thorny ethical dilemma for community nurses might be presented by end-of-life care. A typical scenario might involve a patient with a terminal cancer diagnosis refusing life-prolonging treatment against the medical team's advice and the wishes of their family. In this situation, although the nurse's primary duty is to the patient and their right to choose, the pressure from family and colleagues to recommend treatment can be hard to resist. However, if the patient has mental capacity, their right to refuse treatment must be respected ('Dealing with ethical and moral dilemmas' — www.journals.rcni.com).

Inadequate staffing or resources can also present community nurses with ethical challenges. A busy community nurse working alone and with a large caseload might be forced to choose which patients to attend or have to allocate insufficient time to a number of patients. For example, at the end of a busy shift, does the nurse visit the elderly patient who needs a leg ulcer redressed; or do they allocate that time to attending a patient with diabetes who is anxious about their blood glucose level? While neither patient represents an emergency, both need care and deciding which one to attend poses a difficult decision ('NHS pressures "hindering ethical practice and care by nurses"' — www.nursingtimes.net).

HOW TO NAVIGATE AN ETHICAL DILEMMA

When faced with an ethical dilemma, you may find it useful to fall back on the basic ethical principles of healthcare when making any decision — non-maleficence, beneficence, autonomy and justice. It is also important to remember that the patient's wishes may override your own view of what is 'right or wrong' in any situation. However, if these principles do not help, there are also some key ethical messages that can make your decision clearer, including ('What are the key messages for ethical decision-making?' — www.macmillan.org):

- ▶ If in doubt, the nurse should always make decisions based on the latest evidence-based information
- ▶ Always consider the patient's personal preferences and best interests
- ▶ Open communication, transparency and including patients and their relatives in any decisions should be at the heart of any care or treatment
- ▶ Always try and consider your motives for any treatment decision and whether they represent the patient's best interests, as well as being clear about the consequences of your decision
- ▶ Remember that ethical principles will not provide a clear-cut answer to your ethical dilemma, but can provide a framework to help you clarify and justify your decisions.

Day-to-day community nursing is fraught with dilemmas involving patient care and resource allocation, and it is important to remember that you will not always get every difficult decision right. It is also true that ethical dilemmas in nursing can be more serious than simply deciding which of your least favourite colleagues to put on-call over Christmas and New Year. However, by familiarising yourself with the principles of healthcare ethics and by following the basic tenets of the NMC Code, you should be able to find a solution to most challenges. And, if in doubt, just remember why you went into nursing in the first place — to do what's best for your patients. **JCN**

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2. Guest J (2021) Burden of wounds to the NHS: what has changed since 2012/13? Guest editorial, Wounds UK, Vol 17, No 1

3. Staffing shortfall of almost 250,000 by 2030 is major risk to NHS long-term plan, experts warn | The King's Fund (kingsfund.org.uk)

* Hallas-Hoyes et al. (2021). An advanced self-care delivery model for leg ulcer management: a service evaluation. JWC



Chancelle Blakey, business development manager, Safecall

The NHS has been grappling with concerns surrounding its whistleblowing systems and cultural health. This has been highlighted repeatedly in the press recently with coverage of the Lucy Letby trial, within which there were shown to be multiple failures in internal reporting processes. This demonstrates the need for an independent reporting line for employees across the organisation, such as through Freedom to Speak Up guardians (Chidgey-Clark, 2023). NHS employees should have the opportunity to speak with an entirely impartial party who can process their concern and pass on the information to the appropriate team for further investigation.

Whistleblowers within the NHS have often faced challenges, making them hesitant to report wrongdoing due to fears of retaliation and detrimental treatment. Despite these obstacles, there has been a significant increase in NHS whistleblowers coming forward, highlighting the need for reform in the whistleblowing process (Church, 2023).

In fact, a record 25,000 plus NHS whistleblowers came forward last year. Of these cases, as has been reported by the Freedom to Speak Up Guardians office, the most common reports were of inappropriate behaviours and attitudes (30%), followed by worker safety and wellbeing (27%) and bullying and harassment (22%) (Church, 2023).

Addressing whistleblowing concerns

Reports indicate that NHS employees are lacking confidence in the current speak-up system, with many feeling labelled as troublemakers when they raise concerns (Hall, 2023). This culture not only deters individuals from speaking up, but also hinders the NHS's ability to identify and address wrongdoing, potentially endangering both patients and employees (Paduano, 2023).

In the author's opinion, for optimal trust and confidence in a speak up system, employees must feel that their concerns will be taken seriously and investigated appropriately.

Unfortunately, this recent case is the most extreme example of that not happening, with Dr Stephen Brearey stating that if hospital executives had acted on concerns about nurse Lucy Letby earlier, lives may have been saved (Thomas, 2023).

To address these pressing issues, the author believes that the following steps should be taken to:

- ▶ Improve employee confidence
- ▶ Identify and combat wrongdoing
- ▶ Protect those who come forward to report concerns.

One crucial measure is to review and audit the NHS's whistleblowing policy, processes and operations to understand the reasons for any breakdown of trust. Identifying and holding accountable those responsible for retaliating against whistleblowers is essential to foster a culture of transparency and accountability (Hughes, 2023).

Providing whistleblowing training to both employees and managers is another critical step to

improve the speak-up culture. In the author's opinion, when employees are aware of how to raise concerns, and the legal protections they have under the Public Interest Disclosure Act (PIDA), they are more likely to come forward without fear of retribution. Additionally, providing training to managers on how to receive and handle disclosures appropriately can help deter misconduct. Indeed, the National Guardian's office has developed e-learning programmes both to help people speak up and for managers and leaders 'to listen up and follow up' (Chidgey-Clark, 2023).

However, the current Freedom to Speak Up (FTSU) Guardian scheme, while a positive step towards improving whistleblowing culture, appears to lack confidence among NHS employees with many remaining hesitant to report serious concerns through an internal system due to doubts about confidentiality and impartiality (Freedom to Speak Up Guardian Survey, 2023: 6). One worker told the FTSU Guardians, 'The Guardian was excellent, but nothing has been resolved'. The Guardians themselves have said that managers need to be trained about their obligations once they receive a report (Freedom to Speak Up Guardian Survey, 2023: 4). That said, last year a record number of cases were raised with guardians and they are also not the only speaking up route in NHS organisations.

To build trust, the NHS can consider offering an alternative means of disclosure, such as a dedicated, outsourced whistleblowing hotline provider, to ensure anonymity and independence in the reporting process. Employees might be more

confident speaking to, and reporting through, a third party.

In the author's opinion, it is vital that the investigation procedure is handled in a fair and balanced fashion, and not conducted to undermine the whistleblowers' concerns. To instil confidence in the reporting process, investigations should be conducted in an independent and confidential manner. Outsourcing the investigation process or ensuring that internal investigators undergo proper training and possess the necessary experience can help safeguard employees' well-being and protect the NHS's reputation.

The NHS needs to take affirmative action in protecting whistleblowers and fostering a culture of transparency and accountability. No healthcare professional should face detrimental treatment for raising concerns that may impact patient safety.

The NHS must strive to offer confidentiality, impartiality, and independence when receiving and investigating concerns. These efforts should be continuous and consistent to create effective and sustainable change within the organisation.

In conclusion, addressing whistleblowing concerns in the NHS is crucial for promoting a culture of transparency and accountability. By taking proactive steps, such as reviewing policies, providing

comprehensive training, and ensuring independent investigations, the NHS can create an environment where employees feel confident and protected when speaking up against wrongdoing.

Fostering a culture that values whistleblowers and their contributions will not only strengthen the NHS internally, but also enhance its reputation and commitment to patient care. **JCN**

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About Safecall...

Safecall is an outsourced whistleblowing hotline provider to businesses and organisations around the world. For over 20 years, the company has been providing a specialist and independent service that helps to protect businesses and keep employees safe. Safecall operates from a UK call centre, 24 hours a day, seven days per week all year round.

The company supports businesses and organisations who want to tackle a variety of whistleblowing issues, including potential racism, sexism, fraud, discrimination, bribery, health and safety violations, modern slavery, bullying, and violence in the workplace. Safecall also offers investigations training and bespoke support.

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Ellie Lindsay OBE FQNI (top), life president, Lindsay Leg Club Foundation; Julian Tyndale-Biscoe, senior partner, FINN Partners

The suffering caused by lower limb and leg ulcer-related conditions often languishes in the periphery of healthcare. However, the prevalence, distress and economic implications of these conditions are far more substantial than commonly acknowledged.

While significant strides have been made in wound care, the management of lower limb conditions across the UK remains inconsistent, resulting in unequal access to quality care. This underlines a pressing need for change, as highlighted in a parliamentary reception independently organised by Ellie Lindsay OBE and hosted by Derek Thomas MP on 26 April at the Houses of Parliament, which aimed to shed light on leg and wound care issues and spark a transformative dialogue.

Why we need to address the postcode lottery of wound care in the UK

The event marked the launch of a manifesto for change. Event attendees were urged to sign an online petition advocating for simple, yet impactful steps that could significantly elevate wound care standards nationwide. This reception acted as a wake-up call, amplifying the voices of countless patients and their families whose experiences had been marred by inequities in their treatment. The event was introduced by Roland Renyi, who played an integral role in developing the agenda and topics. Presentations included the following.

How did we get here? Wound care and its history

Professor Keith Harding CBE highlighted the history of wound care and current attitudes within the medical profession. He said that more needs to be done to raise the profile of this subject, to collect more data at the local and national level to analyse the numbers and costs. Professor Harding also called for more healthcare to be provided outside the hospital environment and for action to be taken now to stop what he referred to as a Cinderella condition.

Venous disease and its impact

Professor Alun Davies outlined the prevalence of venous disease as a major contributor to leg ulcers. According to Professor Davies, the substantial allocation of the healthcare budget to treat leg ulcers highlights the severity of the issue. He also addressed the need for collaboration between specialists and primary care providers so as to ensure effective interventions.

Challenges in lower limb revascularisation

Mr Lukla Biasi identified the critical challenges in lower limb

revascularisation, where inadequate care for arterial conditions can result in grave consequences. He said that a multidisciplinary approach, prompt interventions, and improved accessibility to vascular services are crucial.

The challenge of wound care for the NHS

Jacqui Fletcher OBE provided a broader overview about the challenges we have with wounds. She pointed out how inaccurate some of the data is and how concerning this is, given the impact of lower limb wounds. Jacqui also highlighted the fact that 40% of wounds are lower limb wounds and only 7% are pressure ulcers, largely because with pressure ulcer management the NHS has a focus on prevention. Jacqui said we need to prevent where we can, ensure that those that do occur heal quickly, and prevent their recurrence. It's only if we do these three things that we can reduce the burden on those who experience the condition.

Living with a chronic wound — a qualitative approach

Dr Anna Galazka shared her research into the personal aspects of dealing with a chronic wound, derived from extensive time spent within the wound care community. Dr Galazka started with the physical aspects, pain, exudate, infection and smell, which patients have spoken to her about, describing one patient who stayed in their house for four years. Dr Galazka said we must not underestimate the power of the collective to bring about change.

Industry's role and collaborative efforts

Mike Steele explained the role of the Leg Club Industry Partners (LCIP), underscoring industry's position in

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supporting wound care initiatives. The LCIP collaborates with the Lindsay Leg Club Foundation, contributing resources, education, and expertise to promote evidence-based care.

Nursing challenges and patient perspectives

Trudie Clark looked at the challenges faced by nursing professionals in wound care. She said that limited resources, inadequate interdisciplinary collaboration and deficient data capture hinder effective wound management. Trudi explained how patient perspectives illuminate the physical and emotional toll of chronic wounds, emphasising the importance of community support and education.

Personal experiences and advocacy

Karen Davey and Ann Clwyd MP (who has sadly passed away since the event took place) shared their personal experiences of living with chronic wounds and the inadequate care they received. These poignant accounts underscore the urgency for improved wound care systems that offer consistent and comprehensive treatment for patients.

Amidst the discussions, a stark contrast emerged between recent medical advances and the glaring disparities which persist in wound treatment. The term 'postcode lottery' resurfaced, underscoring the profound unfairness that patients can sometimes encounter during their journeys through wound treatment. Virtually all the testimonies

highlighted distressing experiences, illuminating the gravity of the problem:

- ▶ Inconsistent and uncommitted treatment: patients recounted receiving sporadic and disjointed treatments from clinicians without any follow-up or continuity of care
- ▶ Lack of training for community nurses: the lack of training and rushed care in community settings emerged as a challenge, leaving patients exposed to below par treatment
- ▶ Lack of dressing context: dressings were often applied without a comprehensive understanding of their mechanisms and contextual appropriateness, undermining their effectiveness
- ▶ Neglectful treatment: some patients reported enduring poor and even inconsiderate treatment, betraying the essence of compassionate care that is the cornerstone of healthcare.

These presentations painted a nuanced picture of wound care, capturing both strides made and persistent challenges. Addressing these challenges collectively is pivotal, encompassing the need for accurate diagnosis, interdisciplinary collaboration, robust prevention strategies and sufficient resources. The significance of patient perspectives, data collection and awareness campaigns cannot be overstated. By collectively tackling these issues, the healthcare system can strive for enhanced wound management, reduced suffering, and an improved quality of life for patients.

A report which aims to cast a spotlight on these issues and advocate for immediate, comprehensive change is shortly to be published by the authors. Ellie Lindsay OBE asserts the fundamental right for every individual to access high-quality care for lower limb diseases and related conditions. This aspiration hinges on education, unrelenting advocacy and the united voice of the healthcare community, with Members of Parliament poised at the spearhead of driving change through the constituencies they serve.

The report will delve into the challenges and complexities surrounding lower leg wound care, particularly focusing on leg ulcers and their profound impact. Insights from our experts in wound care and patient experiences provide a comprehensive overview of the burden of leg ulcers, a comparison of wound care standards internationally, diagnostic and treatment challenges, and the vital roles played by both industry and nursing.

Enough is enough. This report is nothing less than a call for change, rallying the healthcare community to address the hidden epidemic of lower limb and wound care in the UK. It underscores the urgency of creating a more equitable and effective landscape for patients grappling with these conditions, and it galvanises stakeholders across sectors to collaborate and drive transformative improvements in wound care standards. **JCN**



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This JCN clinical skills series provides a guide to the causes, assessment, categorisation and prevention and management of pressure ulcers.

Part 3: Pressure-redistributing equipment — an overview

The third part in our series on pressure ulcer prevention and management discusses the different types of pressure redistribution devices currently available in clinical practice. The modes of action of the different types, together with patient suitability and selection are also discussed, as well as what to do and not to do when nursing patients on these devices.

Pressure-redistributing support devices (PRSS), formerly known as pressure-reducing or relieving (National Institute for Health and Care Excellence [NICE], 2014), are widely accepted methods of trying to prevent the development of pressure ulcers for people considered as being at risk (McInnes et al, 2018).

The devices consist of a variety of different mattresses, overlays, cushions and seating, which work by reducing or redistributing pressure and/or friction or shearing forces (McInnes et al, 2018). Selection of a device depends on factors such as patient mobility, whether they are able to reposition themselves independently, patient weight, the results of risk and skin assessment, and clinical setting (Wound Essentials, 2012). In addition, NHS organisations have a preferred supplier or a contract to supply equipment as required. These devices, however, are only one strategy in the prevention of pressure injuries and patients will still need to be repositioned regularly.

Annemarie Brown, independent tissue viability consultant

HOW DOES A SUPPORT SURFACE REDISTRIBUTE PRESSURE?

Pressure is related to the weight of the patient and the size of the contact area between the patient and the support surface (Wound Essentials, 2012). The purpose of support surfaces is to minimise pressure damage to the tissues by redistributing the mechanical loads imposed on the skin and soft tissues, due to the patient's immobility (Wound Essentials, 2012). Support surfaces work in two different ways. One way is to redistribute pressure by allowing the patient's body to sink into the support surface. As the patient sinks into the support surface, more of the patient's body comes into contact with it, resulting in the patient's weight being spread over a larger surface area. As a result, this produces an overall reduction in the pressure placed on tissue (Wound Essentials, 2012).

Other support surfaces remove pressure from some areas of the body, while maintaining pressure on others, intermittently in a cyclical manner. This intermittent removal of pressure

allows the tissues to recover before pressure is reapplied and another area is relieved (Wound Essentials, 2012). These support surfaces are commonly known as alternating or air mattresses. *Table 1* gives an overview of the several types of redistribution mattresses available. *Table 2* outlines suggested support surface choice based on a patient's ability to reposition in bed.

WHAT IS THE EVIDENCE TO SUPPORT REDISTRIBUTION SURFACES?

There have been several Cochrane reviews conducted to determine whether pressure redistribution devices reduce the development of pressure damage (McInnes et al, 2012; 2015; 2018).

Static versus active pressure redistribution surfaces

Shi et al (2021) categorised support surfaces into reactive (static), which apply a constant pressure to the skin, unless a person moves or is repositioned, and active (alternating pressure surfaces), which regularly redistribute the pressure under the body in a cyclical fashion.

The aim of the systematic review was to find out if reactive (air-filled) surfaces prevent pressure ulcers, are comfortable and improve quality of life, have health benefits that outweigh their costs and have any unwanted effects (Shi et al, 2021). They examined studies conducted up until 2019 and concluded that there was insufficient good high-quality evidence to determine whether there were any differences in terms of pressure ulcer incidence and patient comfort between the several types of reactive (static) support surfaces (water surfaces, gel and other types of reactive air surfaces). They further concluded that there may be a reduced risk of developing new pressure ulcers with the use of reactive surfaces compared to foam, and that using reactive air surfaces may reduce the risk of developing new pressure ulcers within 14 days compared with alternating pressure (active) air surfaces in people in a nursing home setting (Shi et al, 2021).

A systematic review and meta-analysis in 2012 aimed to review the effectiveness of pressure redistributing support surfaces in the prevention of pressure ulcers (McInnes et al, 2012). The authors concluded that while there is good evidence that higher specification foam mattresses, sheepskins, and that some overlays in the operative setting are effective in preventing pressure ulcers, there is insufficient evidence to draw conclusions on the value of seat cushions, limb protectors and various constant low-pressure devices. The relative merits of higher-tech constant low pressure and alternating pressure for prevention are unclear. They suggest that more robust trials are required to address these research gaps (McInnes et al, 2012).

A further Cochrane review (McInnes et al, 2015) was undertaken to establish the extent to which pressure-redistributing support surfaces reduce the incidence of pressure ulcers compared with standard support surfaces, and their comparative effectiveness in ulcer prevention. The authors concluded that 'people at high risk of developing pressure ulcers should use higher-specification foam mattresses

rather than standard hospital foam mattresses. The relative merits of higher-specification constant low-pressure and alternating-pressure support surfaces for preventing pressure ulcers are unclear, but alternating-pressure mattresses may be more cost effective than alternating-pressure overlays in a UK context. Medical grade sheepskins are associated with a decrease in pressure ulcer development' (McInnes et al, 2015).

A later Cochrane review (McInnes et al, 2018) sought to assess the effects of pressure-relieving support surfaces in the treatment of pressure ulcers and the authors concluded that, due to the lack of good quality evidence at the time, 'it is unclear whether any particular type of low- or high-tech support surface is more effective at healing pressure ulcers than standard support surfaces' (McInnes et al, 2018).

Based on the findings of these studies, it is not possible to state conclusively which support surface is the most effective at reducing the development of pressure damage, therefore healthcare professionals will need to be guided by their trust's guidance and policies.

FACTORS TO CONSIDER WHEN SELECTING A SUPPORT SURFACE

Patient risk of developing pressure ulcers

Undertaking a validated risk assessment, such as Waterlow, Braden etc will indicate whether the patient is deemed to be at risk. Consider also patient weight, nutritional status, neurological status and other co-morbidities, for example, diabetic neuropathy. Choice of support surface, however, should not be based purely on patient risk assessment but in combination with clinical judgement and comprehensive assessment (Brown, 2023).

Skin condition

Skin assessment will indicate whether the patient is at risk of developing pressure ulceration, has existing pressure damage, or is incontinent.

Mobility

It is important to consider what level of assistance is required to change position in bed and with transfers and walking. Consider also the use of other equipment (e.g. a chair, recliners or wheelchair) that may require a specialist surface (e.g. mattress, seat pad, elbow elevation pads, suspension boots).

Weight and size of the patient

Every support system has a weight limit, which should not be exceeded, for example:

- ▶ Obese patients may need a bariatric support surface
- ▶ Patients who are exceptionally light or small may not sink into a reactive surface sufficiently to produce adequate pressure redistribution.

Some air-filled surfaces can also be adjusted for patient weight.

Ease of use — clinical setting

Here, the following should be considered:

- ▶ Is training required in the use of the surface? Are there sufficient carers to manage the system — community setting?
- ▶ Availability of the support surface — the length of time before the support surface is ready to use (i.e. is there an inflation time?)
- ▶ The support surface must fit the space for its intended use. Can it be transported to the space easily? Some integrated bed systems are unsuitable for home settings because of their bulk and weight and the need for a generator in case of loss of electrical power.

Maintenance and infection control

When choosing a device, clinicians should consider if:

- ▶ The surface is easy to clean and decontaminate
- ▶ It needs specialist maintenance and to be taken off site to be cleaned between patients.

Patient comfort and choice

Some support surfaces make a noise during operation that may disrupt sleep. In the community setting, patients may have a partner who sleeps in the same bed, which

Table 1: Overview of pressure redistribution surfaces (adapted from National Pressure Ulcer Advisory Panel [NPUAP], 2007; McInnes et al, 2015, 2018)

Category	Examples	Mode of action	Types	Considerations
Low-tech (non-powered) constant low-pressure (CLP) support surfaces (static)	<ul style="list-style-type: none"> ▶ Standard foam mattresses ▶ Alternative foam mattresses/overlays (e.g. convoluted foam, cubed foam) ▶ Gel-filled mattresses/overlays ▶ Fibre-filled mattresses/overlays ▶ Air-filled mattresses/overlays ▶ Water-filled mattresses/overlays ▶ Bead-filled mattresses/overlays 	<p>These are conformable, static and aim to redistribute pressure over a larger contact area</p> <p>Any support surface which is not powered</p>	<p>Overlay</p> <p>An additional support surface designed to be placed directly on top of an existing surface</p>	<ul style="list-style-type: none"> ▶ May fit on a bed which is a non-standard hospital bed size ▶ Less disruption with sleeping when there is a bed partner (can be put on one side of the bed)
			<p>Replacement</p> <p>A support surface designed to be placed directly on the existing bed frame</p>	<ul style="list-style-type: none"> ▶ Does not raise the height from the floor to the top of the mattress ▶ Old mattress may require storage ▶ Check compatibility
High-tech support surfaces (dynamic)	<ul style="list-style-type: none"> ▶ Alternating pressure (AP) mattresses/overlays 	<p>These are dynamic mattresses. The patient lies on air-filled sacs which alternatively inflate and deflate and relieve pressure at different anatomical sites for short periods. Some may incorporate a pressure sensor</p>	<p>Overlay</p> <p>An additional support surface designed to be placed directly on top of an existing surface</p>	<ul style="list-style-type: none"> ▶ May fit on a bed which is a non-standard hospital bed size ▶ Increases floor to surface height
			<p>Mattress replacement</p> <p>Support surface designed to be placed directly on the existing bed frame</p>	<ul style="list-style-type: none"> ▶ Does not raise the height from the floor to the top of the mattress ▶ Old mattress may require storage ▶ Check compatibility with the old bed frame
	<ul style="list-style-type: none"> ▶ Air-fluidised beds 	<p>Warmed air is circulated through fine ceramic beads covered by a permeable sheet; allows support over a larger contact area</p>	<ul style="list-style-type: none"> ▶ Combines air-fluidised and low air loss therapies ▶ Pressures are well below capillary closing resulting in improved blood flow to the skin, reducing pain and accelerating healing ▶ May cause insensible water loss. In neuropathic patients, it may cause uncomfortable warmth ▶ Used for patients with burns, flaps, grafts and pressure ulcers (Mendoza et al, 2019) 	
Other support surfaces	<ul style="list-style-type: none"> ▶ Low air-loss beds 	<p>Air-filled support surfaces allow air to escape through small holes. The air flows along the inside of a vapour permeable patient contact layer. This draws moisture and heat through the contact layer and away from the skin. This is known as 'low air loss' and may aid control of moisture on a patient's skin (Wound Essentials, 2012)</p>		<ul style="list-style-type: none"> ▶ Only for use with patients where moisture has been identified as a problem ▶ Skin needs to be carefully monitored ▶ Monitor patient for dehydration
	<ul style="list-style-type: none"> ▶ Turning/tilting beds/frames 	<p>These devices work by either aiding manual repositioning of individuals, or by automatic motor-driven turning and tilting. They may have a static or an alternating support surface in conjunction with the frame. Used for patients who are unable to turn themselves manually or automatically</p>	<p>Examples are Toto™ Touch (Frontier Medical Group) and VENDLET V5S™</p>	<ul style="list-style-type: none"> ▶ Ideal for use in community settings where patients need repositioning and limited number of carers ▶ Are available for use with bariatric patients ▶ May fit on standard community beds ▶ Repositions the patient at 30-degree tilt
	<ul style="list-style-type: none"> ▶ Wheelchair cushions ▶ Static cushions ▶ Dynamic cushions 	<p>May be conforming and reduce contact pressures by increasing the surface area in contact with the individual, or mechanical, e.g. alternating pressure</p>	<p>Consider also the seating needs of patients at risk or with existing pressure damage. Chair-nursing should be limited to short periods only</p>	<ul style="list-style-type: none"> ▶ Wheelchair cushions require assessment by specialist seating professionals

should be considered. Furthermore, some patients find the sensations produced by lying on some support surfaces disturbing or painful (Wound Essentials, 2012).

REPOSITIONING PATIENTS WHEN ON PRESSURE-REDISTRIBUTING SUPPORT DEVICES

Chew et al (2018) undertook a study to identify current research on turning frequencies of adult bed-bound patients and to inform future turning practices for hospitals based on evidence-based practice. They found that two hourly repositioning is generally accepted as best practice, but this practice has its roots in the days of Florence Nightingale when she advocated that nurses should 'move about' their patients to prevent 'bedsores' (Nightingale, 1860). However, of course, pressure-redistributing support devices were not available at that time. The time taken to reposition all patients in a long Nightingale ward was two hours, therefore the common repositioning schedule of two hourly turns is ritualistic. Yet, despite the lack of sound evidence to support this practice and the difficulties in adhering to it in clinical practice (Hagisawa and Ferguson-Pell, 2008; Black et al, 2011), it continues to be recommended by some (Baillie, 2011; Baillie et al, 2014; Bergstrom et al, 2013; Carpenito, 2013).

The most effective repositioning schedule varies from patient to patient and differs according to individual patient's intensity of tissue loading and illness severity (Chew et al, 2018). However, the most effective frequency of repositioning continues to remain unclear (Cooper, 2013).

In their study, Iblasi et al (2022) found that repositioning took place between every 30 minutes or more than six hours, however it is not clear if support surfaces were also being used. Furthermore, although repositioning patients at a 30-degree lateral tilt has been shown to be effective in reducing the development of pressure ulcers, it still remains unclear which repositioning method is the most effective when the patient is turned from side to side (Moore et

Table 2: Which support surface for which patient? (based on Norton et al, 2011)

Patient risk score	Bed mobility level	Suggested support surface
At risk may have blanching erythema	Needs total assistance to turn in bed	Reactive support surface (non-powered) (e.g. air/gel/foam overlay)
	Moderate assistance with bed mobility required	Reactive support surface (non-powered, e.g. air/gel/foam overlay or high-density foam mattress)
	Patient independent with repositioning in bed with or without a device (light assistance may be needed)	Reactive support surface (e.g. high density foam mattress)
Moderate risk may have existing pressure ulcer (excluding the heels), but the patient can be positioned off the ulcer	Needs total assistance to turn in bed	Reactive support surface (e.g. air/gel/foam overlay)
	Moderate assistance with bed mobility required	Reactive support surface (e.g. foam overlay with air section insert in the area of the wound)
	Patient independent with repositioning in bed with or without a device (light assistance may be needed)	Reactive support surface (e.g. foam overlay with air section insert)
High risk or pressure ulcer (excluding the heels) and redness over another area	Needs total assistance to turn in bed	Active support surface, multi-zoned surface (e.g. alternating pressure mattress, rotational surface) or a powered reactive support surface (e.g. low air loss)
	Moderate assistance with bed mobility required	Reactive support surface (non-powered, e.g. foam overlay with air section insert in the area of the wound)
	Patient independent with repositioning in bed with or without a device (light assistance may be needed)	Reactive support surface (non-powered) (e.g. air/gel/foam overlay)
Very high risk or multiple pressure ulcers (excluding the heels), or the client cannot be positioned off of an ulcerated area	Needs total assistance to turn in bed	Active support surface, multi-zoned surface (e.g. alternating pressure mattress, rotational surface)
	Moderate assistance with bed mobility required	Active support surface, multi-zoned surface (e.g. alternating pressure mattress, rotational surface)
	Patient independent with repositioning in bed with or without a device (light assistance may be needed)	Active support surface (if the controls can be placed within the client's reach)

al, 2011). This is further confounded by the effectiveness of using different pressure-relieving devices and support surfaces, which can reduce the frequency of turning from two hourly to four or six hourly (Moore et al, 2011).

CONCLUSION

Pressure-redistributing support devices are an important adjunct in the prevention of pressure damage, but do not eliminate the need for patient repositioning. Healthcare professionals are advised to consult their trust guidance and policies on surface selection and ensure that the rationale for their choice of support surface and care plan are clearly documented in all patient records.

The choice of support surface is dependent on many factors and should not be based solely on risk assessment score alone. Patient preference is also important; if the patient dislikes or even refuses to use a support surface, their risk of pressure damage will increase.

Similarly, just providing a support surface without full assessment or frequent re-evaluation, particularly when it is unnecessary, has cost implications, since support surfaces are expensive and often a scarce resource for trusts. Inappropriate provision of support surfaces and failure to re-evaluate may lead to a shortage of equipment for patients who are at most risk of pressure damage. **JCN**

Table 3: Tips on using pressure-redistributing support surfaces (adapted from Norton et al, 2011; Wound Essentials, 2012)

Do	Continue to reposition patients who are on any support surface for their comfort and functional ability, as well as for pressure relief, unless medically contraindicated
	Document the rationale for support surface selection, repositioning regimen and results of skin inspections and regularly evaluate the efficacy of the surface
	Use handling aids to reduce friction/shearing forces when repositioning a patient on a support surface
	Ensure that bedclothes and clothing are smooth under the patient following repositioning. Do not use fitted sheets on dynamic mattresses to avoid 'hammocking'
	Check regularly that the support surface is functioning correctly, i.e. that it is inflating as it should
	Minimise the use of drawsheets and incontinence pads under dynamic mattresses. If incontinence pads/sheets are necessary, make sure they are loosely moulded to the cells of the mattress to ensure adequate pressure relief
	Ensure the mattress or overlay does not elevate the patient to an unsafe height in relation to bedrails, if used
	If a patient has an existing sacral pressure ulcer and is on a dynamic surface, it is beneficial to place the patient on their back to ensure that the pressure ulcer benefits from the increase in blood flow from the inflation/deflation cycle
	Consider the patient's pressure-relieving needs over a 24-hour period — in bed as well as chair seating
Do not	Use plastic products such as incontinence pads to minimise heat and moisture retention on the skin when using foam support surfaces
	Do not exceed the weight limit of the support surface and avoid using support surfaces that restrict patient independence
	Do not neglect the heels, even if the patient is on a support surface. Additional aids, such as pressure-relieving boots or gel pads may still be required
	Do not use an active support surface for a patient with a spinal injury or unstable fracture
	Do not ignore alarms. Investigate functioning of the mattress
Do not use a mattress that is the wrong size for the patient, e.g. for children make sure that the cell size is suitable, and for bariatric patients ensure that the bed/mattress can support the weight and is sufficiently wide	

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Chronic cough in adults: diagnosing and resolving the problem

Margaret Perry

Coughs are extremely common and vary in duration and degree of severity. Coughs of any duration are a frequent reason for seeking medical advice and unresolved coughs lasting beyond eight weeks are a cause of patient anxiety and reduced quality of life. Chronic coughs are those lasting for more than eight weeks. There are many causes, some more common than others. This article hopes to give nurses and non-medical prescribers who are approached by patients asking for advice some insight into diagnosing and resolving the problem, with the aim of improving quality of life for those affected.

KEYWORDS:

- Chronic cough ■ Causes ■ Diagnosis ■ Treatment
- Complications ■ Quality of life

Troublesome coughs are a frequent reason for patients to seek medical advice and, according to the Centers for Disease Control and Prevention (CDC), a cough of undifferentiated duration is the most common presenting symptom in patients of all ages in the primary care setting (CDC, 2013). Coughs are common and can be accompanied by other symptoms. There are a multitude of causes and it is likely that nurses who run minor illness clinics or work in the community will be faced with patients presenting with this problem.

This article focuses on chronic cough in adults to give an overview of the problem, some of the most common causes, treatment, and any complications, with the view to giving nurses and non-medical prescribers greater confidence when faced with the task of assessing and advising patients seeking advice for this complaint.

Definitions for a chronic cough include (Jarvis, 2018):

- ▶ A chronic cough is the term generally used to describe cough symptoms which have persisted for more than eight weeks. There are many causes and these will be discussed in more detail later
- ▶ A cough persisting three to eight weeks is classed as sub-acute and is most commonly caused by a post-infectious cough, e.g. after infection with whooping cough or mycoplasma pneumonia (National Institute for Health and Care Excellence [NICE], 2021)
- ▶ A cough of less than three weeks' duration is classed as acute and is often caused by a viral infection affecting the upper respiratory tract, such as the common cold. Other causes include Covid 19, exacerbations of asthma or chronic obstructive pulmonary disease (COPD), pneumonia, acute bronchitis, bronchiectasis, pneumothorax, or pulmonary embolism (PE) (NICE, 2021)

PATHOPHYSIOLOGY

The mechanism leading to cough and chronic cough remains poorly understood, but coughs are a

protective reflex mechanism, serving as a normal physiologic function, clearing excessive secretions and debris from the pulmonary tract (Haipei Chen, 2023). The underlying pathophysiology is highly complex so a simplified version will be given. There are three phases of a cough:

- ▶ An inhalation phase which generates enough volume for an effective cough
- ▶ A compression phase with pressure against a closed larynx by the contraction of the chest wall, diaphragm, and abdominal muscles
- ▶ An expiratory phase when the glottis opens resulting in high air flow

(Alhajjaj and Bajaj, 2023).

There are cough receptors within the airways which respond to various stimuli, such as dust, mucus or irritants. By stimulating cough receptors in the airways and other areas in the upper body, impulses travel through the vagus nerve to the cough centre in the medulla, enabling afferent signals to move down via the phrenic and spinal motor nerves to the expiratory muscles producing the cough, which, if chronic, may be brought about by abnormalities of the cough reflex and sensitisation of its afferent and central components with exaggerated cough reflex sensitivity to stimuli that normally do not cause a cough (Alhajjaj and Bajaj, 2023).

Red Flags

Coughs are common and can be subdivided by duration into:

- Acute: lasting less than three weeks
- Sub-acute: lasting between three and eight weeks
- Chronic: lasting eight weeks or longer.

ASSESSMENT OF CHRONIC COUGH

Initial assessment should include in depth questioning across a range of areas, which may offer some insight into the possible cause of the patient's symptoms. This should cover the history of the present illness, past medical history and physical investigations.

History of the present illness

Healthcare professionals should ask about the duration of the cough and any associated symptoms, such as breathlessness, chest pain and/or wheeze. They should enquire if the cough is dry or productive of sputum, as well as the colour of any sputum expectorated. Any aggravating or triggering factors should also be determined, such as odours or changes in temperature and whether the cough is worse in cold or warm air conditions. Additional questioning should elicit any systemic symptoms

such as fever, chills or weight loss, loss of appetite, haemoptysis, travel history, current medications, and any treatments which the patient may have tried and their effectiveness (Kaplan, 2019). Red flag symptoms which may suggest a more serious cause are shown in *Table 1*.

Past medical history

An in-depth history should note:

- ▶ Recent respiratory infections (i.e. within previous one to two months)
- ▶ History of allergies
- ▶ Asthma
- ▶ COPD
- ▶ Gastroesophageal reflux disease (GORD)
- ▶ Risk factors for (or known) tuberculosis (TB)
- ▶ Human immunodeficiency virus (HIV) infection
- ▶ Smoking history

(Dezube, 2022).

Patients with chronic cough

Red Flags

- 15% of chronic coughs have no identified cause
- Upper airway syndrome (post nasal drip) is reported to be the most common cause of chronic cough
- GORD follows closely behind accounting for 30–40% of cases of chronic cough
- Other common causes include asthma, angiotensin-converting-enzyme (ACE) inhibitor use, eosinophilic bronchitis and smokers cough (Kaplan 2019; Dezube, 2022).

should also be asked about exposure to potential respiratory irritants or allergens and travel to, or residence in, regions with endemic fungal illness (Dezube, 2022). Drug history may suggest association with treatments which may cause cough (see below).

Table 1: Red flags in the history of patients with chronic cough (Glashan and Mahmoud, 2018; Turner, 2023)

Symptom	Additional information
Weight loss	Productive cough with haemoptysis are common symptoms of TB. Patient may also have night sweats, fever, and weight loss
Haemoptysis	May be present with TB
Breathlessness	May be a feature of asthma, COPD, heart failure and pulmonary embolism (PE)
Fevers and malaise	Combined with productive cough and dyspnoea may suggest pneumonia
Night sweats	Present in TB
Finger clubbing	May be caused by lung cancer, bronchiectasis, pulmonary fibrosis
Acute hypoxia	This has many causes, including COPD, pulmonary oedema, heart failure, emphysema, and pulmonary fibrosis
Tachypnoea	May be caused by asthma, COPD, PE, pleural effusion, or pneumonia

Table 2: Suggested causes found on examination and auscultation (Potter, 2023)

Finding	Additional information
Wheeze	Often associated with asthma, COPD and/or bronchiectasis
Breathlessness	Shortness of breath is a common feature of most respiratory pathology, however possible underlying diagnoses could include asthma, pulmonary oedema, pulmonary fibrosis, lung cancer and COPD
Crackles	May be coarse (associated with pneumonia, bronchiectasis, and pulmonary oedema), or fine (associated with pulmonary oedema)
Hypoxia/cyanosis	Multiple causes, commonly COPD, asthma, pneumonia
Finger clubbing	Finger clubbing may be caused by several underlying diseases, but is commonly associated with lung cancer, interstitial lung disease, cystic fibrosis, and bronchiectasis
Chest wall deformity	Hyperextension or barrel chest is associated with respiratory diseases such as asthma, COPD or cardiac disease (heart failure, coronary heart disease or heart defects)

Investigations

Initial evaluation of a persistent cough should include a detailed history and auscultation of the chest and a chest x-ray, and a sputum sample for assessment if infection is suspected. Examination and auscultation may offer some insight into the underlying cause of the patient's symptoms (*Table 2*). However, if the cause cannot be identified, referral to a respiratory specialist may be needed for further investigation, e.g. a computer tomography (CT) scan.

CAUSES

Up to 15% of coughs have no identifiable cause and are labelled idiopathic, and 80% of those falling into this category have been found to predominantly occur in females and often in those who are post-menopausal (Zanni, 2020). Among patients where a cause can be identified, the following are the most frequently diagnosed.

Upper airway cough syndrome (post nasal drip)

This is associated with the frequent need to clear the throat and is sometimes accompanied by nasal

discharge. It is reported to be the most common cause of chronic cough (NICE, 2021). Chronic rhinitis and sinusitis are often associated with symptoms of post nasal drip and the patient may also complain of nasal congestion, and facial pain or discomfort and a decreased sense of smell. The underlying pathophysiology remains unclear, but a study by Bucher et al (2019) found that increased viscosity of nasal secretions appeared to play a part, together with delayed mucociliary clearance and hyposensitivity of the nasopharynx. Treatment often involves non-sedating antihistamines, nasal sprays and decongestants.

Gastro-oesophageal reflux disease (GORD)

This is also one of the most common causes of chronic cough accounting for 30–40% of all cases (Glashan and Mahmoud, 2018). Many patients suffering with symptoms will experience dyspepsia and heartburn, however estimates suggest that approximately 40% of those who have cough due to reflux do not have the traditional symptoms (Glashan and Mahmoud, 2018). The pathogenesis of GORD is highly complex and involves several processes, including impaired oesophageal clearance (responsible for prolonged acid exposure of the mucosa), delayed gastric emptying, and impaired mucosal defensive factors (De Giorgi et al, 2006).

Other factors contributing to the development of GORD include hiatus hernia, which in combination with the previously mentioned abnormalities, leads to reflux of acid, bile, pepsin, and pancreatic enzymes, causing oesophageal mucosal injury and the associated symptoms of GORD (De Giorgia et al, 2006). Treatment of GORD includes lifestyle advice as well as medication (if needed). Dietary adjustment may be helpful if the patient is able to identify foods which cause symptoms. A trial of proton pump inhibitors (PPI) is often effective. Readers can refer to the NICE guidelines on dyspepsia for more information (NICE, 2023).

Asthma

Chronic cough is also reported to be common in asthma and symptoms

are often worse at night and early morning (Glashan and Mahmoud, 2018). Patients presenting with breathlessness, chronic cough and/or tight chest need to be reviewed so that asthma medication and compliance with treatment can be assessed to determine if a step up in management is needed.

ACE inhibitor use

Chronic cough is a side-effect of drugs belonging to this group (lisinopril, ramipril, perindopril) and is reported to affect 5–35% of patients prescribed medications of this type (Michaudet and Malaty, 2017). The underlying process by which cough develops remains unclear. Evidence has shown that cough can develop quite quickly in some patients after the medication is commenced, or may take several months. When the medication is discontinued, resolution may take place within a week, or in some cases longer, sometimes up to three months (Michaudet and Malaty, 2017).

Eosinophilic bronchitis

This condition is classed as a non-asthmatic eosinophilic bronchitis (NAEB) with eosinophilic inflammation of the respiratory tract, but without any bronchospasm (Yildiz and Dulgar, 2018). Inhaled corticosteroids are usually an effective treatment, but the patient should be advised to take protective measures if inflammation is thought to be due to occupational exposure or allergen inhalation (Yildiz and Dulgar, 2018).

Less common causes of chronic cough include the following.

Bronchiectasis

This is a chronic condition caused by irreversible damage to the bronchi resulting in abnormal widening of the airways. The damage can occur in one lung or be more widespread. Patients often expectorate large amounts of sputum on a daily basis, which may vary in colour, and can be pale yellow, yellow-green or clear. The cause is unknown in approximately half of all cases of bronchiectasis, but around one in three cases in adults are associated with a severe lung infection in childhood, such as pneumonia,

whooping cough (pertussis), pulmonary tuberculosis, or measles (NICE, 2023).

Obstructive sleep apnoea

This is a sleep-related breathing disorder which is associated with a temporary cessation in breathing. The condition is often linked to snoring and gasping during the hours of sleep. The condition can affect persons of all ages, but has an increasing prevalence in those over 60. Although the exact prevalence is unknown, estimates suggest between 2% and 14% of this age group are affected, many of whom are obese (Semelka et al, 2016). The problem can sometimes be treated by lifestyle changes, such as weight loss, smoking cessation, and alcohol reduction (NHS, 2022). Use of a continuous airway pressure device (CPAP), which delivers a continuous supply of compressed air during sleep and prevents closure of the airway is frequently used.

Cough variant asthma

This condition is defined as a subtype of asthma which manifests itself as a cough, without wheezing or dyspnoea (Mikami et al, 2021). It is most commonly seen in children, but when the problem affects adults, estimates indicate that approximately 30–40% of these patients can progress to the onset of typical asthma symptoms over time (Mikami et al, 2021).

Chronic bronchitis

Chronic bronchitis is a disease of the bronchi that is defined by cough and sputum expectoration occurring on most days for at least three months of the year and for at

Red Flags

- Chronic cough impacts on quality of life and has several long-term effects
- Long-term effects include anxiety, depression, and irritability
- Sleep disturbance can lead to fatigue and tiredness
- Severe cases can cause vomiting, dizziness and costochondritis.



Photograph: Pixel-Shot/Shutterstock

least two consecutive years when other respiratory or cardiac causes for the chronic productive cough have been excluded (Braman, 2006). There are many causes, including inhalation of one or more noxious substances such as industrial chemicals, environmental pollutants, or cigarette smoke, which leads to chronic inflammation in the airways (Braman, 2006). Over time, this can progress to airflow limitation which manifests itself as emphysema or COPD (Braman, 2006).

COPD

COPD is primarily a disease of smokers or ex-smokers with increasing prevalence among older adults, and is currently the third most common cause of morbidity and mortality worldwide (Agarwal et al, 2022). It is characterised by an irreversible or partially reversible obstruction of the airways, primarily due to a chronic inflammatory pulmonary response caused by the effect of noxious particles or gases (Avdeev et al, 2021).

The main symptoms of COPD include shortness of breath, cough, sputum production, wheezing, and chest tightness. A chronic cough is frequently the first symptom of COPD, which is underestimated by

Table 3: Rare causes of chronic cough (Michaudet and Malaty, 2017)

▶ Bronchogenic carcinoma
▶ Chronic interstitial lung disease
▶ Sarcoidosis
▶ Tuberculosis (TB)
▶ Psychogenic cough
▶ Persistent pneumonia
▶ Chronic aspiration

Chronic cough has a significant impact on the lives of those affected and its effects have been reported to include sleep disturbance, dizziness, headaches, depression and anxiety, irritability and anger... .

patients who consider it to be an expected consequence of smoking and/or an environmental effect (Avdeev et al, 2021). Treatment usually involves smoking cessation, inhaled therapy, and pulmonary rehabilitation (a specialised programme which aims to improve exercise tolerance and provides disease education).

Environmental or occupational causes

Occupational causes include exposure to chemicals or gases in the workplace, while non-occupational causes include cooking fumes, animals, dust mites and fungi (Tarlo, 2006).

Least likely causes are shown in Table 3.

MANAGEMENT

Management of chronic cough is dependent on its underlying cause and is outside the scope of this article to go into detail on management guidelines relating to all of the conditions discussed. Nurses and non-medical prescribers are therefore advised to refer to relevant sources, such as NICE guidelines, if they require more in-depth information on individual conditions and their management.

COMPLICATIONS

Chronic cough has a significant impact on the lives of those affected and its effects have been reported to include sleep disturbance, dizziness, headaches, depression and anxiety, irritability and anger, as well as reduced quality of life (Jacobs, 2020). The disturbance to sleep can lead to tiredness and fatigue and severe cases can cause vomiting, light-headedness, costochondritis (inflammation of the connective tissue where the ribs attach to the breastbone), and rarely, rib fractures (Mayo Foundation for Education and Research [MFMER], 2019). In addition, Yang et al (2022) reported that 50% of a cohort of females in their study suffered with urinary incontinence, with a higher prevalence found among middle-aged and elderly women and those with a high body mass index (BMI).

CONCLUSION

Coughs are common and are a frequent reason for patients to seek advice from their GP or community nurse. They can occur with variable degrees of severity and if lasting more than eight weeks, they can be a cause for concern, and impact on the quality of life of the person affected. There are many causes and it can be challenging for clinicians faced with this problem to determine the underlying reason for the patient's symptoms. It is hoped that this article has given an insight into the many causes, however clinicians will need to look at clinical guidelines for further information on treatment and management. **JCN**

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KEY POINTS

- Coughs of any duration are a frequent reason for seeking medical advice and unresolved coughs lasting beyond eight weeks are a cause of patient anxiety and reduced quality of life.
- Coughs are a protective reflex mechanism, serving as a normal physiologic function, clearing excessive secretions and debris from the pulmonary tract.
- Assessment should cover the history of the present illness, past medical history and physical investigations.
- Long-term effects include, anxiety, depression, and irritability.
- Disturbance to sleep can lead to tiredness and fatigue and severe cases can cause vomiting, light-headedness, costochondritis (inflammation of the connective tissue where the ribs attach to the breastbone), and rarely, rib fractures.
- If the cause of a chronic cough cannot be identified, referral to a respiratory specialist may be needed for further investigation, e.g. a computer tomography (CT) scan.

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Revalidation Alert

Having read this article, reflect on:

- Your knowledge of causes for chronic cough
- The impact of chronic cough on patient quality of life
- The mechanism that leads to cough
- How you assess a patient with chronic cough.

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Skin integrity needs of older adults in care homes: prevalence audit

Jenni MacDonald, Juliet MacArthur, Helen Ramsay, Jaime McNab, Elaine Farrell, Jacqueline Breen, Lynsay Ward, Luke Scott, Vikki Brash, Andrew Jackson

A skin integrity prevalence audit was conducted in two health boards in Scotland in 2022, involving 186 care homes and assessment of 6,510 residents. Data collection involved in person and online contact with care home managers and senior care staff by specialist tissue viability nurses and care home support team members. Data was analysed to generate prevalence rates per 1,000 residents. The findings identified an overall wound rate of 138.6 per 1,000 residents and further skin integrity needs (lower limb oedema) of 79.4 per 1,000 residents. There was variation in the incidence of wounds and lower limb oedema in the two health board settings. This is the first study at this scale and serves as an important benchmark for understanding skin integrity needs in the care home sector. There are important implications for education, training and support of care home staff as well as workforce planning for specialist nursing care to ensure appropriate prevention and management of skin care for residents.

KEYWORDS:

- Tissue viability ■ Care homes ■ Audit ■ Older adult
- Skin integrity ■ Limb oedema ■ Wound ■ Prevalence

This paper presents the findings from the first large scale skin integrity prevalence audit conducted in care homes across two health boards in Scotland in 2022.

Scotland has a devolved healthcare system (NHS Scotland) that consists of 14 territorial health boards (Figure 1) which work in

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'A high proportion of care home residents experience frailty, including poor mobility and multiple comorbidities (Brimelow and Wollin, 2018). They are, therefore, at greater risk of leg ulcer and pressure ulcer development... '

conjunction with health and social care partnerships (HSCP) delivering integrated health and social care services. Scotland's population was 5.46 million in 2019 and is anticipated to continue to increase, including growth in the older population (65+ years old) of an estimated 29.7% by 2045 (National Records of Scotland, 2021). This will have an impact on demand for healthcare, social care and workforce planning within the elderly care sectors.

At present, approximately 30,500 people reside within a care home in

Scotland, with approximately 92% of residents aged 65+ (Public Health Scotland, 2021). A high proportion of care home residents experience frailty, including poor mobility and multiple comorbidities (Brimelow and Wollin, 2018). They are, therefore, at greater risk of leg ulcer and pressure ulcer development (Edwards et al, 2017; Todd, 2017) and compromised wound healing, which can lead to poor outcomes (Vowden, 2011) and reduced quality of life (Meagher et al, 2021).

It is estimated that approximately 3.8 million people across the United Kingdom have a wound (Guest et al, 2020) and treatment costs have increased exponentially year on year (Guest et al, 2020). However, within this UK-wide research, the care home resident population were not included.

NHS Highland and NHS Lothian serve contrasting populations, with the former encompassing the largest geographical area in Scotland and the latter being the second most population-dense health board in Scotland (Table 1). Historically, care homes have not been included in the remit of many tissue viability teams across the UK and therefore the specialist support has been described as *ad hoc* (Kingsley, 2007). The aim of this study was to conduct a prevalence audit within care home settings in the two health boards to develop a supportive and proactive approach to the management of skin integrity that would be closely aligned to the needs of residents and staff. The term care home encompasses both residential and nursing homes, however, this paper will not present the different prevalence rates between the two different types of care home.

METHODS

A prevalence audit of 186 older people care homes was undertaken across the two health boards, using a data collection tool previously developed in NHS Lothian by the tissue viability team and used in a prevalence audit in 2021. The audit was conducted in all care homes over a four-week period (25 April–20 May, 2022). In NHS Highland, the audit was conducted by the care home liaison team, and in NHS Lothian, by the care home tissue viability team.

The data collection tool included bed capacity, number of residents, type of care home and wound types (Table 2). Lower leg oedema was captured as a stand-alone skin integrity need, as it is common in older adults and increases in prevalence with increasing age (Besharat et al, 2021). However, it is often not captured in tissue viability-related prevalence audits. Lower limb oedema is a care need that is simple to determine as it is very visual, unlike other pre-skin breakdown symptoms that can be subtle, such as early pressure damage.

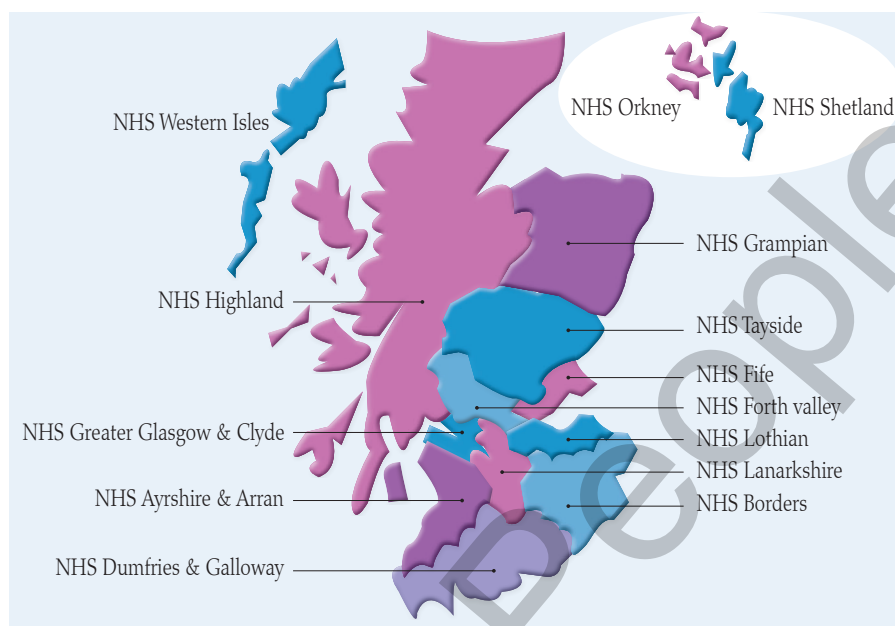


Figure 1. NHS Scotland Health Boards (Scottish Government, 2016).

The data collection approach needed to be flexible to adapt to challenges, such as social distancing within the care homes, with some limitations on access due to ongoing Covid-19 restrictions at that time. Therefore, data collection was either undertaken in person or by telephone/Microsoft Teams (Table 3). During the data collection period the care homes occupancy levels

were 86.6% in NHS Lothian and 85.6% in NHS Highland.

The care home managers were informed in writing about the study and invited to take part voluntarily. Each health board’s care home strategic oversight group, which had stakeholder involvement from the health board, HSCPs, Care Inspectorate and bodies representing care home organisations, i.e. Scottish Care, were invited to review and endorse the study before data collection.

During the course of the data collection, the NHS Lothian tissue viability team were also delivering hard copy tissue viability resources to each care home, which accounts for the high face-to-face data capture. The data was collected from either the care home manager or a senior member of care staff and subsequently transferred into a Microsoft Excel spreadsheet.

Anonymised data from all care homes was analysed by the NHS Lothian Analytical Services using Alteryx and R to generate prevalence rate per 1,000 residents. The data was analysed in this way due to the limitation of data collection not accounting for multiple wounds for individual residents and, therefore, it has not been possible to calculate a percentage prevalence.

Table 1: Health board demographics

	NHS Highland	NHS Lothian
Description	Largest geographical health board (41% of Scotland’s land mass) covering Highland and Argyle and Bute. Remote and sparsely populated with some urban communities; includes 35 islands Employs 10,000 staff (NHS Highland, 2018)	Second largest residential population in Scotland, mixture of urban and rural communities Employs 26,000 staff (NHS Lothian, 2022)
Population	320,000 >65 years old=18.5% ¹ Projected increase in >75 by 2028 — 34.1% ²	850,000 >65 years old=14.1% ³ Projected increase in >75 by 2028 — 24.8% ⁴
Number of HSCPs	2	4
Number of care homes (older people)	84	104
Number of care home support teams	1	4
Dedicated care home tissue viability nurse specialists	0.2 WTE	5 WTE

1. Highland Council data 2011 (not same geographical area as NHS Highland) (NHS Highland, 2018)
 2. National Records Scotland 2021 data for Highland Council
 3. City of Edinburgh Council data 2011 (not same geographical area as NHS Lothian)
 4. National Records Scotland 2021 data for City of Edinburgh

Table 2: Care home skin integrity data collection tool

Data field	Categories
Care home	<ul style="list-style-type: none"> ▶ Total bed capacity ▶ Current number of residents ▶ Type of care home (nursing/residential)
Wound type	<ul style="list-style-type: none"> ▶ Self-harm ▶ Surgical ▶ Traumatic ▶ Leg/foot ulcer ▶ Malignant ▶ Pressure ulcer (grades 1–4/ ungradeable, deep tissue injury, mucosal) ▶ Moisture associated skin damage (non-incontinence related, incontinence related) ▶ Other
Oedema	<ul style="list-style-type: none"> ▶ Lower leg

RESULTS

The audit captured 6,510 residents (4,322 in NHS Lothian and 2,188 in NHS Highland) across 7,569 care home beds and identified 572 wounds in NHS Lothian and 320 in NHS Highland. In addition, there were 961 cases of lower limb oedema in NHS Lothian and 472 in NHS Highland. The combined total was 892 active wounds and a further 1,433 skin integrity care needs involving lower limb oedema. The rates of wounds and lower leg oedema per 1,000 residents revealed some variation across the two health boards (Figure 2), with wound rates being higher in NHS Highland (144.9 per 1,000 compared to 132.3 per 1000 NHS Lothian) and lower

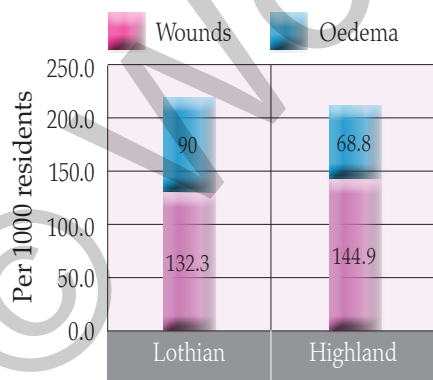


Figure 2. Rates per 1000 of wounds and lower leg oedema in NHS Lothian and NHS Highland care home residents.

leg oedema higher in NHS Lothian (90 per 1,000 compared to 68.8 per 1,000 in NHS Highland).

Using quality improvement methodology, a Pareto chart was used to identify the greatest resident care needs in terms of wound type or lower limb oedema, based on percentages of residents presenting with these conditions. A Pareto can guide decision-making on prioritising efforts that will make the greatest impact. There were some similarities in that lower leg oedema was the most prevalent skin integrity need in both geographical areas (Figures 3 and 4), however there were also some notable differences.

‘It has been identified that older people living in care home settings require additional support to maintain skin integrity and promoting a healthy lifestyle.’

In NHS Lothian, pressure ulceration, leg/foot ulceration and traumatic wounds were in the top percentiles (Figure 3). In NHS Highland, pressure ulceration was also in the top percentiles, however these also included moisture-associated skin damage (MASD), with this being both incontinence and non-contingence related (Figure 4).

DISCUSSION

This study has provided data on the prevalence of wound type and lower limb oedema in care homes in two Scottish health boards. This is the first study of its type and provides an understanding of the scale of wound prevention and management support that is required in this care setting, in terms of service provision and workforce planning.

It has been identified that older people living in care home settings require additional support to maintain skin integrity and promoting a healthy lifestyle (Edwards et al, 2017; Todd, 2019). Therefore, a proactive and educated approach is required by all staff supporting their care to address these needs and reduce risk to the residents (MacDonald, 2021).

Within the results of this prevalence audit, lower leg oedema was identified as the highest skin integrity need in both geographical areas, with foot and leg ulceration also having a high prevalence. Lower limb oedema may often be left untreated due to perceptions of it being a normal part of ageing (Tsuchiya et al, 2021), resulting in reactive responses to progression/deterioration. Residents with leg oedema are at increased risk of developing cellulitis (Burian et al, 2021) and/or a wound on the lower leg (Atkin and Byrom, 2022). Leg ulceration can affect up to 3% of the population over 60 and can be present for 15 years or more (Edwards et al, 2017), leading to reduced quality of life (Meagher et al, 2021). Therefore, it is proposed that further work within this area is required to create greater awareness of the need to be proactive in reducing lower limb oedema and preventing subsequent negative outcomes. In the authors’ clinical opinion, this requires all health and social care staff to have the knowledge and understanding to recognise and treat lower limb oedema before ulceration/cellulitis occurs.

A seminal piece of work by Grey et al (2006) identified that pressure ulcers in older adults are associated with a fivefold increase in mortality and can result in longer hospital stays. It is recognised that registered healthcare staff can find the accurate grading of pressure ulcers

Table 3: Data collection methods

Health board	Response rate (number of care homes participating)	Data capture face-to-face	Data capture telephone/teams
NHS Lothian	103/104=99%	N=103 (100%)	N=0
NHS Highland	83/84=98.8%	N=32 (38.6%)	N=51 (61.4%)

difficult (Fletcher et al, 2011), which can lead to some discrepancies in pressure ulcer recording. Furthermore, a differential diagnosis between pressure ulcers and MASD is complex and for this reason both are often misdiagnosed for each other (Yates, 2012). MASD is a general term for skin damage relating to moisture such as urine, stool, sweat, saliva or mucus lying against the skin (Gray et al, 2011; Doughty et al, 2012). Due to national variations in definition and reporting methods of MASD, there is insufficient reliable data on incidence and prevalence (Dissemond et al, 2021).

In this study, differences between pressure ulceration and MASD were found in the two geographical areas involved, with higher prevalence rates of pressure ulcers in NHS Lothian and higher rates of MASD in NHS Highland (Figure 5). This may be attributed to differences in service provision and/or associated provision of education and training in bladder and bowel health and/or tissue viability, but also potentially variations in reporting/misdiagnosis. This variable could have been eliminated in this audit through validation of the results by specialist tissue viability nurses, however this was neither practical nor within the scope of this audit.

The results showed that the issue with the next highest prevalence within the care homes was traumatic wounds, which is perhaps expected due to the frailer nature of elderly skin, reduced mobility, and an increased risk of falls in the study population (Cooper, 2017).

Guest et al (2020) published wound prevalence rates from a UK-wide audit in 2017/18. This study explored the adult population (all ages), however it did not include those living in care homes. The NHS Lothian and NHS Highland care home prevalence audit found a higher pressure ulcer and traumatic wound rate in comparison, a similar leg/foot ulcer rate, and a lower rate of surgical wounds than the

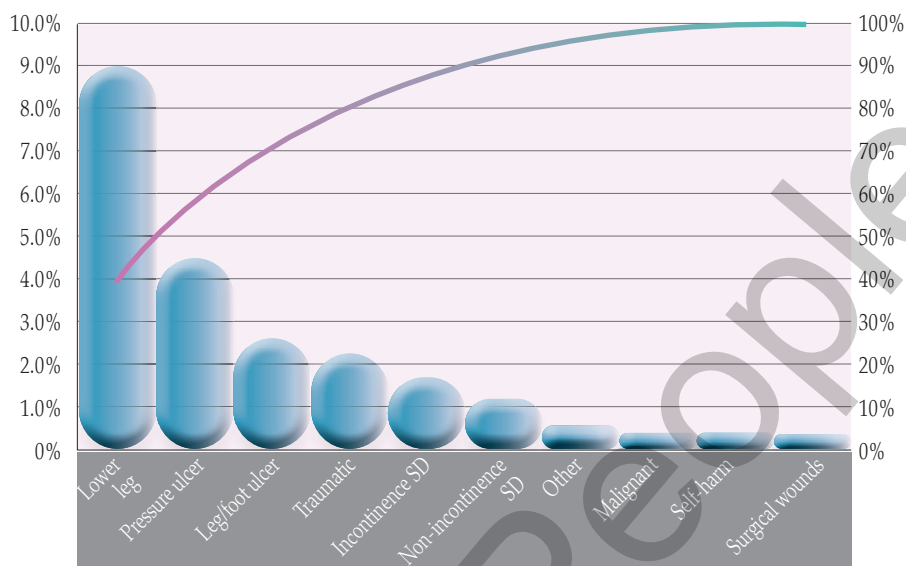


Figure 3. Wound types in NHS Lothian care homes 2022 (n=4,322).

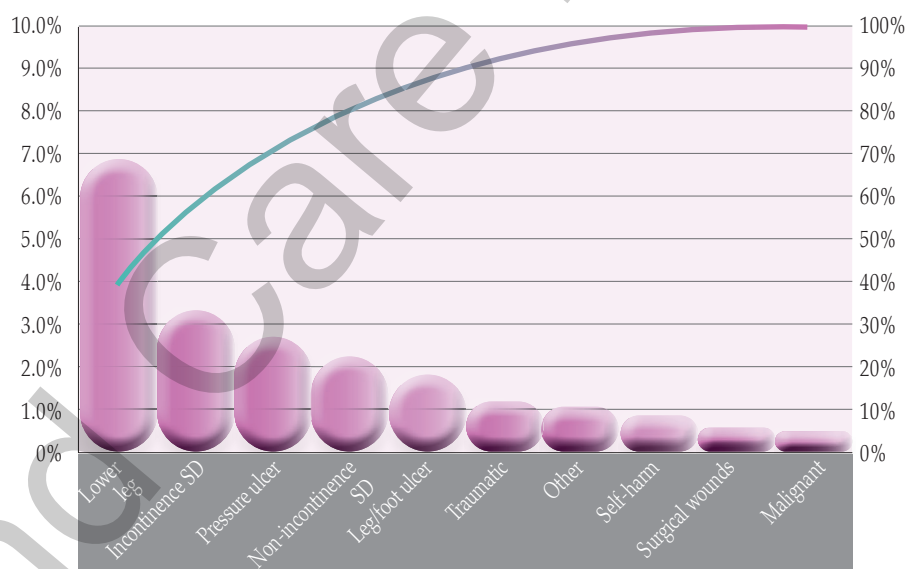


Figure 4. Wound types in NHS Highland care homes 2022 (n=2,188).

general adult population in Guest et al's (2020) UK-wide audit. Given that care homes have a more elderly and frail population, this is perhaps not unexpected. However, due to differences in population, methodology and the exclusion of self-harm, oncological, MASD, lower limb oedema skin integrity needs in Guest et al's (2020) study, it is not possible to draw direct comparisons between the two sets of data.

Kingsley et al (2010) undertook a prevalence study involving 16 nursing care homes and 458 residents in Devon, UK. It is not possible to make direct comparison to the NHS Lothian and NHS

Highland data, however broad indications suggest that in the Lothian/Highland study there was a higher incidence of pressure ulcer rate and a lower surgical, traumatic and leg/foot ulceration, however there was a similar rate of malignant wounds to that found in Devon.

STRENGTHS AND LIMITATIONS

The key strength of this study is that it captured prevalence data in almost the entire care home sector in two contrasting health board areas and therefore presents a unique opportunity to examine wound care issues in a specific

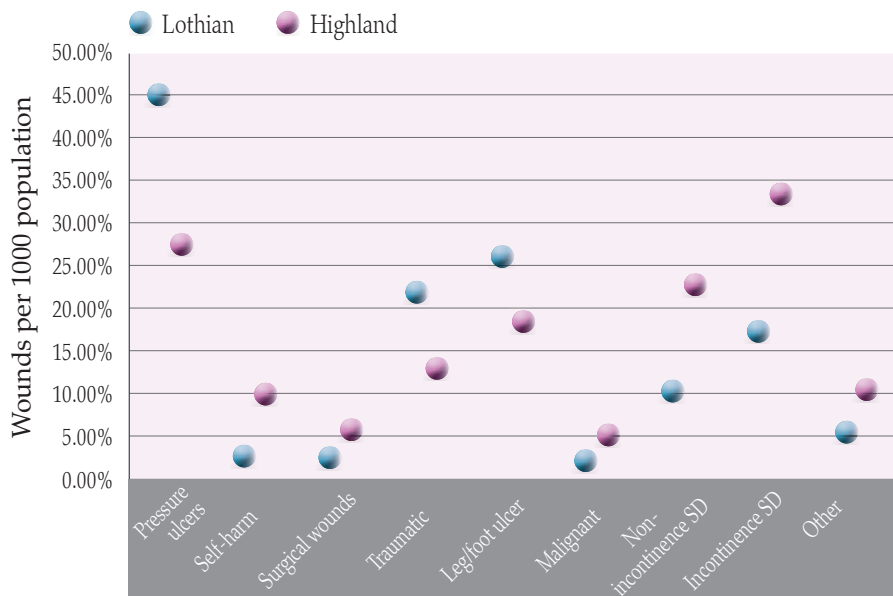


Figure 5. Wound prevalence by type.

population that is not very well represented in the literature.

There are a number of limitations identified within this prevalence audit. Although tissue viability nurse specialists were involved in the data collection process, the data was self-reported by the care home staff and was not verified through examination of individual residents by a specialist nurse. Reporting of wound type and existence of leg oedema will, therefore, have depended on the diagnostic skills/clinical knowledge of the staff member reporting the data. The data has not specifically accounted for residents with multiple wounds, including those with or without additional skin integrity needs, i.e. lower limb oedema, which may have some impact on the accuracy of the data analysis.

Given that this was a prevalence audit, the data did not include the skin integrity needs of residents 'at risk' of pressure ulcers, nor did it capture any underlying patient diagnoses, which would be helpful for understanding risk factors and comorbidities. Further analysis should be undertaken to ascertain any key differences in prevalence between those living in either residential or nursing care homes.

The study points to the need to undertake further work across the

'The high demands of skin integrity care needs on care home staff should be recognised and supported through focused education, training and access to specialist nursing support.'

care home sector in all four UK countries.

CONCLUSION

The purpose of this study was to understand the prevalence of skin integrity needs within care home settings. First, this will support the strategic focus for the provision of tissue viability support in NHS Lothian and NHS Highland. Second, it will lend itself to other health and social care staff in terms of presenting a benchmark on rates and types of wound management needs in care home settings, as it is believed that this is the largest study of its kind in the UK.

This study has highlighted that the prevalence of skin integrity issues is higher in the care home population than in the general adult population. The high demands of skin integrity care needs on care home staff should be recognised and supported through focused education, training and access to specialist nursing support. Workforce

planning in the care home sector will be vital in the coming years with the population living longer and wound/skin integrity prevalence growing. **JCN**

Acknowledgements

The authors would like to acknowledge the staff in the care home sector in both health board areas for their participation, which made this work possible. They would also like to acknowledge the input of Mabel Barclay, former information analyst, NHS Lothian who helped to develop the analytic framework for a previous prevalence audit carried out in NHS Lothian in 2021.

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KEY POINTS

- A skin integrity prevalence audit was conducted in two health boards in Scotland in 2022, involving 186 care homes and assessment of 6,510 residents.
- NHS Highland and NHS Lothian serve contrasting populations, with the former encompassing the largest geographical area in Scotland and the latter being the second most population-dense health board in Scotland.
- The data collection tool included bed capacity, number of residents, type of care home and wound types.
- Lower leg oedema was captured as a stand-alone skin integrity need, as it is common in older adults and increases in prevalence with increasing age.
- This is the first study of its type and provides an understanding of the scale of wound prevention and management support that is required in this care setting, in terms of service provision and workforce planning.
- Within the results of this prevalence audit, lower leg oedema was identified as the highest skin integrity need in both geographical areas, with foot and leg ulceration also having a high prevalence.
- Given that this was a prevalence audit, the data did not include the skin integrity needs of residents 'at risk' of pressure ulcers, nor did it capture any underlying patient diagnoses, which would be helpful for understanding risk factors and comorbidities.
- Workforce planning in the care home sector will be vital in the coming years with the population living longer and wound/skin integrity prevalence growing.

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Revalidation Alert

Having read this article, reflect on:

- Your understanding of skin integrity needs among the elderly population
- The impact of an ageing population on health and social care
- Why lower leg oedema is often left untreated and what the consequences of this are.

Then, upload the article to the free JCN revalidation e-portfolio as evidence of your continued learning: www.jcn.co.uk/revalidation

Challenges of pressure ulcer prevention in the community setting

Holly Irwin

As the UK population ages and greater numbers of people are living with long-term conditions (Office for National Statistics [ONS], 2014), increasing numbers of people are subsequently at risk of developing pressure ulcers (PUs). PUs are painful, costly and can negatively affect patient quality of life. They are particularly prevalent in the community setting, leading to high-costs in treatments, especially in those suffering from a chronic condition (Jaul et al, 2018). The prevention of PUs is therefore a key global care quality indicator, which is the focus of considerable quality improvements in primary care. Identifying a patient at risk of developing PUs is an action that should be undertaken at the first community visit. Nursing care to prevent PUs needs to be systematically planned, implemented and evaluated, following assessment of the patient and their circumstances. As demonstrated by Clarkson et al (2019), integrating an interprofessional approach can reduce the severity of PUs in the community. There are a wide range of resources required to help prevent PUs, including nursing time, ensuring effective patient repositioning and risk assessment, as well as delivering the most appropriate pressure-relieving surfaces (Dealey et al, 2012).

KEYWORDS:

- Long-term conditions ■ Pressure ulcers ■ Risk assessment
- PURPOSE-T ■ Community nursing ■ Pressure-relieving surfaces

The aging UK population (Office for National Statistics [ONS], 2014) and the increasing burden of long-term conditions pose significant challenges to the healthcare system, such as for community services in trying to prevent pressure ulcers from developing. It is therefore imperative that clinicians fully appreciate what a PU is and the underlying factors that can cause them to prevent occurrence effectively.

Pressure ulcers are painful, costly and can negatively affect patient quality of life (Young, 2021). They

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'... PUs are a largely avoidable, financially burdensome, adverse healthcare-related event that results in increased patient morbidity and mortality.'

are particularly prevalent in the community setting, leading to high costs in treatments, particularly in those suffering from a chronic condition (Jaul et al, 2018).

Prevention of PUs is thus a key global care quality indicator which is the focus of quality improvements in primary care. This is because PUs are a largely avoidable, financially burdensome, adverse healthcare-related event that results in increased patient morbidity and

mortality (Slawomirski et al, 2017; European Pressure Ulcer Advisory Panel [EPUAP] et al, 2019).

The burden caused by hard-to-heal wounds, such as PUs, is well established. Guest et al (2015) estimated that the total cost of hard-to-heal wound management to the National Health Service (NHS) in England was between £4.5 billion and £5.1 billion per annum after adjusting for comorbidities. The total cost highlighted by Guest et al (2017) accounts for costs associated with wound dressings, staff visits and hospitalisation, as well as a profound effect on the quality of life of patients and their families. Prescription costs of advanced wound and antimicrobial dressings in primary care in England have been reported to be almost £92 million in the year to July 2018 (based on the *British National Formulary*).

This article considers the current challenges within the NHS from the perspective of a community tissue viability service, how this can impact on the ability to effectively prevent PUs while facilitating patient-centred and evidence-based care.

DEFINITION OF A PRESSURE ULCER

Pressure ulcers have been described as 'localised damage to the skin and/or underlying tissue, usually over a bony prominence (or related to a medical or other device), resulting from sustained pressure (including pressure associated with shear). The damage can be present as intact skin or an open ulcer and may be painful' (NHS Improvement, 2018). They are

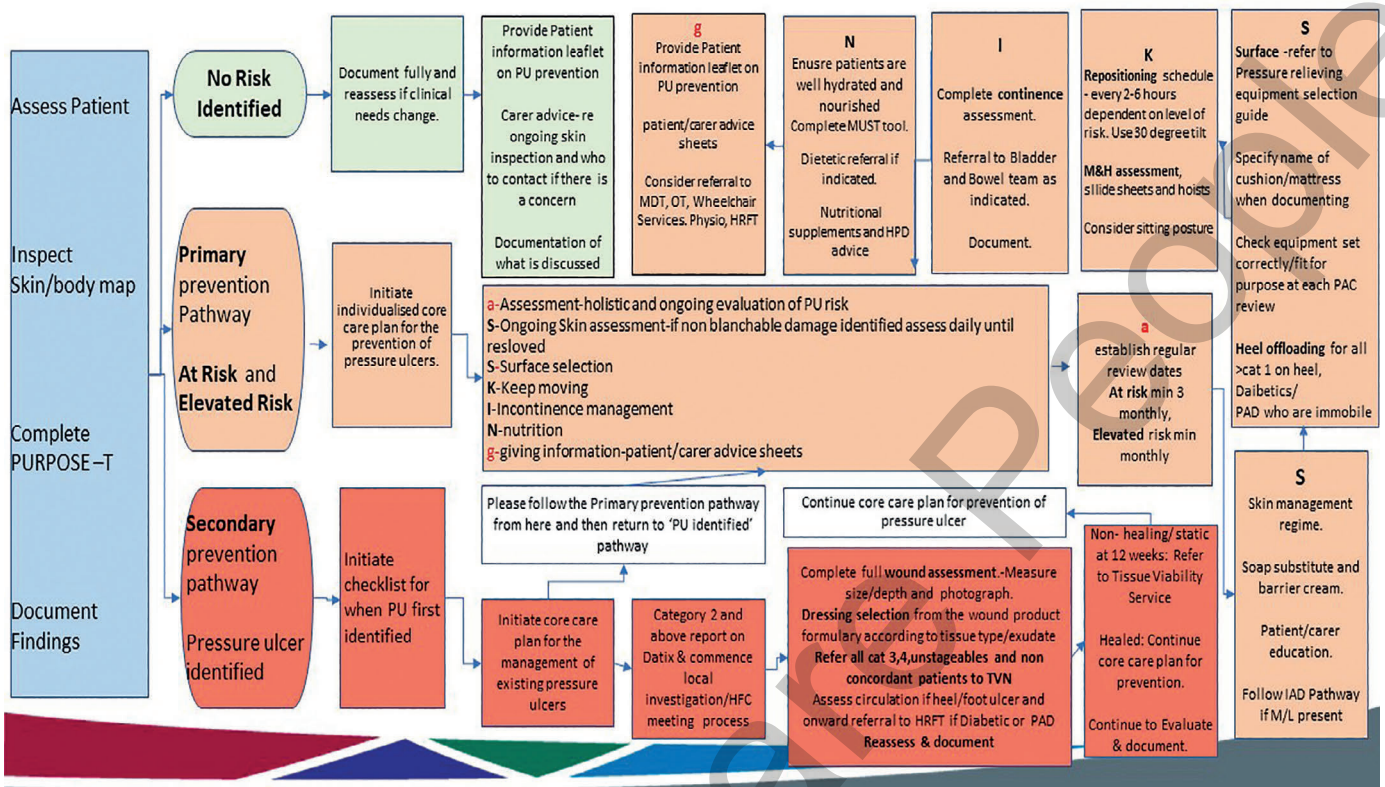


Figure 1.
Pressure ulcer prevention and treatment pathway.

considered to be a preventable and, sometimes, predictable form of harm (EPUAP et al, 2019).

AIMS OF PRESSURE ULCER PREVENTION

Identifying a patient at risk of developing PUs is an action that should be undertaken at the first community visit. Nursing care to prevent PUs needs to be systematically planned, implemented and evaluated, following assessment of the patient and their circumstances. As demonstrated by Clarkson et al (2019), integrating an interprofessional approach can reduce the severity of PUs in the community.

The risk assessment tool used within the author's organisation is the Pressure Ulcer Risk Primary or Secondary Evaluation Tool (PURPOSE-T). This is an evidence-based pressure ulcer risk assessment tool developed by the University of Leeds using

robust research methods (CTRU Leeds, 2022). The tool meritoriously identifies individuals at risk of developing a PU and those with existing and previous PUs. Once the risk assessment is completed, it is important that appropriate interventions are followed to ensure PUs are prevented, or those identified, effectively managed.

In the author's experience, as often encountered when initiating change to practice, challenges were experienced when first introducing the tool. The greatest being staff interest, appreciation and knowledge. At a time when there were extreme pressures within community services, the opportunity for attending and delivering training was limited. However, as it was acknowledged that the effective delivery of education and implementation of PURPOSE-T would impact on the quality of patient care, every effort was made to support clinicians in providing and receiving training as well as other ongoing support.

To standardise and enable the effective prevention and management of PUs, a pathway was created (Figure 1). This tool starts with the assessment process and, in relation to the PURPOSE-T recommendations, then provides the suggested three care pathways. The recommended care is in association with the aSSKING bundle. The 'aSSKING' (assess risk; skin assessment and skin care; surface; keep moving; incontinence and moisture; nutrition and hydration; and giving information or getting help) model ensures that all fundamental aspects of PU prevention are included in patient care (Young, 2021).

CARE IN THE COMMUNITY AND CHALLENGES FACED

Community nursing services are an essential part of the national effort to support people to manage their conditions, prevent ill health and deliver care closer to home. Investment in the strategic development of community

nursing services is essential for the successful delivery of the ambitions of the *NHS Long Term Plan* (NHS England, 2019).

In the author's clinical experience, one of the greatest challenges facing community nurses is ensuring PU prevention is managed effectively with the limited amount of time they are able to spend with each patient. Patients in acute care (inpatient environments) can be monitored 24-hours a day and PU prevention strategies have been created with this in mind. However, once a patient leaves that environment and returns home, the potential of 24-hour care is greatly reduced. Strategies are therefore required to ensure that the patient receives the same degree of PU prevention during the time when community nurses are not with them and they are alone or being supported by family members or carers.

In the author's clinical experience, while individuals are compliant with all aspects of care in hospital, they often revert to their normal habits at home. One example of this is when individuals sleep in their chair, rather than in bed. There are many reasons for this, including cardiac failure, breathing difficulties, and even difficulty in getting to the bedroom or being able to get in or out of bed. The studies by Papadopoulos and Jukes (1999) and Ledger et al (2020) suggested that patients' lifestyle considerations, in combination with shared decision-making, may impact patient adherence to preventive strategies. It is important to fully understand the reasons why they are not compliant with the recommended care and work in collaboration to reach a suitable solution. A quality indicator from the National Institute for Health and Care Excellence (NICE) states that nurses and health professionals should 'treat patients with respect, kindness, dignity, compassion, understanding, courtesy and honesty' (NICE, 2021). Effective communication skills are therefore essential to identify any concerns the patient may have or issues in

complying with the recommended management and then being able to reach an appropriate solution.

'If patients and carers are not knowledgeable of PUs, they are unable to effectively prevent their occurrence or follow an appropriate course of treatment.'

As highlighted earlier, challenges were faced when implementing the new risk assessment tool and delivering supporting education. Cross et al (2017) and Clarkson et al (2019) conducted research in relation to community nursing in the NHS, and demonstrated that workforce issues have also been identified in the context of PU prevention. Specifically, their work identified poor interprofessional collaboration and limited education as potential barriers to effective PU prevention. While this research provides a negative context, in the author's clinical opinion, it does relate to practice — but, not for the want of trying, as there are many hurdles and obstacles to overcome when trying to promote evidence-based practice, such as nursing time, staff turnover and other priorities.

A significant factor of PU prevention within the community, is disseminating patient and carer education. It is important to raise awareness among the general population as to how PUs develop and how they can be prevented. If patients and carers are not knowledgeable of PUs, they are unable to prevent their occurrence effectively or follow an appropriate course of treatment. While equipment plays a pivotal role in preventing PUs, the patient and carer must not become solely reliant on equipment as they should also adopt PU prevention strategies (Hudgell et al, 2015).

It should be recognised that providing information may be needed in multiple forms, due to different learning styles. While some patients prefer literature, in

others may understand in more detail if a clear verbal explanation is provided. Unfortunately, materials appear to be limited for patients and carers whose first language is not English.

INTERVENTIONS

As with patients, if families and carers do not understand the situation, they may not fully engage with the recommended strategies (Coleman et al, 2015). It is therefore essential that they understand what PUs are (NICE, 2104), what causes them and why their family member or patient is at risk. In the author's clinical experience, good relationships with relatives and carers is essential to effectively prevent PUs. To enable early detection and intervention they can be the nurse's eyes between visits — establishing effective relationships can enable early action to be taken if issues are identified.

There are a wide range of resources required to help prevent PUs. These can include nursing time, ensuring effective patient repositioning and risk assessment, as well as delivering the most appropriate pressure-relieving surfaces (Dealey et al, 2012).

As evidence has shown, PUs occur when tissue is compressed between the bony prominence and an external surface (Gefen and Soppi, 2020). Thus, healthcare professionals need to pay attention to the surface a patient is lying or sitting on. Although pressure-relieving equipment is a significant part in the prevention of PUs, it is key that it is used correctly (Parnham et al, 2015).

Alongside the pressure ulcer prevention and treatment pathway, an equipment flow chart was implemented to aid clinical decision-making while supporting standardised care (*Figure 2*). In the author's service, it had been acknowledged that the level of pressure-relieving mattresses did not always correspond with the level of pressure-relieving cushions provided for patients.

Devices used should not only be the right equipment for the pressure risk, but also appropriate for the patient and their relatives/carers to use (Parnham et al, 2015). In the community, the author has found that equipment may be checked once a month or even less. Nurses should therefore ensure that any pressure-relieving equipment in use is patent, working, and not alarming each time they visit; i.e. a simple check that the equipment is not damaged, is not alarming and it is on the correct settings. Nurses should also ensure that equipment receives regular electrical service, as per trust policy and manufacturer's recommendations.

If a patient within the community setting requires a pressure-relieving mattress, it is also important to consider their personal factors (Benbow, 2008). For example, the ability of the patient to get out of their bed independently and, if they share a bed with their partner, they may require a double mattress.

The two main types of support surface available are (Mahoney and Kembery 2020):

- ▶ An active (or dynamic/hybrid) pressure-relieving surface, which alternates where there is pressure in contact with the patient's body and where it is relieved by inflating and deflating cells using an electrical pump
- ▶ A reactive (or static/hybrid) pressure-redistributing surface, which enables pressure to be distributed over a large surface area by immersing or supporting the patient's body in the contours of the surface, for example a high specification foam mattress, memory foam mattress, or gel surface.

The aim of support surfaces is to relieve and redistribute pressure to avoid tissue damage.

As shown in *Figure 2*, the recommended mattress used within the authors organisation is the Dyna-Form™ Mercury Advance hybrid system (Direct Healthcare Group; *Figure 3*). This very high risk dynamic replacement mattress

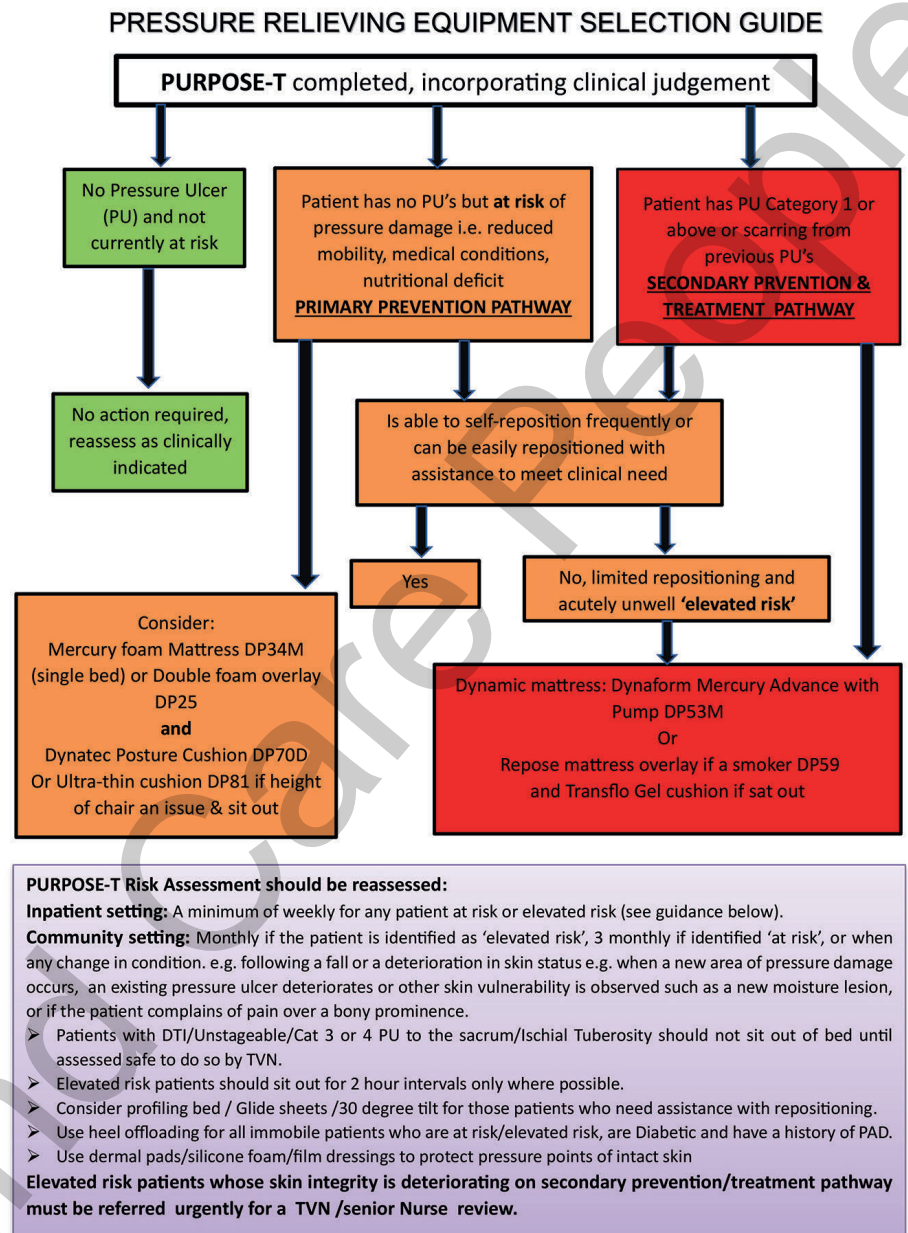


Figure 2.
Equipment selection guide used in the author's organisation.

system combines the benefits of modern high-specification foam technology with the facility to 'step up' to a dynamic mattress when clinically required by attaching a powered pump at the end of the bed. Similarly, the mattress's function can be downgraded as the patient's condition improves.

Pressure relief does not end with a mattress. Thorough risk assessment should identify the areas of the patient at risk from pressure damage. If a patient is sitting for long periods, a

pressure-relieving cushion should be provided (Stockton and Flynn, 2009). When seated, most of the pressure will be put on the bottom area, sacrum, coccyx, greater trochanter hips and ischial tuberosities. It is therefore imperative that an appropriate cushion is provided. The recommended cushion within the author's organisation, is the Transflo® Cushion (Direct Healthcare Group; *Figure 4*).

This cushion has a combination of high density foam and a silicone

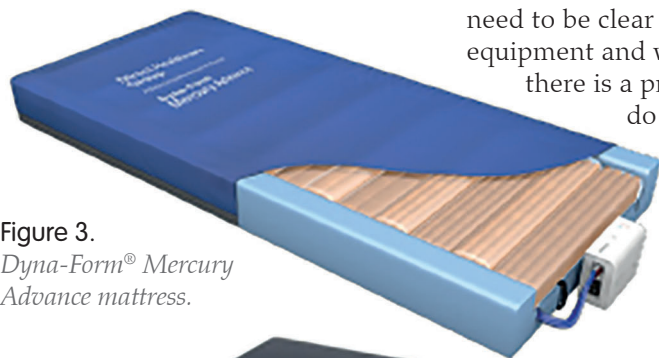


Figure 3.
*Dyna-Form® Mercury
Advance mattress.*



Figure 4.
Transflo® cushion.

gel 'floatation' system. According to the manufacturer, the gel cushion's design encourages the user to sit in a neutral pelvic tilt, while the cooling gel surface can assist PU management by providing a minor reduction of the skin surface temperature. The product is suitable for users considered to be at 'very high risk' of PU development (Rithalia, n.d.).

The seat cushions can also be integrated into specialist seating solutions/rise recliners as appropriate.

A best practice statement by the EPUAP, National Pressure Injury Advisory Panel (NPIAP) and Pan Pacific Pressure Injury Alliance (PPPIA) (2019) international collaboration states that a seating support surface that meets the individual's needs for pressure care by addressing their body size, posture, mobility and lifestyle should be considered. Specialist seating is designed to reduce the risk of PUs for people who sit for long periods by ensuring an equal distribution of the user's weight with integrated pressure management systems (Fletcher, 2017).

In practice, the author has found further education and advice is required following the delivery of equipment. Patients and carers

need to be clear on checking the equipment and who to contact if there is a problem. Patients do not appear to be aware that equipment needs to be checked and may need replacing or repairing.

Although checking equipment should be undertaken by an appropriately trained clinician, sometimes it is not possible for the clinician to check equipment. For example, a patient who is sitting on a pressure-relieving cushion may not be able to stand up independently for the cushion to be inspected by the clinician. In these instances, clinicians should make alternative arrangements for a further visit to appropriately assess the equipment.

Although the majority of patients are concordant with the use of pressure-relieving equipment when sufficient education is provided to allow them to make an informed choice, in the author's clinical experience, if patients have had a negative experience of pressure-relieving equipment, there can be reluctance for further use. However, this should be explored in great detail and, where required, alternative equipment sought. As said, patients should be thoroughly educated around the use of and the potential risks of declining pressure-relieving equipment. Ensuring that patients are provided with the appropriate information, enables them to make an informed choice with regards to equipment.

Within the author's setting, pressure-relieving equipment is delivered, set up and supplied by an independent contractor. The contractor has no obligation to educate or provide literature to the patient and this is considered the responsibility of the prescriber. In some instances, the prescribing clinician does not visit the patient

again for several weeks. However, a multiprofessional approach is required to ensure that the attending clinicians check the equipment provided and that patient education is undertaken. This requires communication from all involved to ensure seamless care, with no lapse in the use of equipment or education.

Further complexities can arise when patients are unable to raise the alarm themselves for equipment which may be alarming. Thus, community nurses should work with care agencies around raising issues with equipment, so that replacements or repairs can be organised in a timely manner in line with best practice.

CONCLUSION

To prevent the occurrence of PUs, community nurses should understand the causes and which patient groups are at increased risk of developing PUs, so that they can assess, plan and implement care effectively. By assessing patients during the first visit in the community, nurses can identify risk factors and develop a care plan to address any preventable factors. Using a systematic approach, such as the aSKING model, enables preventative care measures to be implemented, and these can be evaluated and adjusted where necessary, depending on individual patient concerns and needs.

Understanding the complex interplay between patients, nurses and other elements of the healthcare system is critical to the management of PUs in the community.

Community health professionals and providers of specialist services can impact by ensuring local 'Making Every Contact Count' (MECC) initiatives include an assessment of the risks which contribute to PU development. Importantly, it is essential to ensure that people with an existing PU or identified at risk of developing one, in any setting, have access to the most appropriate and evidence-based pressure-redistribution device.

Whichever device is used, nurses should consider all the patient's needs and whether the patient and their relatives/carers can actually use the item, as it will only provide pressure relief if it is used. Implementing the equipment flow chart in the author's area has facilitated the correct level of equipment to be provided. **JCN**

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KEY POINTS

- Pressure ulcers are painful, costly and can negatively affect patient quality of life.
- Identifying a patient at risk of developing PUs is an action that should be undertaken at the first community visit.
- Integrating an interprofessional approach can reduce the severity of PUs in the community.
- A significant factor of PU prevention within the community, is disseminating patient and carer education.
- Although pressure-relieving equipment is a significant part in the prevention of PUs, it is key that it is used correctly.
- If a patient within the community setting requires a pressure-relieving mattress, it is also important to consider their personal factors.
- The aim of support surfaces is to relieve and redistribute pressure to avoid tissue damage.

Faecal incontinence — a forgotten symptom

Ann Yates

Faecal incontinence (FI) is the term describing the inability to control the bowels (International Continence Society [ICS], 2015). This can include the uncontrolled passage of solid or liquid stool, or flatus (wind) (Benezech et al, 2016) through the anal canal. It is recognised as a symptom rather than a diagnosis (National Institute for Health and Care Excellence [NICE], 2014) and is the result of complex interactions of many contributing factors. This series of two articles will look at this taboo condition, how it affects quality of life, highlight the anatomy and physiology which affects bowel control and then discuss conditions and contributing factors that make individuals prone to the symptoms of FI.

KEYWORDS:

■ Bowels ■ Faecal incontinence ■ Quality of life ■ Anatomy and physiology of the lower intestinal tract ■ Rectum ■ Anal sphincters

Faecal incontinence (FI) is one of the final taboo conditions that presents in health care today. Although common, it is a topic that is unlikely to be discussed by individuals in normal daily conversation due to embarrassment, shame and feelings of degradation. It is also a topic that is avoided or often forgotten to be asked about by healthcare professionals, meaning that most individuals with FI will suffer in silence for many years before discussing with family or professionals (Young, 2022). Faecal incontinence has been shown to have serious consequences on individuals, affecting their self-esteem and body image and creating feelings of shame and

embarrassment, which can impact their social needs (International Continence Society [ICS], 2015; Camilleri-Brennan, 2020).

FI is a devastating condition, which can result in social isolation, depression, skin breakdown and pose a financial burden (i.e. laundry costs, purchase of management equipment, e.g. protective pads, etc). It is also associated with secondary morbidities and disabilities and has a severe negative effect on an individual's quality of life (ICS, 2015). Studies show it can lead to repeated urinary tract infections (UTIs) and premature admission to a care home (Potter et al, 2007; Harari, 2009; Norton et al, 2010). Furthermore, Duelund-Jakobsen et al (2016) state that individuals with FI have reduced ability to work and that it impacts their sexuality as they worry about smells and accidents during intimacy. Indeed, individuals will go to extreme lengths, spend considerable time, effort and attention avoiding situations where these unpredictable accidents may occur (Duelund-Jakobsen et al, 2016).

PREVALENCE AND DEFINITION

It is surprisingly common and is the term describing the inability to control the bowels (ICS, 2015). It is considered to be underreported due to the shame and embarrassment associated with it (Sbeit et al, 2021), and affects women, men and children. Prevalence figures estimate that approximately 0.5–1% of adults regularly suffer with FI (Royal College of Nursing [RCN], 2019). However, it is closely associated with age — over 15% of over 85 year olds living at home have FI and this increases to 10–60% of those living in residential or nursing home care (RCN, 2019). FI is a condition that is often underreported due to various factors, such as social stigma, embarrassment, and lack of awareness, and so measurement of actual prevalence and incidents are subjective and rely on patient reports.

According to Benezech et al (2016), faecal incontinence is defined as the involuntary loss

Learning points

After reading this article, you will be able to:

- ▶ Understand how faecal incontinence affects individuals' quality of life
- ▶ Be aware of the prevalence of faecal incontinence
- ▶ Demonstrate an understanding of the different definitions of faecal incontinence
- ▶ Have an understanding of the normal functions of anatomy and physiology of the large intestine, rectum, anal sphincters and pelvic floor complex.

of flatus (wind) and/or solid or liquid stool, through the anal canal and the inability to postpone an evacuation until socially convenient. Attached to this definition is also a time duration of having the problem for at least one month and an age component of being at least four years old with previously achieved control (Benezech et al, 2016). The RCN (2019) further refined these definitions to include FI as the:

- ▶ Involuntary loss of liquid or solid stool that is a social or hygienic problem
- ▶ Anal incontinence (AI) as the involuntary loss of flatus, liquid or solid stool which is a social or hygienic problem
- ▶ Passive soiling (liquid or solid), which occurs when an individual is unaware of liquid or solid stool leaking from the anus; this may be after a bowel movement, or at any time
- ▶ Some definitions also include urge faecal incontinence whereby contents of the bowel are discharged despite active attempts to retain contents
- ▶ And faecal seepage (leakage of stool with grossly normal continence and evacuation).

Assmann et al (2022) state that it is defined as: 'The recurrent uncontrolled passage of faecal material for at least 3 months', as per Rome IV criteria. Based on the frequency and quantity of FI, it can be further quantified as mild,

Practice point

The Rome criteria are a set of diagnostic criteria used to define functional gastrointestinal disorders. Rome IV criteria for functional diarrhoea include:

- ▶ Loose or watery stools
- ▶ No predominant abdominal pain
- ▶ No bothersome bloating
- ▶ Symptoms of functional diarrhoea should have been present for at least the last three months, with symptom onset occurring at least six months before the diagnosis. (<https://theromefoundation.org>)

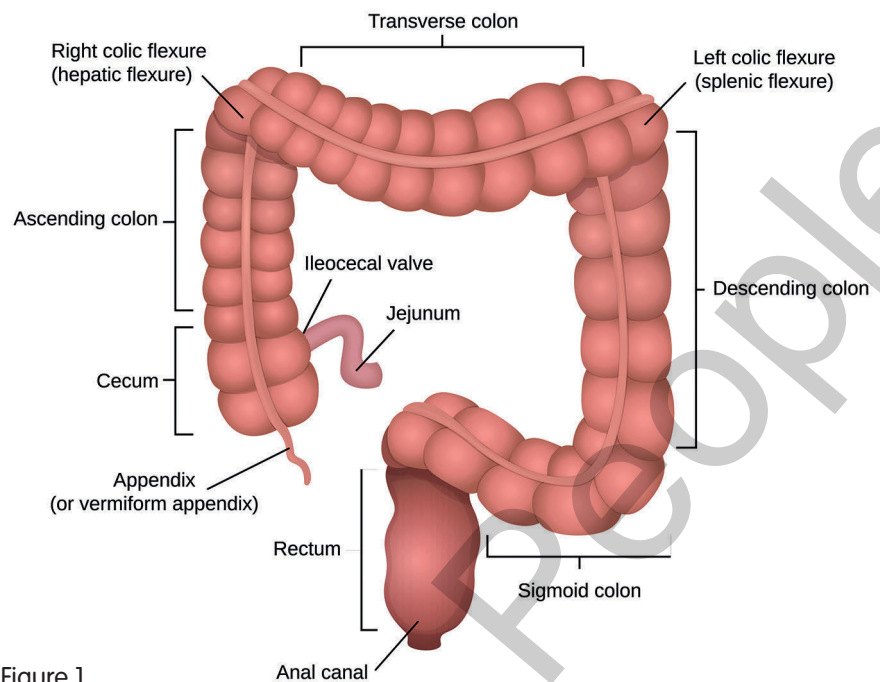


Figure 1. Anatomy of the large intestine.

moderate or severe, with Bliss et al, (2017) identifying three types of classification, namely:

- ▶ Passive incontinence (involuntary loss of stool or flatus without any awareness) — usually associated with neurological dysfunction, hyposensation of the anal canal being the predominant sign
- ▶ Urge incontinence (discharge despite active attempts to retain contents) occurs when the urge to have a bowel movement is very strong and access to a bathroom is needed urgently. The anal sphincter muscles are not strong enough to hold the stool back, so leakage occurs before toileting can occur, even with intact sensations and pelvic floor
- ▶ Faecal seepage (leakage of stool with grossly normal continence and evacuation).

ANATOMY AND PHYSIOLOGY

To assess the problems that FI causes, it is imperative that healthcare professionals understand the basic anatomy and physiology of normal bowel function to determine what can go wrong. Thus, this article, the first in a two-part series, will look at the functions of the large intestine, the structure of the lower anal canal, rectum, sphincters and pelvic floor complex.

LARGE INTESTINE

The large intestine or colon (Figure 1) has a larger diameter than the small intestine and is approximately 1.5m in length. There are five main functions of the large intestine:

- ▶ Storage — the colon can store unabsorbed food residue. Within 72 hours, 70% of this is excreted. The remaining 30% can stay in the colon for up to a week
- ▶ Absorption — about 95% of water and electrolytes including sodium, chloride, some vitamins and drugs, including steroids and aspirin
- ▶ Secretion — mucus is secreted and used to lubricate faeces
- ▶ Synthesis — a small amount of vitamin K is produced
- ▶ Elimination — peristaltic movement of faecal matter into the rectum, where its presence is detected by sensory nerve endings and a sensation of fullness is experienced, followed by a desire to defecate

(RCN, 2019).

RECTUM, SPHINCTERS AND PELVIC FLOOR

Rectum

The primary function of the rectum is to collect and store faeces until being ready to defecate. Extrinsic autonomic nerves act upon the intrinsic nerves at submucosal plexuses to innervate

the rectum. The combined effect of these nerves allows the rectal muscle the ability to relax and stretch and gradually accommodate increasing amounts of faecal content as it moves from the descending colon into the rectum (Norton and Chelvanayagam, 2004). This is known as rectal compliance. The rectum absorbs the remaining water, electrolytes and further solidifies waste products. The process of rectal emptying is usually initiated voluntarily. Anal rectal pressures are expressed in centimetres of water and resting pressure is low (between 5–20cm H₂O) and does not increase significantly with increasing rectal content (Norton and Chelvanayagam, 2004).

Internal and external anal sphincters

The internal anal sphincter (IAS) is an involuntary circular smooth muscle approximately 0.3cm wide and ends 10mm above the anal verge. It is able to maintain tonic contraction for long periods of time and contributes to 85% of the resting anal tone, ranging from 60–110cm H₂O (centimetres of water) in healthy individuals, and is under autonomic innervation. It is primarily responsible for closure of the anal canal at rest (Salvatore et al, 2017). The anorectal inhibitory reflex enables the internal sphincter to relax, allowing anal sensory receptors to sense rectal contents. This helps to differentiate solid or liquid stool from gas.

The external anal sphincter (EAS; *Figure 2*) is a 0.6–1.0cm thick cylindrical striated muscle, which is under voluntary control (Salvatore et al, 2017). It surrounds the IAS

and extends down to the anal verge. This muscle is fatigable and only contributes to 15% of the resting anal pressure tone. Its primary role is to preserve continence when stool or flatus is present in the rectum, or when intra-abdominal pressure rises, e.g. when coughing, sneezing, laughing. It relaxes to allow defaecation and is innervated by the inferior branch of the pudendal nerve (S3–S4) (Salvatore et al, 2017).

Puborectalis muscle

The puborectalis muscle (*Figures 3 and 4*) is part of the pelvic floor complex. It is a mixture of slow and fast twitch muscles and contains both types of muscle fibres. Its function is to close the upper anal canal and forms part of the anorectal angle. This angle is believed to be important in preserving continence and at rest forms an acute angle of 90 degrees, but during defaecation it becomes obtuse at an angle of between 110–130 degrees. This allows easier passage of the stool (Salvatore et al, 2017). The whole pelvic floor/anorectal angle mechanism works in conjunction with the anal sphincters during defaecation.

Anal cushions

The submucosa of the anal lining contains blood vessels, connective tissue, smooth muscle and elastic tissue, which typically form three separate complexes of smooth muscle fibres and vascular channels called anal cushions (*Figure 5*).

In the author's clinical opinion, their contribution to continence is poorly studied and controversial, but they may assist with the closure mechanism by exerting pressures of up to 9mmHg, and thus possibly contributing 10–20% of resting anal pressure (Salvatore et al, 2017).

STOOL PRODUCTION

Normal stool output is about 150–200g per day. The upper colon defines consistency and volume of delivery of contents to the rectum. Bowel frequency in a healthy adult varies from three times daily to once every three days (Norton and Chelvanayagam, 2004; RCN, 2019). Faeces are made up of food residue, sloughed cells, unabsorbed

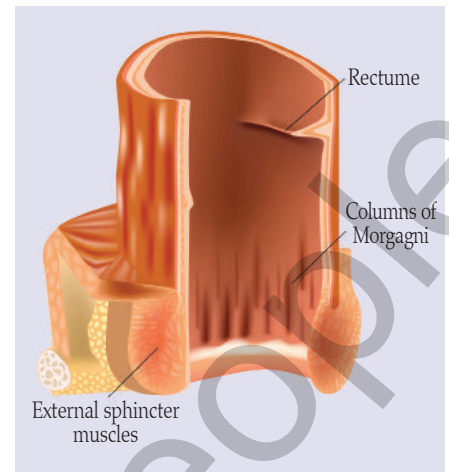


Figure 2.
External anal sphincter.

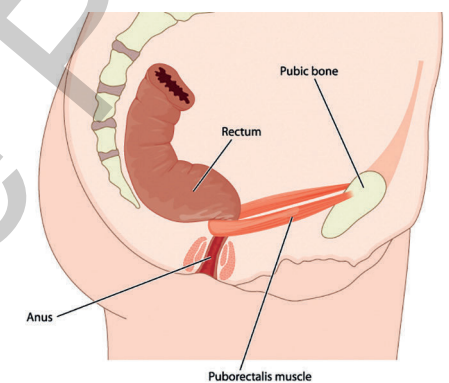


Figure 3.
Puborectalis muscle contracted.

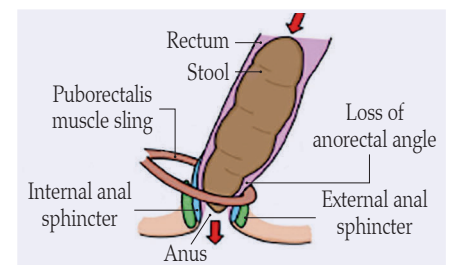


Figure 4.
Puborectalis muscle at rest to allow passage of stool.

gastrointestinal secretions, mucus and bacteria. Stool consistency can vary and has numerous influences, e.g. gender, diet and fluids.

Defaecation or rectal emptying is usually initiated voluntarily. The rectum has a reservoir function to accommodate the contents until defaecation is appropriate. As rectal filling gradually proceeds ano rectal sampling takes place, with relaxation of the upper internal anal sphincter taking place approximately every 8–10 minutes. The contents are presented to the anal sensory mucosa in wave-like contractions,

Mechanism summary

- ▶ Faeces enter rectum
- ▶ Reflex relaxation of sphincter
- ▶ Intra-abdominal pressure rises
- ▶ Anorectal angle straightens during sitting/squatting
- ▶ Gut contraction empties left colon into rectum
- ▶ Faeces squeezed out through anus.

Table 1: Factors which maintain continence (adapted from Norton and Chelvanayagam, 2004; Salvatore et al, 2017)

▶ An effective barrier to outflow provided by an acute anorectal angle and anal sphincters
▶ Intact internal anal sphincters and anal cushions to ensure no passive leakage of stool
▶ Intact external anal sphincters to defer defaecation and reduce bowel urgency
▶ Intact rectal and anal sensation
▶ Compliant, distensible and evacuable reservoir (rectum)
▶ Intact central nervous system/functional reflexes for sampling stool
▶ Bulky and formed faeces
▶ Adequate cognitive (to recognise urge to defaecate) and physical mobility (to reach appropriate place)

each lasting less than 10 seconds. This allows the sensory epithelium of the anal canal the opportunity to distinguish solids from liquid and gas. This is important in maintaining continence. Movement of the faeces into the rectum evokes the desire to defaecate, known as the 'call to stool' (Norton and Chelvanayagam, 2004).

When in a socially appropriate place, the person adopts a sitting/squatting position. This helps to straighten out the anorectal angle, allowing faeces to pass into the anal canal. Abdominal pressure is raised by contraction of the diaphragm and the abdominal muscles tensing to put pressure on pelvis. The puborectalis and external anal sphincter muscles relax, which allows for expulsion of the stool.

Complete maintenance of continence is dependent on several major factors and is most likely with normal transit of formed stool (Table 1).

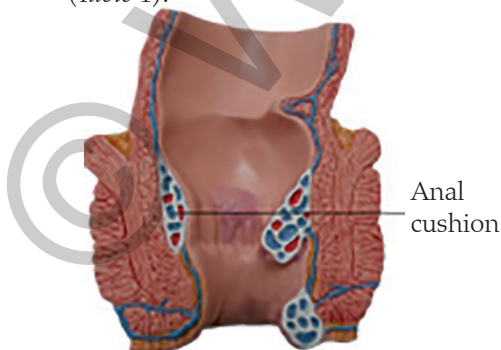


Figure 5.
Anal cushions.

REFLEX ACTIONS

There are a number of reflex actions with regards to the bowels that are also part of the anatomy and physiology. Healthcare professionals should be aware of these before any treatment option, namely:

- ▶ Gastro colic reflex — this is initiated when food and/or drink is ingested into the stomach and enhances muscular activity in the large bowel
- ▶ Anal reflex — when the skin around the anus is touched it contracts then relaxes. When undertaking certain procedures, e.g. suppositories/enemas use this reflex for easier insertion
- ▶ Closing reflex — this is the basis on which the anal sphincter snaps shut at the end of the evacuation process. This can be enhanced by squeezing the external sphincter muscle at the end of defaecation
- ▶ Recto anal inhibitory reflex — results when there is distension of the rectum where IAS relaxes and EAS contracts. This can be felt when the rectum fills and the 'call to stool' can be felt.

CONCLUSION

Faecal incontinence is prevalent and drastically affects quality of life. The anatomy and physiology of the bowels is complex and maintaining continence relies on all of these processes being intact. It is imperative that healthcare professionals not only understand the impact that this symptom has on individuals, but also comprehend how a normal bowel functions to determine what can go wrong. Part two of this series will explore bowel dysfunction and the causes of faecal incontinence, touching on how healthcare professionals can help. **JCN**

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Recurrent lower urinary tract infection in older women

Linda Nazarko

Diagnosing and managing lower urinary tract infections (UTIs) in women aged 65 years and over is important to ensure their health and wellbeing. This article explores how to diagnose lower UTI, considering alternative diagnoses especially in older adults, as their symptoms may mimic UTI but may indicate other underlying conditions. It also looks at how to manage and treat uncomplicated lower UTI and provides guidance on recurrent UTI, usually defined as three or more episodes in a year.

KEYWORDS:

- Recurrent urinary tract infection
- Older women
- Diagnosis
- Treatment
- Antimicrobial resistance

Women are at increased risk of lower urinary tract infection (UTI), a risk which increases with age (Ahmed et al, 2018). Women who develop a lower UTI are likely to seek treatment in primary care or in NHS walk-in centres and most are prescribed antibiotics on presentation (Pujades-Rodriguez et al, 2019). Misdiagnosis is common and urine culture indicates that only 24–66% of women in the UK treated with an antibiotic have a confirmed UTI (Little et al, 2010; Butler et al, 2015).

Misdiagnosis and inappropriate treatment with antibiotics has three consequences, namely:

- ▶ The woman who presented with lower urinary tract symptoms did not receive the correct diagnosis and treatment (Cortes-Penfield et al, 2017)

'A lower urinary tract infection (UTI) is an infection of the bladder (also known as cystitis) usually caused by bacteria from the gastrointestinal tract.'

(National Institute for Health and Care Excellence [NICE], 2023)

- ▶ She may also be exposed unnecessarily to adverse effects of antibiotic therapy. These range from fungal infection to life-threatening infections, such as *Clostridium difficile* (Mohsen et al, 2020)
- ▶ Inappropriate prescribing also increases the risk of antibiotic resistance (Mahmood et al, 2022).

This article explains why women are at increased risk of lower UTI, why risks increase with age, how to diagnose and treat UTI and how to act when infection recurs.

FEMALE ANATOMY AND RISK OF LOWER URINARY TRACT INFECTION (UTI)

Women have an increased risk of UTI because the urethra, which provides a

barrier to ascending bacteria, is only 5cm long; a man has a urethra of around 15cm in length.

Ageing leads to normal and pathological changes in the urinary system, and can affect the kidneys, bladder and other components of the urinary system. It diminishes the body's ability to maintain homeostasis, the normal balance within body systems and within the blood (Denic et al, 2016).

The kidneys are important organs, which perform several crucial functions, including:

- ▶ Regulating fluid balance
 - ▶ Maintaining the body's acid-base balance (pH level)
 - ▶ Regulating electrolyte balance (such as sodium, potassium calcium and phosphate in the blood)
 - ▶ Excreting end products of metabolism and drugs
 - ▶ Producing and releasing hormones (such as erythropoietin [EPO])
 - ▶ Producing vitamin D
- (Andrade and Knight, 2017).

Kidney mass decreases from 250 to 200 grams between the ages of 20 and 80. The majority of cells lost are in the renal cortex, which contains the largest number of nephrons. Glomerular cells in the nephrons filter blood and produce urine. In old age, 30–50% of these cells are lost, so the kidneys become less efficient (Andrade and Knight, 2017). These changes affect the blood flow through the nephrons and decrease the ability to concentrate urine and maintain pH balance (Andrade and Knight, 2017). In youth, the kidneys concentrate urine efficiently, so young adults rarely have to wake up in the night to pass

urine. At the age of 85, an adult normally has to wake up twice a night to pass urine because the body produces more urine at night and the bladder is smaller than in youth. Antidiuretic hormone (ADH, also known as vasopressin) is produced effectively in youth and old age, with its main function being to regulate the balance of water in the body by controlling reabsorption in the kidneys. In younger people, ADH levels rise at night, this nocturnal rise does not occur in older people. The kidneys become less sensitive to ADH with ageing (El-Sharkawy et al, 2014).

Ageing decreases bladder capacity and sensitivity to fullness. In youth, the bladder, like a balloon, is stretchy, enlarges well and empties fully. As adults age, the amount of fibrotic tissue increases, so the bladder becomes less stretchy and holds less urine. It no longer contracts down efficiently so the residual urine, the amount of urine left in the bladder after urinating, increases. These changes mean that the working capacity of the bladder is reduced (Smith and Kuchel, 2017).

The bladder muscle contains sensors that alert adults to the fact that the bladder is filling up. However, these bladder sensors become less sensitive with age. Young adults are aware of the desire to void when the bladder is 50% full, while older adults become aware of the desire to void when the bladder is 90% full. Indeed, older people are more likely to urgently need to pass urine (Andrade and Knight, 2017).

The urethra passes from the bladder to the outside of the body and allows urine to drain. As women age, oestrogen levels plummet (Robinson et al, 2013). Oestrogen deficiency can lead to female urethral tissues becoming thin and lacking the plumpness of youth. This can lead to decreased urethral closing pressures and increases the risk of urinary tract infection (UTI) (Pipitone et al, 2021).

Age-related changes also heighten the risk of other non-infective lower urinary tract

symptoms, such as increased urinary frequency, urgency and having to get up in the night to pass urine, which may mistakenly be thought to be an indication of infection.

LOWER URINARY TRACT INFECTION — DIAGNOSIS

The European Association of Urology (EAU, 2023) categorises urinary tract infections based on clinical presentation and anatomical level of the UTI. *Table 1* shows the grade of severity of the infection and the categorisation of risk factors.

It is recommended that when women present with lower urinary tract symptoms, clinicians:

Take a complete medical history including symptoms and co-morbidity and perform a focused physical examination for evaluation of women with LUTS.

(EAU, 2023)

In busy GP practices with 10-minute consultation slots and walk-in centres with 15-minute slots, there is seldom time for such assessments. Urinary tract infection can be diagnosed via telephone consultations. If the older woman has a history of recurrent UTIs, the older woman, caregivers and relatives can and do telephone GPs and request antibiotic therapy, with prescriptions often being issued (Cooper et al, 2020).

The number of older people diagnosed with UTIs is increasing (Ahmed et al, 2018). If misdiagnosis

rates remain unaltered, increasing numbers of women will receive unnecessary antibiotic therapy (Little et al, 2010; Butler et al, 2015). Around 80% of antibiotics prescribed are done so in primary care (UK Health Security Agency, 2022), with UTI being the second most common cause of antibiotic prescribing, after respiratory tract infections (Dolk et al, 2018).

Diagnosis of UTI in older women, i.e. those over the age of 65, differs from that of younger women. This is because of increases in bacterial colonisation of the bladder in older women. As said, as the bladder ages and becomes less stretchy, there is an increased amount of urine left in the bladder after voiding. This residual urine often becomes colonised with bacteria. This bacterial colonisation, known as asymptomatic bacteriuria, is generally harmless and women have no symptoms of infection. Asymptomatic bacteriuria is more prevalent in frail older women living in care homes (Biggel et al, 2019).

The woman may, however, have non-infective lower UTI symptoms, such as frequency, urgency, dysuria, nocturia, stress incontinence, urge incontinence, voiding difficulties and the feeling of incomplete bladder emptying (Givler and Givler, 2023; Jarvis, 2023). Some older women may be fit and well at 65 and above and others may be frail, thus in the author's clinical opinion, community nurses should exercise clinical judgement when treating older women.

Table 1: Classification of UTIs based on EAU, 2023

Classification	Definition
Uncomplicated UTIs	Acute, sporadic or recurrent lower (uncomplicated cystitis) and/or upper (uncomplicated pyelonephritis) UTI, limited to non-pregnant women with no known relevant anatomical and functional abnormalities within the urinary tract or comorbidities
Complicated UTIs	All UTIs which are not defined as uncomplicated, meaning UTIs in a patient with an increased chance of a complicated course: i.e. all men, pregnant women, patients with relevant anatomical or functional abnormalities of the urinary tract, indwelling urinary catheters, renal diseases, and/or with other concomitant immunocompromising diseases, for example diabetes
Recurrent UTIs	Recurrences of uncomplicated and/or complicated UTIs, with a frequency of at least three UTIs/year or two UTIs in the last six months
Catheter-associated UTIs	Catheter-associated urinary tract infection (CA-UTI) refers to UTIs occurring in a person whose urinary tract is currently catheterised

Guidance states that clinicians should determine diagnosis based on presenting problem, medical history and clinical features (EAU, 2023). Clinicians should exclude other causes of urinary symptoms, such as medication, obesity, age-related changes to the urinary system and undiagnosed disease, check for symptoms of UTI and prescribe appropriately.

Excluding other possible diagnoses

Clinicians should check for any new signs of pyelonephritis, systemic infection, or risk of suspected sepsis (NICE, 2016: Public Health England [PHE], 2018).

In women who are menopausal, genito-urinary symptoms may be caused by atrophic vaginitis (Willacy, 2022). If the woman is sexually active, clinicians should consider the possibility of sexually transmitted infections (STIs), such as chlamydia and gonorrhoea (Michaels and Sands, 2015), which are on the rise in older people and is thought to be because of changing attitudes to sex and relationships and more casual sex (Evans, 2019). The clinician should also check for urethritis. The symptoms of urethritis are a more frequent urge to urinate, pain and burning on urination and irritation in the urethral area. While the primary cause is gonococcal infection, there are many other causes including trichomonas infection and non-infective causes (Young et al, 2022).

Non-infective causes relevant to older women include vigorous sexual intercourse, vaginal dryness secondary to atrophic vaginitis, bubble baths and feminine hygiene sprays (Young et al, 2022).

Practice point

Atrophic vaginitis is characterised by thinning, drying and inflammation of the vaginal walls and surrounding tissue, that occur when the body has less oestrogen, usually during or after the menopause.



'Diagnostic failure can result in over use of antibiotics and expose the older woman to harm, such as the risk of adverse effects, and by not being treated appropriately, the problem, if not self-limiting, will persist.'

CLINICAL FEATURES OF LOWER URINARY TRACT INFECTION

In older women, clinical features that are suggestive of urinary tract infection are:

- ▶ New onset of dysuria alone.
- Or, two or more of the following occurring:
 - ▶ New frequency or urgency
 - ▶ New incontinence
 - ▶ Visible haematuria
 - ▶ New suprapubic pain
 - ▶ Temperature 1.5C above patients normal twice in 12 hours
 - ▶ New or worsening delirium (PHE, 2018).

If fever or delirium only, consider other causes before treating for UTI.

DIPSTICK TESTING

Urine dipsticks should not be performed in older women as they are unreliable due to the increasing prevalence of asymptomatic bacteriuria (ABU) (PHE, 2018). Around 80% of older women who

have urinary incontinence and reside in care homes have ABU (Biggel et al, 2019). Women in care homes can have UTI diagnosed, 'relying solely on vague symptoms such as changes in behaviour or changes in the appearance of urine rather than typical symptoms of a UTI such as dysuria, frequency or urgency' (Sloane et al, 2017).

Diagnostic failure can result in over use of antibiotics and expose the older woman to harm, such as the risk of adverse effect, and by not being treated appropriately, the problem, if not self-limiting, will persist (Cortes-Penfield et al, 2017).

Urine cultures

Guidance states that clinicians should, whenever possible, send a urine specimen for culture and sensitivity before starting antibiotics. This is because there are higher rates of resistance in older women (PHE, 2018).

MANAGEMENT AND TREATMENT

If the woman has new onset dysuria or two symptoms, as outlined above, UTI is likely. Although UTIs are normally self-limiting, most women who seek clinical advice are prescribed an antibiotic (Pujades-Rodriguez et al, 2019).

Guidelines ask clinicians to consider if symptoms are mild, moderate or severe, and to advise

and treat accordingly (PHE, 2018). *Figure 1* provides details.

Antibiotic prescribing

A Cochrane review examined the efficacy of antibiotics in treating lower UTI. It found no significant difference in short- or long-term symptomatic cure when comparing trimethoprim, fluoroquinolones, nitrofurantoin, and betalactams (amoxicillin, cefuroxime, pivmecillinam). It found co-amoxiclav to be less effective than fluoroquinolones (Zalmanovici Trestioreanu et al, 2010).

Fluoroquinolones, such as ciprofloxacin, are no longer widely used to treat UTIs because of increasing antimicrobial resistance and evidence of severe and irreversible toxicity associated with their use (Medicines and Healthcare products Regulatory Agency [MHRA], 2019a; 2019b).

First-line treatment for UTIs are trimethoprim or nitrofurantoin, with three-day courses being recommended for treating uncomplicated UTIs (NICE, 2018; 2023b). There are no specific recommendations regarding duration of treatment for older women (NICE, 2018; 2023b). It is common practice for clinicians to prescribe longer courses of antibiotic for older people. A Cochrane review examined this issue and concluded that:

Short-course treatment (three to six days) could be sufficient for treating uncomplicated UTIs in elderly women, although more studies on specific commonly prescribed antibiotics are needed.

(Lutters and Vogt-Ferrier, 2008)

Trimethoprim dosage is 200mg twice daily. A study carried out in London in 2008 found that resistance rates in the community were 39%, with the authors concluding that:

Levels of resistance to trimethoprim and ampicillin render them unsuitable for empirical use.

(Bean et al, 2008)

Nitrofurantoin dosage is 100mg

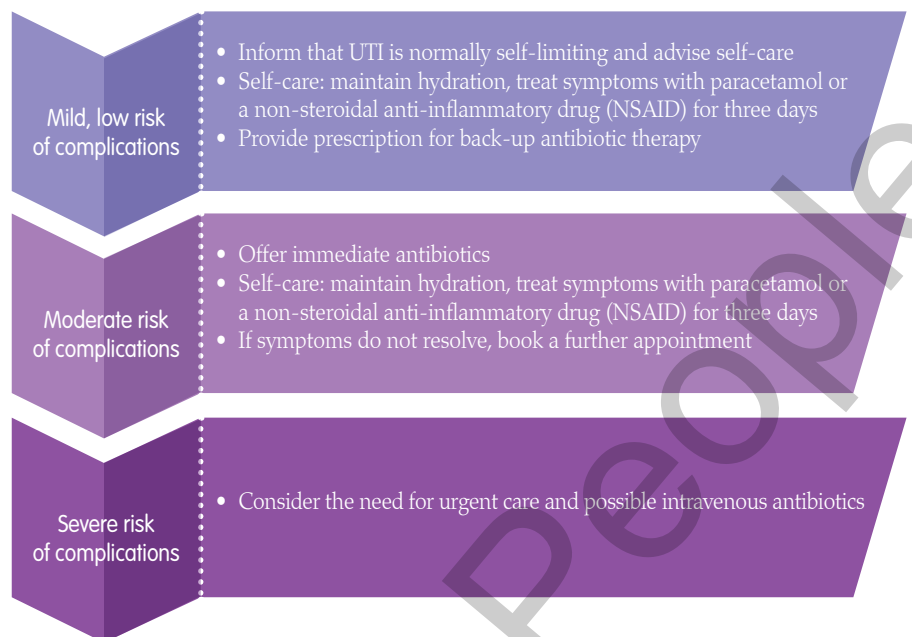


Figure 1.

UTI symptom severity and clinical management (NICE, 2018; 2023b).

‘NICE (2018) advises that if there is a known trigger that leads to infection, the woman may be prescribed a single-dose antibiotic to take prophylactically if exposed to this trigger.’

MR twice daily. It is excreted by the urinary tract and is not generally suitable for people with renal impairment and an estimated glomerular filtration rate (eGFR) of less than 45 (British National Formulary [BNF], 2023). Community resistance rates are around 5% (Bean et al, 2008). There are a range of other antibiotics that can be used, dependent on culture and sensitivity results.

If there is no improvement in symptoms when first-choice antibiotic is taken for at least 48 hours (or if first-choice is unsuitable), consider prescribing (NICE, 2018; 2023b):

- ▶ Nitrofurantoin 100mg modified-release twice a day for three days (if eGFR \geq 45ml/minute and not used as first-choice)
- ▶ Pivmecillinam (a penicillin) 400mg initial dose, then 200mg three times a day for a total of three days
- ▶ Fosfomycin 3g single dose sachet.

It is important that clinicians check urine cultures and if the cultured organism is not sensitive to the prescribed antibiotic that the antibiotic is changed.

Single-dose and daily antibiotic prophylaxis

These should only be considered if there has been an investigation of underlying causes, vaginal oestrogen has been prescribed, and the woman has been advised on drinking sufficient fluids and maintaining good hygiene, such as wiping from front to back after urination.

NICE (2018) advises that if there is a known trigger that leads to infection, the woman may be prescribed a single-dose antibiotic to take prophylactically if exposed to this trigger. There should be a six-month review.

Antibiotic prophylaxis, a daily dose of an antibiotic may be given.

Non-compliance

Obviously, prescribed medication that is not consumed is not effective. Non-compliance, a failure to take prescribed medication is common (Kleinsinger, 2018; Franklin et al, 2020). There are many reasons for this, including difficulty in:

- ▶ Collecting medication from the pharmacy
- ▶ Swallowing medication

- ▶ Remembering to take medication (Kleinsinger, 2018; Franklin et al, 2020).

In the event of recurrence, it is important that clinicians gently ask if the person is managing to take the medication as it was prescribed.

RECURRENCE

The National Institute for Health and Care Excellence (NICE, 2018) defines recurrent urinary tract infection as:

Recurrent urinary tract infection (UTI) is defined as two proven episodes within six months, or three within a year.

Around 20–30% of older women who develop a UTI will have a recurrence (Beerepoot and Geerlings, 2016). There are normally three causes of recurrent UTI, namely:

- ▶ Diagnostic failure
- ▶ Treatment failure
- ▶ Non-compliance with treatment (Table 2).

Recurrent UTI may be due to relapse (same strain of bacteria), or re-infection (different strain or species of bacteria). Any infection should be treated with an appropriate antibiotic, and vaginal oestrogen may be helpful.

The woman should be given information on self-care. Women may use remedies such as D-mannose, cranberry and probiotics. D-mannose and cranberry can be high in sugar. Currently, there is no evidence that probiotics are effective in preventing UTI (Schwenger et al, 2015). Most UTIs are caused by *Escherichia coli* (E.

Rose Gallagher, a 72-year-old lady who was overweight, had had a number of UTIs over a six-month period. They were affecting her quality of life and she was referred for specialist assessment. Mrs Gallagher complained of being very thirsty and was found to have type 2 diabetes.

She was prescribed metformin and enrolled in the diabetes weight loss programme (NHS England, 2023). Mrs Gallaher was also found to have a hypotonic bladder and a large residual urine. She was taught how to carry out intermittent catheterisation to empty her bladder properly.

Mrs Gallagher has now lost 15kg and her diabetes control is improving. She no longer feels terribly thirsty, is not passing excessive amounts of urine, and has not had a UTI for four months.

Patient story

‘Antimicrobial resistance contributes to recurrent UTIs, which can have a huge effect on a woman’s quality of life. There is a new class of antibiotic, gepotidacin, that is awaiting approval.’

coli), and D-mannose, a type of sugar, is thought to work by preventing *E.coli* from adhering to the lower urinary tract. Indeed, a study of 308 women found that D-mannose was as effective as nitrofurantoin for preventing UTIs over a six-month period (Altarac and Papeš, 2014).

Cranberry juice and cranberry products are also thought to prevent UTI by preventing bacteria from adhering to the urinary tract. There is some evidence that this is effective (Fu et al, 2017). A Cochrane review found that cranberry products may help reduce the risk of recurrent UTIs,

however further research is required (Williams et al, 2023).

There is some evidence that methenamine (Hiprex), a medication that can be bought in pharmacies, can prevent UTI. It acts as a urinary antiseptic, safely producing formaldehyde to prevent bacterial growth while avoiding bacterial resistance (Chwa et al, 2019).

Holistic care

If a woman has repeated UTIs, it is important to carry out a thorough assessment to determine if there are any predisposing factors or bladder abnormalities.

SAFETY NETTING

Follow-up should be arranged within three to six months. The woman should be advised to seek urgent review if symptoms of acute UTI develop. Different antibiotics should be used for prophylaxis and treatment of acute UTI (NICE, 2018; 2023b).

Table 2: Reducing risks of recurrent UTIs (author’s own work)

Diagnostic error	Treatment failure	Recurrence	Reducing risks of re-infection
Do the symptoms suggest UTI? Dysuria, alone or two of the following: ▶ New frequency or urgency ▶ New incontinence ▶ Visible haematuria ▶ New suprapubic pain ▶ Temperature 1.5C above patient’s normal twice in 12 hours	Confirm diagnosis Is patient willing and able to take medication Ensure right antibiotic is prescribed in the right dose for the right duration Has the infection resolved?	Confirm diagnosis, sensitivities, concordance with previous treatment and treat Check predisposing factors, e.g. diabetes, bladder emptying difficulties and bladder abnormalities. Has the infection resolved?	Improve hygiene and optimise fluid intake Identify and treat contributing factors Optimise treatment of long-term conditions Consider topical oestrogen Consider bacteriostatic agents
If not, consider alternative diagnosis		Consider referral for further investigations and treatment	

Practice point

- ▶ A hypotonic bladder is when muscles of the bladder wall are weak, which can cause the bladder not to contract effectively during urination. As a result, the bladder may not be able to empty completely, leading to residual urine
- ▶ Residual urine refers to urine that remains in the bladder after urinating. In a healthy bladder, the volume should be minimal, typically less than 50 millilitres. However, in cases of a hypotonic bladder, the residual urine volume can be significantly larger.

FUTURE THERAPIES

Overuse of antibiotics contributes to antimicrobial resistance — an important and urgent public health threat. Systematic misuse and overuse of these drugs in human medicine and food production puts humanity at risk and there are few replacement products in the pipeline (World Health Organization [WHO], 2016). Currently, 20,000 unnecessary antibiotic prescriptions are written each day in primary care. At least one in five of around 100,000 antibiotic prescriptions issued by GPs in England every day are unnecessary (Smith, 2018; Palin et al, 2019).

Antimicrobial resistance contributes to recurrent UTIs, which can have a huge effect on a woman's quality of life. There is a new class of antibiotic, gepotidacin, that is awaiting approval. This works by damaging bacterial DNA (Gallagher, 2023).

This new treatment may help women with recurrent UTIs, but in the author's clinical opinion, it is important that diagnosis rates are improved and antibiotics are prescribed prudently in order to improve quality of care.

CONCLUSION

Recurrent UTI can have a huge effect on a woman's life. It is important

that clinicians diagnose and treat UTIs effectively. If problems persist, specialist referral can address issues.

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Resource...

TARGET stands for treat antibiotics responsibly, guidance, education and tools. It is a toolkit designed to support primary care clinicians to champion and implement antimicrobial stewardship activities (<https://elearning.rcgp.org.uk/course/view.php?id=553>).

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Non-modifiable and modifiable risk factors for dementia: role of the community nurse

Karen Harrison Denning

Dementia is an umbrella term used to describe a group of symptoms characterised by behavioural changes, loss of cognitive and social functioning brought about by progressive neurological disorders. It is estimated that around one million people live with a dementia in the UK, with that figure set to rise to 1.2 million by the year 2040. We are learning more about the risk factors for developing dementia over the life course. This paper discusses the non-modifiable and modifiable risk factors for dementia and considers health promotion and health education activities that can be used by community nurses.

KEYWORDS:

- Dementia ■ Risk factors ■ Modifiable ■ Non-modifiable
- Community nurses

Dementia is a syndrome characterised by a set of signs and symptoms, including memory impairment, changes in behaviour, loss of cognitive and social functioning brought about by progressive neurological disorders (National Institute for Health and Care Excellence [NICE], 2018). There are more than 200 subtypes of dementia, the most common being Alzheimer’s disease, vascular, Lewy Body, mixed dementia (often a combination of Alzheimer’s and vascular) and frontotemporal dementia (Sandilyan and Denning, 2019) (Table 1).

‘... a negative consequence of the heightened population awareness of dementia also generated a societal fear of dementia (Alzheimer’s Research UK [ARUK], 2021). Dementia is now the most feared condition above cancer.’

It is estimated that around one million people live with a dementia in the UK, with that figure set to rise to 1.2 million by the year 2040 (Livingston et al, 2020). Dementia is often associated with advanced age, however, of the people living with dementia, there are estimated to be approximately 80,000 of these living with young onset dementia where symptoms occurred under the age of 65 (Carter et al, 2022). Dementia and Alzheimer’s disease are progressive and life-limiting conditions and are the leading cause of death for females in England and Wales, accounting for 40,250 deaths (14.0% of all female deaths) (Office for National Statistics [ONS], 2021).

The national dementia strategy (Department of Health [DH], 2009) and the prime minister’s challenge (DH, 2015) both had the aim to raise public awareness of dementia. Although these aims were perceived successful, a negative consequence of the heightened population awareness of dementia also generated a societal fear of dementia (Alzheimer’s Research UK [ARUK], 2021). Indeed, dementia is now the most feared condition above cancer (Tang et al, 2017). Another recommendation in the national dementia strategy (DH, 2009) was in support of the early recognition and diagnosis of dementia (Fox et al, 2013). Delayed or late diagnosis of dementia has been proposed as having an insidious and devastating impact on the outcomes for both people with dementia and their families by delaying or denying them access to essential post-diagnostic support and information (Bamford et al, 2021).

WHAT ARE THE RISK FACTORS FOR DEVELOPING DEMENTIA IN LATER LIFE?

As yet there is no cure for dementia, but more is known about its causes and some of the factors over a person’s life course that may increase their risk of developing dementia later in life. The risks can be broken into two types: non-modifiable and modifiable. Non-modifiable risk factors are as the name infers, they are those that we can do nothing about to change or ameliorate, whereas modifiable risk factors can be positively impacted upon over time through various actions to mitigate, reduce or eliminate the risk.

Karen Harrison Denning, head of research and publications, Dementia UK

Table 1: Common types of dementia (adapted from Sandilyan and Dening, 2019)

<p>Alzheimer’s disease</p> <ul style="list-style-type: none"> ▶ Approximately 75% of all dementias ▶ Involves neurofibrillary tangles, amyloid plaque and atrophy of the brain 	<ul style="list-style-type: none"> ▶ Slow, insidious onset with a progressive steady decline with symptoms worsening over time ▶ In the early stages: memory loss, especially for names and recent events, word-finding difficulties ▶ As the disease progresses, greater memory loss, impaired visuospatial skills and language difficulties and impaired functioning of activities of daily living
<p>Vascular dementia</p> <ul style="list-style-type: none"> ▶ 20–30% of all dementias ▶ Abrupt or gradual onset as a result of the brain’s blood supply being compromised by arterial disease 	<ul style="list-style-type: none"> ▶ Formerly known as multi-infarct dementia ▶ Focal neurological signs of vascular disease, such as hypertension, diabetes mellitus, arterial disease and smoking ▶ In addition to memory and language difficulties, slowing of thinking processes, depression, anxiety and apathy are common
<p>Lewy Body dementia</p> <ul style="list-style-type: none"> ▶ Approximately 10% of all dementias ▶ Lewy bodies are small aggregations of a protein that occur in neurons in various areas of the brain, including the cerebral cortex in dementia with Lewy bodies 	<ul style="list-style-type: none"> ▶ Shares several characteristics with Alzheimer’s disease and Parkinson’s disease ▶ Characteristic features are visual hallucinations, recurrent falls, and marked fluctuations in levels of conscious awareness and disturbed sleep and/or nightmares. Features similar to Parkinson’s disease include trembling in limbs, shuffling when walking and reduced facial expression
<p>Frontotemporal dementia</p> <ul style="list-style-type: none"> ▶ Approximately 2–10% of all dementias ▶ Affects frontal regions of the brain responsible for planning, emotion, motivation and language 	<ul style="list-style-type: none"> ▶ Formerly known as Pick’s disease ▶ Affects a younger age group ▶ Characteristic features include disinhibited and socially inappropriate behaviours, impaired judgement, apathy, and decreased motivation
<p>Mixed dementia</p>	<ul style="list-style-type: none"> ▶ More than one type of dementia can co-exist causing mixed dementia. The most common type is mixed Alzheimer’s and vascular dementias, where there are clinical characteristics and brain changes common to both conditions. This becomes much more common with advanced age, beyond 80 years

NON-MODIFIABLE RISK FACTORS

As noted, non-modifiable risk factors of dementia are those that cannot be changed. However, having a greater awareness of those people that may be affected can lead to early detection and so diagnosis. This enables the person and their family/carers to have timely access to post-diagnostic support and services to live as well as possible with their dementia (Bamford et al, 2021).

Age

Age is the most consistent and significant of the non-modifiable risk factors with the incidence and prevalence rates of dementia doubling every five years from the age of 65 to 85, with more women being affected by Alzheimer’s disease than men (Vergallo et al, 2020).

Genetic factors

There are at least 20 genes that are known to be associated with an increased risk of developing Alzheimer’s disease. The gene APOE type E4 is associated with greatest increased risk of developing late-onset Alzheimer’s disease (over the age of 65 years) (Hye and Velayudhan, 2020). Alzheimer’s disease is characterised by abnormal accumulation of the Aβ protein, which is a normal product derived from the amyloid precursor protein (APP) (Chen et al, 2017). People with Down’s syndrome are two to three times at greater risk of developing dementia than in the general population (Alzheimer’s Society, 2023).

Ethnicity

Evidence suggests that there is an increased prevalence of dementia in

Black African Caribbean and South Asian populations compared to the white population of the UK (Turner et al, 2012). However, diagnosis rates may differ among ethnic groups due to differences in seeking and receiving a diagnosis of dementia (Pham et al, 2018). What is known is that Black and Asian ethnic groups are more likely to experience cardiometabolic risk factors, such as diabetes and obesity, which increase their risk of dementia (All Party Parliamentary Group on Dementia [APPG], 2013), so vigilance in general health checks in mid-life is essential.

Mild cognitive impairment (MCI)

One-third to half of all people who have mild cognitive impairment (MCI) go on to develop a dementia within three years of its recognition (Barrett and Burns, 2014). Thus, in the author’s clinical experience, it is important to monitor people with MCI to enable early access to treatment and support should they go on to develop dementia, or in the treatment of another primary cause.

Parkinson’s disease

Dementia occurs more commonly in Parkinson’s disease than in the age-matched general population, with prevalence rates of between 20% and 45%, depending on the precise definition of dementia that is adopted (Schott, 2020). Community nurses, if aware of this risk in people who already have a diagnosis of Parkinson’s disease who are on their caseloads, can be vigilant for the early signs of cognitive impairment that may indicate a possible dementia.

MODIFIABLE RISK FACTORS

The Lancet Commission has now produced two reports on the risk factors for dementia with a third in development. In both commissions (Livingston et al, 2017; 2020), the interdisciplinary, international group of experts presented, debated, and agreed on the best available evidence for the risk factors of dementia and performed systematic reviews and meta-analysis of all included studies.

The first report (Livingston et al,

2017) proposed nine potentially modifiable risk factors for dementia (Livingston et al, 2017). In 2020, Livingston et al added a further three modifiable risk factors to this original nine, bringing the total to 12 (Livingston et al, 2020). These include lower education levels, hypertension, hearing impairment, smoking, obesity, depression, physical inactivity, diabetes, low social contact (Livingston et al, 2017), excessive alcohol consumption, chronic traumatic brain injury and air pollution (Livingston et al, 2020). Livingston et al (2020) state that these risk factors should be considered over a life-course model of dementia prevention and developed a visual map of these factors at various stages of the life course (Figure 1). They suggest that these 12 modifiable risk factors account for around 40% of worldwide dementias which could, theoretically, be prevented or delayed through living a healthy lifestyle.

Tackling modifiable risk factors for dementia involves both health promotion and health management in primary care. As part of everyday practice, community nurses will be aiming to promote and support healthier lifestyles in their patients, with such health promotion being key to the prevention of some forms of dementia.

Education

Several of the risk factors ‘cluster’ around inequalities, which occur particularly in Black, Asian, and minority ethnic groups and in vulnerable populations. Thus, community nurses working in deprived rural and urban areas need to factor this into any of their health promotion-related activities. Access to relevant health-related information early in the life course can have a significant impact. For example, higher levels of education in childhood are associated with a 7% reduction in the risk of developing dementia in later life (Livingston et al, 2020). Health education should also be promoted throughout a person’s life course, although, in lower middle-income communities, standards and access to secondary education

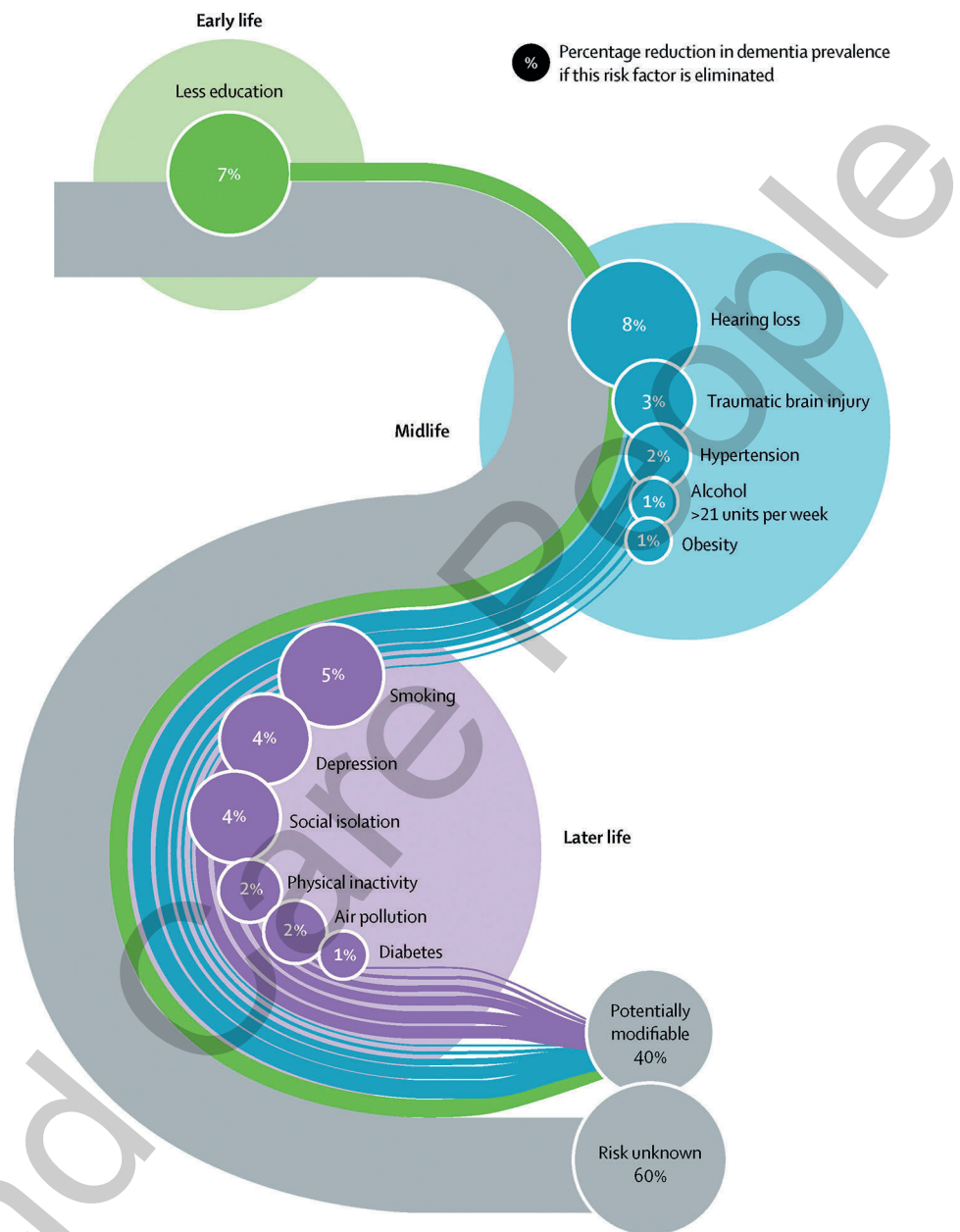


Figure 1. Modifiable risk factors for dementia over a life course (Livingston et al, 2020).

is likely to be lower, contributing to an increased risk of dementia (Livingston et al, 2020).

Hypertension

Persistent midlife hypertension is associated with an increased risk of dementia in later life, especially vascular dementia. Thus, achieving a systolic blood pressure of 130mm HG or less is a key aim from around the age of 40 to help reduce this risk (NICE, 2022). In the author’s clinical opinion, proactive blood pressure monitoring in regular scheduled health checks or a community nurse’s interaction with patients, along with education about healthier eating, weight loss in overweight persons, exercise and lifestyle can all

contribute to a reduction in risk. This should be promoted from an early age and revisited at various junctures throughout a person’s life course.

Midlife hearing impairment

There is growing research interest in age-related hearing loss (ARHL), not only as it is one of the most common health conditions affecting older adults, but also in its relation to cognition (Uchida et al, 2019). Studies have demonstrated a significant link between ARHL and cognitive decline (Fortunato et al, 2016). However, untreated midlife hearing loss can increase the risk of dementia in later life as a result of:

- ▶ Cognitive overload (exceeding cognitive capacity leading to

an inability to process further information, causing feelings of being overwhelmed and confusion)

- ▶ Reduced cognitive stimulation as hearing loss progresses (Ray et al, 2018; Uchida et al, 2019).

Thus, hearing tests and screening should be offered where noise-related work exceeds upper exposure values (i.e. where employees are exposed to high levels of noise). Furthermore, awareness of the effects of hearing loss can be promoted in interactions with patients who attend for a range of other conditions, as well as having simple signage in waiting rooms and the promotion of the free hearing tests that are available on the NHS. GP referral to an audiologist may again prove beneficial (NHS, 2020).

Smoking

The UK government introduced smoking cessation services throughout the NHS in the late 1990s (DH, 1998), with focused clinics and services for this now being widely available. Smokers face a 50–80% increased risk of dementia due to the toxic effects of the smoke on the lungs and stresses to their vascular system. However, smoking cessation at any age can help to reduce the risk of dementia in later life by 5% (Winblad et al, 2016). Community nurses can support smoking cessation and their patients with nicotine dependency at every reasonable opportunity and refer to their local smoking cessation service (Primary Care Respiratory Society [PCRS], 2023).

Depression

Depression is a common mental disorder — 5% of adults globally suffer from the disorder — with depression now being a leading cause of disability (World Health Organization [WHO], 2021).

Depression is characterised by persistent sadness and a lack of interest or pleasure in previously rewarding or enjoyable activities, often a disturbed sleep pattern and appetite. Tiredness and poor concentration are common (Targum and Fava, 2011). The effects of depression can be long-lasting or

recurrent and can dramatically affect a person's ability to function properly. However, depression in later life is associated with a twofold increase of dementia, especially Alzheimer's disease; although researchers continue to determine if this is a true risk factor or a prodrome to dementia (Byers and Yaffe, 2011).

The patient health questionnaires, PHQ-2 and PHQ-9 (Gilbody et al 2007) are, in the author's clinical opinion, both effective, valid, and reliable for detecting depression in a primary care population and a valuable tool for community nurses to employ. The PHQ-2 is a simple, two-item measure to use. A score of ≥ 3 may lead to undertaking a PHQ-9 or referral to specialist mental health services for clinical assessment for a major depressive disorder (Levis et al, 2020).

Physical activity

Promoting physical activity in relation to the risk of dementia has been the concern of many researchers (van der Wardt et al, 2021). Many professionals, including community nurses, promote information about the benefits of exercise in the course of their work. However, this has been shown to have a limited effect on peoples' behaviour and, on its own, might not be enough to change physical activity behaviour (van der Wardt et al, 2021).

Social prescribing is now available in many primary care settings whereby exercise interventions, in addition to providing information, can be offered to promote sustainability in physical activities (Yaman and Atay, 2018). However, many of these schemes are for those with an existing condition, such as mental health problems, frailty, etc and not accessible as a preventative measure. Even physical activity of a low intensity can reduce the risk of dementia by 40% and even reverse causation of dementia (Winblad et al, 2016). Community nurses should be aware of other local stakeholders and providers of exercise interventions and promote engagement in activities, such as gym membership, voluntary exercise or walking groups, etc. Despite the barriers, physical

activity is the largest influencer on modifiable risk reduction of dementia, but requires consistent engagement throughout the life course (van der Wardt et al, 2021).

Diabetes

In a systematic review of longitudinal cohort studies, Cheng et al (2012) found that adults with type 2 diabetes have a higher risk of developing Alzheimer's disease. One study found that individuals with type 1 were 93% more likely to develop dementia (Lacy et al, 2018). Having diabetes increases the risk of vascular, Alzheimer's disease or mixed dementia by 50% in later life, with the risk increasing with the duration of diabetes, poor control and severity (Winblad et al, 2016). Diabetes education and information should be available not only for people diagnosed with diabetes, but also other users of healthcare services. Community nurses are in a good position to provide such information, especially for those at greater risk, i.e. those from black and minority ethnic groups and with a learning disability (Care Quality Commission [CQC], 2016).

Obesity/diet

Prevalence of obesity is increasing in all countries within the UK, apart from Northern Ireland, with Scotland having the highest prevalence (UK Parliament, 2023). Obesity is a chronic condition that requires long-term management and is associated with stigma in different settings, including during interactions with the healthcare system (Albury et al, 2020). Community nurses can play a pivotal role in the prevention and management of being overweight and obese in both children and adults. Albury et al (2020) developed a consensus statement to inform healthcare conversations about weight management, such as, advice on existing excess weight and discussions about prevention. Furthermore, obesity and diabetes are inextricably linked with a persistently high body mass index (BMI above 30), resulting in an increased risk of dementia in later life (Albanese et al, 2017). Diets high in plant matter, nuts, and

olive oil, such as contained in a Mediterranean diet (Table 2), low in saturated lipids and red meat, can reduce the risk of cognitive decline (Livingston et al, 2017).

Social isolation

There is a relationship between social isolation and brain function. Social isolation can both lead to and accelerate the risk of and progression of symptoms of depression and dementia in later life. Social networks, loneliness, anxiety and depression in older people are all interrelated (Domènech-Abella et al, 2019), so there is increasing recognition that social health can be protective against age-related cognitive decline and dementia. The relationship of social networks is, however, often based on reciprocity between any social network member. This adds to problems for people already with a diagnosis of dementia as they lose the ability to connect and communicate with those around them, so are at increased risk of social loss as they deteriorate, which in turn worsens their cognitive decline (Sachdev, 2022). Those with multimorbidity and frailty are also susceptible to this, as their opportunities to socialise become more difficult (Curelaru et al, 2021).

Again, awareness of local social prescribing arrangements places community nurses in a strong position, as part of addressing a patient’s ‘non-medical’ needs. A good example is loneliness, which can affect a person’s health and well-being and, in the long term, risk of dementia. Interventions could involve signposting them to relevant local services, social groups, organisations, charities, activities, events or referral to a social prescribing service (Tierney et al, 2020).

Alcohol consumption

The NHS advise on alcohol consumption recommending ≤14 units of alcohol a week should be consumed and spread across three days or more (NHS, 2023). Fourteen units of alcohol equates to six medium (175ml) glasses of wine, or six pints of 4% strength beer. As part of their ‘better health — let’s

do it’ approach, the NHS advise that there is no completely safe level of drinking, but sticking within these parameters lowers the risk of harm (NHS, 2023). Beyond these recommended levels or over long periods, alcohol is associated with health risks, among others, cognitive impairment and dementia.

Chronic drinking of more than 21 units per week is considered harmful leading to a 17% increased risk of dementia in later life (Sabia et al, 2018). However, this type of ‘at-risk drinker’ does not meet the clinical criteria for alcohol use disorder. Alcohol use disorder is a psychiatric illness defined as alcohol use causing clinically significant impairment or distress, characterised by impaired control over drinking and ongoing drinking despite harmful consequences (American Psychiatric Association [APA], 2023). Community nurses are well placed to observe such drinking patterns in their patient populations and offer advice and support during patient contacts and appointments, and can use basic first-line counselling to promote healthier drinking habits (Spithoff and Kahan, 2015).

Traumatic brain injury (TBI) and chronic traumatic encephalopathy (CTE)

Traumatic brain injury (TBI) and chronic traumatic encephalopathy (CTE) are key contributory risk factors in dementia, especially in those who have sporting careers where they experience frequent head injuries, such as in rugby and football (Livingston et al, 2020). During the course of clinical activity, community nurses can offer advice to people involved in sport, parents of children, etc to, wherever possible, avoid head-to-head, arm-to-head or foot-to-head collisions with others. They can advise on the right protective equipment for sport, such as helmets, padding, shin guards, and eye and mouth guards. Traumatic brain injury does not just arise from contact sport however, so community nurses need to be aware of other possible situations of risk, such as domestic abuse situations (Centers for Disease Control and Prevention, 2021).

Table 2: Mediterranean diet (adapted from Liu et al, 2021)

Type of food	Quantities
Leafy green vegetables	▶ At least six servings a week
Other vegetables	▶ At least one serving a day
Berries	▶ At least two servings a week
Whole grains	▶ At least three servings a day
Fish	▶ One serving a week
Poultry	▶ Two servings a week
Beans	▶ Three servings a week
Nuts	▶ Five servings a week
Wine	▶ One glass a day*
▶ Olive oil	

* Alcohol to be taken in moderation, how the body handles alcohol can change with age

Air pollution

Air pollutants can arise from both man-made and natural sources. Many everyday activities such as transport, industrial processes, farming, energy generation and even domestic heating can have a detrimental effect on our air quality (Public Health England [PHE], 2018). Due to growing global warming concerns, air pollutants, such as methane and black carbon, are powerful short-lived climate pollutants (SLCPs) that contribute to climate change and ill health (WHO, 2023). Almost all of the global population are exposed to air pollution levels that exceed the safe WHO guideline level for fine particulate matter (PM 2.5µg/m³) (WHO, 2023).

Exposure to environmental air pollutants increases the risk of cognitive impairment and dementia (Livingston et al, 2020). The inability to influence this modifiable risk factor is probably greater felt in poorer populations who live in urban, less affluent areas with more social housing and high traffic volume. This type of risk is less modifiable from an individual perspective and requires national and local government attention.

Nevertheless, community nurses can provide information and support to help people understand the effects of air pollution and offer advice on managing conditions, such as asthma or chronic obstructive airways disease, as well as actions they can take to reduce their day-to-day and lifetime exposure to air pollution, such as not undertaking vigorous exercise when outdoor air pollution levels are high (PHE, 2018).

CONCLUSION

The 12 modifiable risk factors account for around 40% of worldwide dementias which could be prevented or delayed (Livingston et al, 2020). The potential for prevention is high and community nurses should consider the opportunities in their day-to-day practice to promote brain health and dementia prevention throughout a person's life course. While many risks require government policy and societal changes, healthcare professionals play a significant role in both health education, health promotion and in vigilance when some of the risk factors come in to play in individual patient lives. Similarly, the NHS Health Check programme (NHS England, 2023),

alongside other routine checks, support people with long-term health conditions to be monitored and managed effectively. **JCN**

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Revalidation Alert

Having read this article, reflect on:

- Your knowledge of non-modifiable and modifiable risk factors for dementia
- The most common subtypes of dementia
- Health education and health promotion activities you provide to help patients better understand the risk factors for dementia.



Then, upload the article to the free JCN revalidation e-portfolio as evidence of your continued learning: www.jcn.co.uk/revalidation

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Palliative care of the elderly patient at home

Samantha Bridgwood

Palliative care of the elderly patient who wishes to die at home is an integral part of the role of community nurses. Historically, it has been found that this area is at risk of mismanagement, with poor symptom control, a breakdown in home care services and lack of support for carers; aspects which can lead to admission to hospice or hospital. As such, this article examines the essential role of the community nurse in both practical ways of assessment, planning and reviewing care of the patient and the family; as well as psychological ways of supporting, guiding and listening. The article uses a case study to illustrate an example of the process of planning palliative care in the community, while acknowledging that each situation is individual to each patient, resulting in a variety of challenges. It can be seen that the community nurse is the mainstay in the whole process of palliative care of the elderly patient; providing a bespoke package of care in collaboration with the wider multidisciplinary team and thus enabling the patient to remain at home in their final days.

KEYWORDS:

- End-of-life care ■ Palliative care ■ Care plan
- Assessment ■ Dying at home

A large proportion of community nursing is involved in the palliative care of those wishing to die at home, specifically the elderly population who are simply nearing the end of life and for whom further active medical intervention would be inappropriate. As stated by Thomas, (2011) in the *Gold Standards Framework of Community Palliative Care*:

Sensitivity facing the reality of dying and making a plan for the final stage of life is as important in the end of life as planning for pregnancy and labour are in the antenatal or early life care.

In community nursing, this comparison is pertinent. Approaching the end of life when elderly is as

natural a process as birth; just as a midwife prepares and supports in birth, in the author's clinical opinion, palliative care of the elderly patient is about preparation and anticipating issues, supporting with symptoms and dealing proactively with the obviously unpredictable nature of the process.

Burns (2010) states that 'end-of-life care for older people is often suboptimal', with research showing staff focusing on physical needs over psychological care, and that the elderly patient is less likely to receive appropriate pain control.

This article looks at the principles of palliative care stated by Macmillan Cancer Support (2023) of 'sensitive communication, comfort and dignity, holistic approach and support for family' and identifies how this can be achieved in the community through using the example of a patient story (patient A). Indeed, palliative care is

an intricate system of carers, medical professionals and family working in collaboration, the important aspects of which this article will highlight.

The article also explores key elements of palliative care as defined by Matthews et al (2021): 'Decision-making, future-planning, coping and support and symptom control'. These should be 'flexible, attentive, patient-led and family-centred'. Although community nurses deal with palliative care of the elderly in both the home and residential care settings, this article deals solely with the former.

Planning for palliative care at home begins when a patient is assessed by healthcare professionals and it is decided in discussion with the patient and family that due to general decline, multiple comorbidities or simply advanced age, that intervention would not be appropriate. When a decision is made by the patient and/or family that they are to remain at home for end-of-life care, the community team steps in to support and plan. The Gold Standard Framework (GSF) forms the 'framework for GPs, district nurses and colleagues to improve the organisation and quality of care for patients in their last year of life' and is the basis of care planning with the seven Cs (Table 1) (Dale et al, 2009).

INITIAL ASSESSMENT

National Institute for Health and Care Excellence (NICE) guidelines (2019) state the importance of holistic assessment when an individual becomes end of life. The first meeting should incorporate this, with information being documented regarding diagnosis, mobility, pain levels, sleep, diet and weight, family support, home environment and skin assessment; with community nurses

Table 1: Seven Cs of GSF (Dale et al, 2023)

▶ Communication
▶ Coordination — between members of the multidisciplinary team
▶ Control of symptoms
▶ Continuity — out-of-hours care
▶ Continued learning
▶ Carer support
▶ Care of the dying

gaining a general 'feel' for the situation during the visit. In the author's opinion, this can reveal much about the level of support needed at this stage and provides a starting point for the care and level of support needed in the future.

PATIENT STORY

Patient A, an 86-year-old gentleman, was discharged from hospital with an end-of-life status. The ReSPECT form (Recommended Summary Plan for Emergency Care and Treatment) was completed before discharge (Resuscitation Council, 2023).

This incorporates:

- ▶ Name, date of birth, NHS number, address, date of completion
- ▶ Shared understanding of health and current condition
- ▶ Details of other care planning documents, e.g. advanced directive
- ▶ Values and fears in treatment and care in emergency
- ▶ Clinicians recommendations (in agreement with patient) on extent of emergency care and treatment
- ▶ Do Not Attempt Cardiopulmonary Resuscitation (DNACPR) status
- ▶ Mental capacity
- ▶ Emergency contacts
- ▶ Signatures of clinicians completing the form.

Patient A's elderly wife was the main carer, but their daughter lived nearby to help with cleaning and shopping. His pain was being managed with oral analgesia, but he was struggling to take other medication in tablet form. The patient's mobility was poor and he was unable to get upstairs to the bedroom so was sleeping in a reclining chair in the lounge. During the initial assessment done by the community nurse, his wife was tearful about her

ability to cope and the obvious grief at the prognosis. Both were clear of the wish to stay at home.

The GSF cites three main reasons why a preferred death at home can in fact end up with a hospital admission, namely:

- ▶ Unresolved symptom control
- ▶ Breakdown in home care services
- ▶ Lack of support for carers.

Thus, a full individualised plan should be formulated to prevent these issues from occurring.

The initial visit to patient A revealed several points to address. Clearly, each and every palliative assessment is different, but this example shows the holistic nature of the planning as well as the involvement of other agencies in the process. Electronic Palliative Care Coordination Systems (EpaCCs) can be used as a tool to document electronically, thereby facilitating communication between all healthcare professionals involved.

As said, patient A had a ReSPECT form. This is sometimes completed by the hospital and other times in the community during a conversation between the community nurse, patient and family about the patient's wishes. In the home setting, it is essential to clarify where the form is kept and documented on the system so it can be accessed if necessary to avoid confusion in the event of deterioration.

Patient A's pain was initially managed with oral analgesia in the form of an opiate syrup, which he was able to take. Tablets were proving a challenge, so intervention was needed in the form of a GP review of medication to eliminate all medication which was no longer appropriate. Symptom control is essential and other methods of taking medication should be considered.

Similarly, in the process of planning, the GP will prescribe anticipatory medication. Community teams do not have access to a medicine cupboard, as is the case in hospital, so injectable medication should be prescribed and kept in the home in the event of the patient

losing oral route, or oral medication no longer controlling palliative symptoms adequately (Marie Curie, 2023a). This is typically medication to control the most common symptoms in end-of-life care, such as pain, anxiety, nausea and chest secretions (Marie Curie, 2023a). In the author's clinical experience, having these brought into the home before needed can provoke anxiety in both the patient and family so an honest, compassionate conversation is essential. Medications should be kept in a cupboard in the home, added to the stock balance on the prescription chart, and their location documented. An accompanying pack of syringes, needles and a sharps bin should also be brought into the home. In the author's clinical experience, preparation is key in end-of-life care in the community, as organising these aspects when they are actually needed can take several hours.

Patient A had a poor diet; this could have been due to general deterioration or the symptom of a specific physical illness and so the GP should prescribe dietary supplements to maintain energy levels and prevent added deterioration. Dietary advice should be given to both the patient and carer about high energy, easy foods and eating little and often. Weight can be monitored on a monthly basis using the malnutrition universal screening tool (MUST) (British Association of Enteral and Parenteral Nutrition [BAPEN], 2023; Table 2).

Patient A's wife was elderly too, so risk of burnout or inability to cope had to be anticipated. As stated in the GSF, one of the major reasons for failed palliative care at home is lack of support for carers. Early identification

Table 2: Five 'MUST' steps to identify nutritional status (BAPEN, 2023)

1. Measure height and weight to gain body mass index (BMI) score
2. Note percentage of unplanned weight loss and score
3. Establish acute disease effect and score
4. Add scores from steps 1–3 to gain overall risk of malnutrition
5. Develop care plan using guidelines and/or local policy

of this can ensure carer support in a practical sense, such as the Fast Track system, which, in collaboration with the GP, can provide up to four care visits a day (NHS, 2023). In addition, local hospices can provide respite sitting services for the wife to go out for a break and night sits if and when needed.

Community nurses are the portal for communicating with other agencies to ensure adequate and comprehensive care for both the patient and carers. In the author’s clinical experience, as well as this practical support, reassurance, honesty, and encouragement are essential components for holistic care of the patient and family.

Assessment of patient A’s mobility revealed issues of frailty due to his age. Thus, at this stage, it should be established whether it would be pertinent or appropriate for referral to occupational therapy (OT) for provision of grab rails, bath seats, and other mobility aids. While this can be appropriate for the elderly palliative patient, it is often unrealistic to expect an improvement in mobility so equipment assessment should be based on safety, comfort and the prevention of pressure ulcers. In the author’s clinical experience, this may be with or without OT input, as community nurses can order pressure-relieving equipment via the Red Cross.

For patient A, a discussion was necessary regarding a profiling bed for comfort and for the ease and safety of care provision by carers. This can often be an emotive conversation; elderly couples who have been married for many years face sleeping apart for the first time and so the conversation must be empathic. It has been known for patients to decline the use of a profiling bed for this reason. Understandably, community patients have greater autonomy than those in hospital and their wishes based on information given by the nurse is paramount.

Additionally, it has to be considered that profiling beds, with the accompanying pressure-relieving mattress, take a large amount of space in a downstairs room and moving

furniture and loved possessions and a basic disruption to the home environment can be stressful — practically and emotionally. Again, compassion and understanding should be provided. In the author’s clinical experience, subsequent visits, with the inevitable growth in the therapeutic relationship between family and nurse, are the essential component in addressing issues which are difficult to broach on a first visit and help to prevent patients and family from feeling overwhelmed.

Patient A had family to move furniture and a profiling bed and pressure-relieving mattress was ordered by the nurse via the Red Cross. The mattress was chosen based on risk assessment of pressure ulcers (for example, using the BRADEN measurement tool; Braden and Bergstrom, 1987; Table 2), which is assessed monthly or whenever a change in skin is found. The accompanying SSKING framework can also be used to assess the skin (NHS Improvement, 2018):

- S Skin assessment and skin care
- S Surface provided — pressure-relieving equipment
- K Keep moving — repositioning; frequency; manual handling aids
- I Incontinence and how this is managed
- N Nutrition
- G Giving information — to both patient and relatives.

An information booklet is helpful to give to the patient and family/ carers to educate on maintaining skin integrity.

Furthermore, it was considered suitable to order a pressure-relieving cushion for patient A to protect his skin integrity both while sitting on a chair and in bed.

Palliative support visits should be planned based on the prognosis of the patient, the level of support they need, and agreed with the family. In the author’s clinical experience, when palliative care is in a home, it is important to understand the personal nature of the situation — practical and emotional support while being unobtrusive is the absolute pinnacle of care.

Table 2: Six domains to evaluate skin breakdown in the Braden scale (He et al, 2012)

▶ Sensory perception
▶ Moisture
▶ Activity
▶ Mobility
▶ Nutrition
▶ Friction and shear
Score ranges 6–23, with the lower the number, the more vulnerable to pressure injury

There are signs that the final days are approaching, such as loss of oral route resulting in visits for PRN medication, being bedbound and needing assistance to change position, restlessness and agitation, confusion, talking less and pain (Marie Curie, 2023b). This is when the community nurse is required to be timely in her visits; a patient in pain must take priority over others in the day’s workload. Each visit involves reassessment of what can be a rapidly changing situation, and the experienced nurse can quickly anticipate when intervention is required. The National Institute on Aging (2022) states that ‘caregivers play a significant role in managing a dying person’s pain’. Thus, it is essential to educate and support caregivers regarding pain assessment — after all, they are with the patient consistently, whereas the nurse only visits when called to administer medication. Working together can ensure that calls are made in a timely and appropriate way, providing optimal comfort for the patient.

Patient A lost his oral route, became bedbound, and was requiring regular PRN medication for pain and anxiety. Prompt visits should therefore be made and, as the family gathers, it is more important than ever for community nurses to be an unobtrusive presence, providing practical intervention but also supporting all. In the author’s clinical experience from feedback from relatives, it is the role of the community nurse at this point to:

- ▶ Establish the appropriate time to contact the GP regarding commencement of a syringe driver
- ▶ Assess pain levels and anxiety — these can be non-verbal

at this point, furrowed brows and general fidgeting are important observations

- ▶ Assess chest secretions and advise on position changes
- ▶ Assess skin due to complete lack of mobility and ensure all equipment is in place and effective
- ▶ Address continence issues — patients at end of life can be catheterised for comfort
- ▶ Ensure family are supported practically by care visits and emotionally by answering questions.

At this point of end-of-life care, as the final days/hours approach, it is essential for the nurse to have a conversation with the family about what to do when the patient dies. It is unlikely that the nurse will be there at the end, so although difficult and upsetting, arming the family with information will ultimately lead to a calmer and more peaceful end. Marie Curie (2023c) suggests encouraging family to talk to the patient so the lack of response as consciousness deteriorates is not such a shock. Families can panic when the final breath is taken; it seems odd not to try to resuscitate and it has been known for ambulances to be called, negating the whole ethos of palliative care.

The author likes to have an open discussion with families about this moment, and how there is no need for any rush or panic. Specifically with elderly patients, family are brutally aware of the natural process of dying in old age, but similarly, these patients have been around for the entirety of the lives of children and grandchildren, have often had long marriages and been a constant presence in the lives of their families. The author has often found that there is a calm resignation and acceptance not found in those whose lives are cut short by terminal illness; the grief process of anger and depression less present at this point, but more a deep sadness in accepting losing someone in old age. This can be nurtured with conversations about lasting memories to create a peaceful atmosphere around the bedside. As their loved one passes, they should take a moment to just sit with them and their thoughts. There is no urgency to call anyone or

do anything at all. Put the kettle on and go outside for fresh air. When they are ready, they can call the nurses and the funeral home and loved ones. But, there is no rush at all.

In the author's clinical opinion, a calm, peaceful ending is what community nurse hope for in accompanying patients and their families in this final journey, and with planning and timely care, even the most unpredictable palliative care can be made as calm and peaceful as possible.

Effective palliative care is no mean feat for the community nurse. Without the immediate access to medication, carers or equipment that hospital nurses have, it requires timely preparation and forward planning while maintaining the stable home environment in which the patient and family wish to remain. Interpersonal skills and the formation of a therapeutic relationship with patient and family are key. Approaching the end of life is a personal situation, and the nurse belongs on the periphery while being the linchpin for the practical aspects. All of which requires a fine balance and intuition. Coupled with effective assessment, regular evaluation and prompt intervention employing all relevant services available in the community, can ensure compassionate and comprehensive care provision for those wishing to remain at home to the end of their life.

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Measles: an unparalleled contagious threat

The measles vaccine represents a monumental achievement in modern medicine, effectively curtailing childhood mortality and morbidity on a global scale. However, recent trends in measles vaccine uptake present a concerning scenario, with declining rates posing a threat to the progress achieved in eradicating this highly contagious disease. Here, Judith Harford, paediatric nurse practitioner, Adam Practice, Poole, Dorset delves into the pivotal role of the measles vaccine in safeguarding child health, exploring the reasons underlying vaccine hesitancy, including the controversial Lancet article, and discusses the additional impact of the Covid-19 pandemic on vaccine adoption. Drawing on global data from the World Health Organization (WHO) and Global Alliance for Vaccine and Immunisation (GAVI), this piece also assesses the consequences of dwindling measles, mumps, rubella (MMR) vaccine coverage on community well-being and offers strategies to combat vaccine hesitancy.

Described as humanity's most contagious affliction, measles transcends the transmission ease of diseases like influenza or even Ebola, as underscored by insights from Public Health England (PHE, 2019a). It can remain contagious in the air or on infected surfaces for up to two hours and can be transmitted by infected people for up to four days before and four days after the eruption of the rash (World Health Organization [WHO], 2023). The virus can affect individuals of all ages, from adults to children and infants, spreading through the inhalation of the countless minuscule droplets released when an infected person coughs or sneezes.

Measles, once known as 'first disease' (Patel, 2015), is caused by the measles virus (MeV). It primarily affects the respiratory system and can lead to a range of symptoms and complications. The disease is characterised by a red rash, which typically begins on the face and spreads to other parts of the body. Measles is most common in children, and although mild in most, it can be quite dangerous, particularly in populations with low vaccination rates or in areas with limited access to healthcare. While many individuals recover from measles without severe complications, the disease can lead to serious health issues, especially in vulnerable populations such as infants, young children, pregnant women, and individuals with compromised immune systems.

The dangers of measles include (PHE, 2019a):



- ▶ **Complications:** measles can lead to various complications, such as ear infections, pneumonia (lung infection), and encephalitis (inflammation of the brain). These complications can be severe and require medical intervention
- ▶ **Hospitalisation:** some individuals with measles may develop severe symptoms that require hospitalisation. This is more likely to occur in young children and adults
- ▶ **Subacute sclerosing panencephalitis (SSPE):** this is a rare but fatal complication of measles that can develop several years after the initial infection. SSPE affects the central nervous system and leads to progressive neurological deterioration
- ▶ **Death:** while death due to measles is relatively rare, it can occur, especially in areas with inadequate healthcare resources or in populations with compromised immune systems
- ▶ **Spread to others:** measles is highly contagious and infected individuals can easily spread the

virus to others through coughing, sneezing, or even breathing. This puts unvaccinated individuals and those who are unable to receive the vaccine at risk

- ▶ **Outbreaks:** in communities with low vaccination rates, measles can cause outbreaks, leading to a higher number of cases and putting strain on healthcare systems.

The best way to prevent measles and its potential dangers is through vaccination (Moss, 2017). The measles vaccine, usually administered as part of the MMR vaccine (measles, mumps, rubella), is safe and highly effective in preventing measles infection (University of Oxford, 2023). High vaccination coverage not only protects individuals who are vaccinated, but also contributes to herd immunity, which helps prevent the spread of the disease within the community and protects those who cannot be vaccinated, i.e. individuals with certain medical conditions, such as immunosuppressed individuals (PHE, 2019a).

TREATMENT

With no specific antiviral treatment available, most people with measles are treated palliatively with fluid and nutritional support. The WHO (2023) recommends use of oral rehydration solution to replace fluid and lost electrolytes. Where secondary infections have occurred, such as in the eyes or ears, antibiotics can be prescribed. The WHO (2023) also recommends the administration of vitamin A to prevent eye damage and blindness that can occur with measles.

CRUCIAL ROLE OF MEASLES VACCINE IN CHILD HEALTH

Despite medical advancements, measles continues to cast a tragic shadow over child mortality globally. Its persistence underscores the urgency of robust vaccination efforts. The emergence of the measles vaccine in 1968 has revolutionised child health by mitigating the dire consequences associated with measles infections. It serves as a pivotal safeguard against grave complications like pneumonia, encephalitis, and fatalities, especially within vulnerable populations such as infants and undernourished children (Holzmann et al, 2016). The introduction of the measles vaccine has been a crucial facet in reducing measles worldwide, safely and effectively reducing its presence over the last 60 years at minimal expense (Mina, 2017). Furthermore, as it is often combined with the mumps and rubella vaccines, these diseases have been effectively and safely targeted at the same time.

The vaccine's effectiveness is highlighted by a remarkable 80% reduction in global measles-related deaths between 2000 and 2019, exemplifying its indispensable contribution to the preservation of children's lives (Mina, 2017). The period before 1968 was characterised by a high burden of measles cases. The annual incidence of measles ranged widely, with reported cases numbering between 160,000 and 800,000 each year (UK Health Security Agency [UKHSA], 2018). Alarmingly, the disease led to the unfortunate loss of approximately 100 lives annually due to acute measles-related complications (UKHSA, 2018).

A significant achievement occurred in 2016 when the UK reached the status of measles elimination (Gov. UK, 2022). This designation signifies that indigenous transmission of measles within the country had been interrupted, marking a significant accomplishment in the fight against the disease. However, it is important to note that elimination does not equate to complete eradication, as sporadic cases may still occur due to importation of the virus from other countries, and hence an effective vaccination programme is still essential, along with rapid response to any outbreaks identified (UKHSA, 2018).

In the author's clinical opinion, the accomplishments achieved through the introduction and sustained use of the MMR vaccine demonstrate the huge value of vaccination in preventing the spread of infectious diseases and safeguarding public health.

WHAT HAPPENED TO MMR UPTAKE?

Although the measles vaccine has been a cornerstone of child health, significantly reducing mortality and morbidity globally, there has been a concerning decline in measles vaccine uptake, posing a threat to the progress made in combatting this highly contagious disease. For the vaccine to be most effective, it is recommended that two vaccine doses are given, since immunity from one dose may not be sufficient for all children. However, the WHO (2023) reports that in 2021, only 71% of children received both doses of measles vaccine, and about 81% of children worldwide received one dose of measles vaccine by the age of one, the lowest since 2008. This equates to approximately 25 million children worldwide missing at least one dose of the vaccine in 2021, with half a million children in the UK remaining unvaccinated between 2010–2017. When it is considered that 95% vaccine uptake is needed for the spread of measles to be prevented (WHO, 2020), it is no wonder that measles is once again on the rise.

In 2019, the USA grappled with its most significant measles outbreak in a quarter of a century, underscoring the re-emergence of this once-contained

disease (Abbasi, 2023). The resurgence of measles in the US raised alarm bells, as the disease had previously been brought under control through widespread vaccination efforts. The fact that the US witnessed its largest measles outbreak in 25 years (Centers for Disease Control and Prevention [CDC], 2019) serves as a stark reminder of the importance of high vaccine coverage to prevent the resurgence of vaccine-preventable diseases.

Similarly, the UK has also been dealing with outbreaks of measles. England recorded a staggering 913 confirmed cases between 1 January, 2018 and 31 October, 2018 — significantly higher than the 259 cases in the entirety of 2017. More recently, in the first part of 2023, 49 cases were recorded, mostly in London, compared to 54 cases in the whole of 2022. This spike is attributed to outbreaks linked to travel, particularly among adolescents and young adults who missed the MMR vaccine in their formative years, despite the earlier achieved measles-free status of the UK as described earlier (Moten et al, 2018).

The confluence of factors such as vaccine hesitancy, misinformation, and gaps in healthcare access has contributed to suboptimal vaccine coverage rates (Holzmann et al, 2016). Added to this, the Covid-19 pandemic and subsequent lockdowns meant many people failed to obtain vaccinations. Reasons for this are not established, but possibly due to assumption that vaccination clinics were not running (clinics continued throughout in the UK), fear of attending surgeries, or vaccine hesitancy perpetuated by misinformation about the Covid vaccine. In the author's clinical experience, there has been a notable increase in the number of parents declining vaccines since the pandemic. The resurgence of measles cases in both the US and the UK underscores the interconnectedness of global health challenges and the importance of addressing vaccine hesitancy on a worldwide scale.

THE WAKEFIELD EFFECT

The intricate landscape of vaccine hesitancy, which thrives on

apprehensions surrounding vaccine safety, constitutes a formidable obstacle to public health. The ignominious *Lancet* article authored by Andrew Wakefield in 1998 falsely linking the MMR vaccine to autism and inflammatory bowel disease remains a stark example of misinformation's pernicious impact. This erroneous association, founded on flawed methodology and ethical violations, triggered widespread panic, sowing seeds of mistrust in vaccines that endure despite the article's subsequent debunking. The ramifications of this paper were profound, leading to a significant decline in MMR vaccine acceptance and uptake in various parts of the world. The media played a significant role in amplifying the impact of the *Lancet* paper. The sensational coverage created a climate of panic and distrust, with headlines that often exaggerated the study's findings. Despite the paper being discredited and retracted by *The Lancet* in 2010, the seeds of doubt had already been sown, leading to a long-lasting impact on public perceptions. The enduring sway of such misinformation underscores the fragility of public trust in vaccination programmes.

WHAT CAN BE DONE?

In the author's clinical opinion, efforts to reverse these trends require a concerted approach, encompassing robust public health campaigns, accurate dissemination of information, increased accessibility to vaccines, and targeted interventions in communities with low vaccine coverage rates. Recognising the importance of vaccines as a cornerstone of public health, initiatives must continue to foster vaccine confidence and prioritise the protection of vulnerable populations against preventable diseases like measles.

In response to the decline in uptake, the WHO and global stakeholders set out the measles and rubella strategic framework 2021–2023 to address each global region's targets for delivering vaccine programmes (WHO, 2020). It uses measles as a benchmark for the healthcare system's ability to deliver essential childhood vaccines. The framework sets out seven core strategic priorities for achieving and

sustaining the goals of measles and rubella elimination, including vaccine coverage, equity of access and supply and sustainability.

Globally, it is estimated that around 56 million deaths were prevented through the implementation of the measles and rubella initiative in 2000–2021 (WHO, 2023), mostly in the African continent and GAVI (global vaccine alliance) supported countries, so the benefit of such a strategy is clear. This is reflected in the UK measles and rubella elimination strategy (PHE, 2019b), although currently targets are not being met with MMRI (first dose) given at one year of age down to 89%, and MMRII (second dose) given at pre-school age at 85% (UKHSA, 2023).

The precarious nature of progress demands continuous commitment, as painstakingly achieved gains can be swiftly eroded. In areas where children remain unvaccinated, outbreaks become a stark reality. Drawing from present patterns of measles vaccination rates and the prevalence of the disease, the WHO Strategic Advisory Group of Experts on Immunization (SAGE) has reached the sobering conclusion that the goal of measles elimination faces imminent jeopardy (WHO, 2022). This conclusion is underscored by the resurgence of the disease in numerous countries that were on the brink of achieving or had already achieved elimination status. As such, it is incumbent on all practitioners working in primary care to boost vaccination uptake at every opportunity to prevent the dire consequences of the disease.

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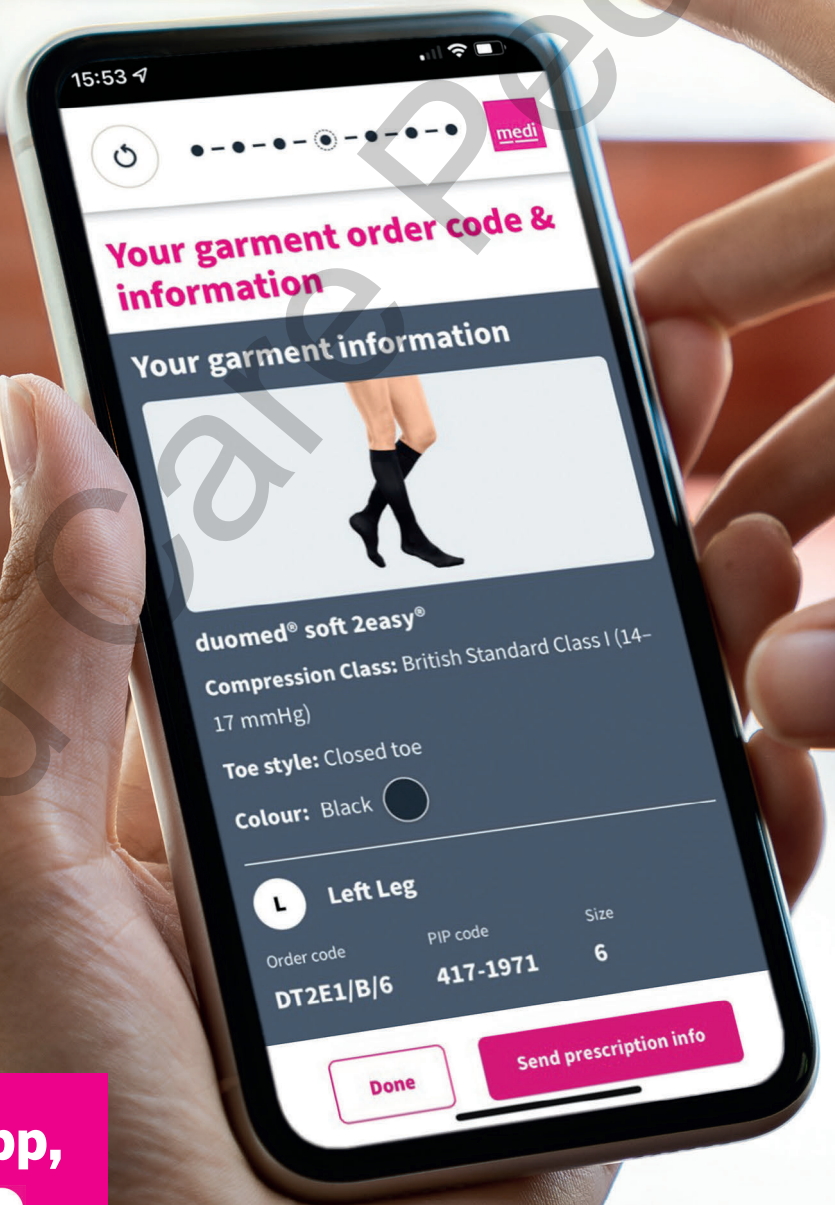
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