CERVICAL CANCER is one of the most common cancers diagnosed in women in developed nations. Worldwide, cervical cancer is the fourth most common cancer in women, with an estimated 570,000 women diagnosed and 311,000 reported deaths in 2018 (World Health Organization (WHO) 2023a). In the UK, it is the 14th most common cancer in women, with statistics from 2017-2019 indicating that 853 women died from the disease during this period (Cancer Research UK 2023). Reed et al (2021) estimated that one in 142 women is diagnosed with cervical cancer each year, with sexually active women aged between 30 years and 45 years being the main group affected. Its incidence is reported to be highest among those living in socially deprived areas (Douglas et al 2016).

Screening is a fundamental strategy used in cancer detection and management. Screening is defined as a process that enables the detection of physical conditions before symptoms appear, which promotes early diagnosis and subsequent treatment (Nash 2022). Routine screening can reduce the risk of cervical cancer and associated mortality (Peirson et al 2013, Landy et al 2016). Since the implementation of formal screening programmes more than 30 years ago, the incidence and mortality rates for cervical cancer in high-income nations have more than halved, with further reductions predicted as a result of the human papillomavirus (HPV) vaccination programme (Cohen et al 2019).

The US National Cancer Institute (2023) stated that screening tests can reduce the
incidence of cancer deaths by detecting precancerous lesions or by diagnosing cancer at a treatable stage. As a result, most developed countries advocate screening for cervical cancer at specific ages and points in a woman’s life. All women in the UK aged between 25 years and 64 years are invited for cervical screening every three to five years, depending on their geographical location and age (Table 1) (Cancer Research UK 2022). Between 2021 and 2022, 3.5 million women aged between 25 years and 64 years were screened for cervical cancer in England (NHS England 2023).

**Barriers to cervical screening uptake**

Despite the availability of screening, the UK’s morbidity and mortality rate from cervical cancer remains high, with approximately 3,200 new cases annually (Cancer Research UK 2023). The lack of early detection that results from women not attending for screening is often cited as a factor that affects the ongoing prevalence of cervical cancer (Young et al 2018, Westwood and Lavery 2021). Since attendance at cervical screening is not compulsory among the eligible groups in the UK, engagement in this can vary. Despite improvements in screening availability, it is estimated that 4.6 million women are still unscreened or behind with cervical screening in England (NHS England 2023).

The critical importance of routine cervical screening has resulted in many studies seeking to determine the reasons that impede its uptake. Several barriers have been identified, many of which are complex and to some extent overlapping. These are classified as demographic, socioeconomic, emotional and practical barriers (Box 1).

**Demographic barriers**

Several studies have indicated an association between cervical screening uptake and demographics. Evidence shows that engagement with cervical screening can be influenced by age, ethnicity and relationship status (Marlow et al 2017, Judah et al 2022, King and Busolo 2022).

Drawing on survey data, Marlow et al (2017) examined the prevalence of cervical cancer screening non-participation among 793 women in the UK. Results indicated that age was significantly correlated with non-participation rates. Women aged 34 years and over were less likely to be unaware of screening compared with those aged between 25 years and 34 years. In addition, compared with those in the youngest group, older women were found to have lower screening intention rates with those aged between 55 years and 64 years more likely to have decided not to be screened.

In a Canadian literature review, non-participation in cervical screening and suboptimal uptake rates were prevalent among women from ethnic and cultural minority communities, including Hispanic and Vietnamese-Asian women (King and Busolo 2022). Compared with heterosexual women, those from sexual minorities (defined as women having differing sexual identities, orientations or practices than most of society) were screened less often (King and Busolo 2022).

Data from a UK population survey of 500 women that examined cervical screening beliefs indicated that higher screening uptake rates were reported among women who were married or in a civil partnership. In contrast, rates were lower among single women (Judah et al 2022).

**Socioeconomic barriers**

Socioeconomic status can have a significant effect on cervical screening uptake. A systematic review by Murfin et al (2020) showed a positive association between education and income with uptake of cervical screening and HPV vaccination. The small-scale review, which included ten peer-reviewed, cross-sectional studies published between 2006 and 2018, explored the influence of socioeconomic factors, namely education, income and occupation among eligible women and girls in the UK, US, Spain, Germany and Norway. Results indicated a significant positive relationship between higher levels of education and preventive strategies compared with lower education levels. Less educated mothers were found to be not as likely to initiate the vaccine for their daughters. Despite only being measured in two studies, occupation was not found to be statistically significant. Nevertheless, higher-income households were more likely to participate in screening and vaccination (Murfin et al 2020).

In a meta-analytical review of 39 qualitative studies published between 1988 and 2015,
Chorley et al (2017) observed that for most women, their decision to participate in cervical screening was related to beliefs about its relevance and value. The importance of screening was influenced by the women’s attitudes to the causes of cervical cancer, their life stage, current health status and family history. When assessing the value of screening and the consequences of cervical cancer, three common perspectives were held by women: those who believed that it had value and enabled cervical cancer to be diagnosed early; those who viewed cervical screening as unimportant; and those who were unsure and lacked an opinion about its value. The latter were predominantly from black, Asian and minority ethnic backgrounds or lower socioeconomic groups (Chorley et al 2017).

Emotional barriers
Various emotional barriers can influence women’s participation in cervical screening. Cervical screening procedures are intimate, with many women feeling embarrassed and vulnerable (Bennett et al 2018). In a small-scale quantitative survey of UK women’s attitudes to cervical screening, embarrassment was cited as one of the most common reasons preventing attendance. Women’s embarrassment related to the procedure as a whole, the appearance of their bodies and exposing their private body parts for examination (Wilding et al 2020).

Other negative emotions such as anxiety are also challenges to cervical screening uptake. In a systematic review which explored the barriers and facilitators to attendance for cervical screening in European Union member states, Stuart and D’Lima (2022) found that several women described the experience as degrading, violating and recalled feelings of helplessness during the procedure.

Fear is a significant emotional barrier that prevents women from attending screening and can include fear of pain or a visceral fear of abnormal screening results. A thematic analysis by Adunlin et al (2019) reviewed 180 studies published between 1990 and 2016 to investigate breast and cervical screening uptake among US immigrants. The analysis identified that fear of screening was multifactorial, but found that a fear of discomfort from testing and the diagnostic outcome were the main reasons that impeded uptake (Adunlin et al 2019).

Finally, screening uptake can be affected by previous experiences of trauma, such as sexual abuse, sexual assault or rape (Cadman et al 2012). Madden et al (2022) suggested that women who have experienced sexual assault are less likely to attend for screening due to its parallels with the assault, including perceived loss of control and power disparity. The intimacy and physical sensations involved in the examination can be particularly stressful for women who have been sexually assaulted.

Practical barriers
Practical barriers that can deter cervical screening uptake include lack of time, competing commitments and challenges accessing appointments and inconvenient appointment times (Wilding et al 2020). Women are less likely to attend screening when the inconvenience of a lengthy procedure requires them to take time away from other responsibilities. Hope et al (2017) recommended that every effort must be made to encourage women to participate in screening by improving access to appointments and increasing flexibility so that they can schedule appointments at a time that suits them. Providing women with the ability to choose who will perform the procedure – that is, a GP or general practice nurse – should also be considered when attempting to increase uptake (O’Connor et al 2021).

Role of the general practice nurse in promoting cervical screening
Patients’ trust in healthcare professionals is central to effective clinical practice. The Code: Professional Standards of Practice and
Behaviour for Nurses, Midwives and Nursing Associates (Nursing and Midwifery Council 2018) states that the promotion of trust is at the core of the profession and that registrants must act in the best interests of people at all times. Trust is paramount to the nurse-patient relationship and central to person-centred care and treatment outcomes (Pratt et al 2021). A meta-analysis by Birkhäuser et al (2017) explored the interplay between trust and health outcomes, finding that higher levels of patient trust in healthcare professionals were positively correlated with increased uptake of healthy behaviours and patient satisfaction. When patients had higher trust in healthcare professionals, they reported more beneficial health behaviours, fewer symptoms, a higher quality of life and higher treatment satisfaction (Birkhäuser et al 2017). This reinforces the value of the nurse-patient relationship in effective health-promotion practice.

In the primary care setting, the general practice nurse (GPN) is fundamental in driving forward cancer screening programmes. The GPN functions autonomously as part of a multidisciplinary team that includes GPs and pharmacists to provide care and treatment across a patient’s life trajectory (Clifford et al 2021). According to Butler (2022), the role of the GPN is multifaceted, highly skilled and critical for ensuring the smooth operation of general practice. The GPN is responsible for improving health outcomes, providing clinical expertise, promoting patient self-management and working collaboratively with other health and social care professionals. The main responsibilities and capabilities expected of the GPN are shown in Table 2.

Women’s health promotion and disease management is one of the main responsibilities of the GPN (Holmes et al 2014). The GPN is an important resource for promoting and facilitating the uptake of HPV testing, HPV vaccination and cervical or cytological screening through the provision of accurate, accessible and up-to-date information (Kessler 2017), counselling, direction and providing reminders (Li et al 2020). In this way, the interventions undertaken by the GPN can increase public knowledge and awareness of cervical cancer, with Patel et al (2017) suggesting that this could improve screening and HPV vaccination uptake rates, determine early diagnosis and contribute to reducing morbidity and mortality.

**Beattie’s model of health promotion**
The WHO (1986) Ottawa Charter defined health promotion as ‘the process of enabling people to increase control over, and to improve, their health’. Taking a five-pronged approach, the charter proposed that health promotion entails: building healthy public policy; creating supportive environments; strengthening community actions; developing personal skills; and reorienting health services (WHO 1986). Health promotion is achieved by working in partnership with individuals and groups to protect and promote their health, by mediating with communities and by tailoring individual and social actions to support health plans and objectives (WHO 2023b).

Health promotion models are used as frameworks to guide and encourage best practice in healthcare, to develop strategies of care and to engage healthcare professionals, scientists, governments and the public in health promotion and ill-health prevention with regards to cancer prevention. Tannahill (2008) proposed that health promotion should focus on multiple aspects rather than just one aspect. Beattie’s (1982, 1991) model of health promotion supports this perspective. The relational nature of Beattie’s model offers a valuable framework for examining the current and potential contributions of primary care providers in relation to cancer prevention, which can be applied to the nurse’s role in cancer prevention (McIlfatrick et al 2014).

Beattie’s (1982, 1991) model (Figure 1) acknowledges the complexities of health promotion by dividing it into four quadrants of activity:

> Health persuasion techniques.

Table 2. Main responsibilities and capabilities of the general practice nurse

<table>
<thead>
<tr>
<th>Domain</th>
<th>Capabilities</th>
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<tbody>
<tr>
<td>Personalised collaborative working and health promotion</td>
<td>Communication and consultation skills &lt;br&gt;Practising holistically to personalise care and promote public and personal health &lt;br&gt;Working with colleagues and in teams &lt;br&gt;Maintaining an ethical approach and fitness to practice</td>
</tr>
<tr>
<td>Assessment, investigations and diagnosis</td>
<td>Information gathering and interpretation &lt;br&gt;Clinical examination and procedural skills &lt;br&gt;Making a diagnosis</td>
</tr>
<tr>
<td>Condition management and treatment</td>
<td>Clinical management &lt;br&gt;Managing medical complexity &lt;br&gt;Prescribing treatment &lt;br&gt;Administering medicines &lt;br&gt;Pharmacotherapy</td>
</tr>
<tr>
<td>Leadership and management, education and research</td>
<td>Leadership, management and organisation &lt;br&gt;Education and development &lt;br&gt;Research and evidence-based practice &lt;br&gt;Strategic management</td>
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</tbody>
</table>

(Adapted from Health Education England et al 2021)
Using either an authoritative ‘top-down’ expert approach or a negotiated ‘bottom-up’ person-centred approach, Beattie’s (1982, 1991) model characterises health-related actions as occurring either at the individual or collective level (Figure 1).

By adopting Beattie’s (1982, 1991) model – in particular the health persuasion techniques and personal counselling quadrants – the GPN can overcome some of the barriers that prevent cervical screening uptake and can support cervical screening health promotion activities. Table 3 shows how Beattie’s model can be applied to cervical screening uptake interventions.

**Health persuasion techniques**
The health persuasion techniques quadrant of Beattie’s (1982, 1991) model entails targeting individuals led by healthcare professionals. In general practice health persuasion techniques can include educational and invitational interventions, such as the provision of screening information leaflets that raise awareness of the importance and value of screening. The first steps to an early cancer diagnosis are being aware of symptoms and seeking medical attention (National Institute for Health and Care Excellence 2021).

Another technique that the GPN can adopt to prompt screening uptake is to send personalised invitation letters and messages inviting women to attend for screening. In a Cochrane review that examined the interventions targeted at women to promote cervical screening uptake, invitations to attend screening were one of the most effective methods used to increase participation rates (Staley et al 2021). Personalised invitations appeared to be more successful than standard invitation letters, while those with a fixed appointment to attend, rather than an open invitation, had a greater success rate.

**Legislative action for health**
The legislative action for health quadrant of Beattie’s (1982, 1991) model is exercised through a top-down approach by governments and healthcare professionals (Naidoo and Wills 2016). Strategies and interventions aimed at increasing the adoption of health promotion policies and guidelines are established, together with advice and recommendations that aim to protect communities. Due to their position as trusted professionals and their presence at the forefront of communities (Morris et al 2022), embedding the GPN into local and national strategies for health education and information dissemination can increase the reach and effect of communication about the significance of cervical screening uptake.

The unique position of the GPN means that they can be effective in driving forward national campaigns for cervical screening through understanding uptake patterns, taking advantage of health promotion opportunities and delivering a skilled, compassionate screening service (Pearce 2021). Legislative action is successful when it empowers women to take control over their health and well-being, encourages them to attend for screening, provides reassurance and supports them to overcome the barriers that deter their attendance.

**Personal counselling for health**
Personal counselling for health can be achieved by the GPN supporting women to develop and achieve their health goals. Through negotiation, the GPN adopts a personal collaborative approach that seeks to empower women, rather than an expert approach that tells them how to change their health-related behaviours. Personal counselling is typically undertaken on a one-to-one basis and focuses on the woman’s individual requirements. To further increase symptom awareness and understanding about cancer, its perceived threat and the importance of early diagnosis, nurse-led counselling and education supports the delivery of information relating to cancer symptoms, risk factors and screening techniques (Li et al 2020).

The GPN serves as a mediator to discuss and negotiate the needs of women, which ultimately informs the decision-making process and helps maximise their health and well-being. The relationship between the nurse and patient can be enhanced in an environment where discussions take place, information...
is exchanged, potential barriers to screening are identified and questions are answered. By adopting a person-centred approach, as described by McCormack and McCance (2017), the GPN can raise awareness of symptoms, promote knowledge about cervical cancer and encourage early detection. This knowledge could encourage timely health-seeking behaviour, access to cervical screening services and early cancer diagnosis.

Community development for health
The community development for health quadrant of Beattie’s (1982, 1991) model is similar to personal counselling. While it is negotiated and seeks to improve knowledge, awareness and capabilities, instead of the emphasis being on individuals this approach targets groups and communities. The goal is to improve health outcomes by bringing together groups of people who share similar health concerns or have had comparable experiences. Through a cluster of interventions, the community development approach enables community stakeholders – such as primary care representatives, community cancer champions and public health engagement leaders – to ‘find a voice’ and drive forward processes and action plans that campaign for changes in health circumstances. Examples of community representatives of cervical cancer in the UK include charitable organisations such as Cancer Research UK, Jo’s Cervical Cancer Trust and Marie Curie. Additionally, high-profile projects that adopt the community development approach include cervical cancer prevention campaigns. While these groups, organisations and campaigns may each have their own purpose, collectively they share the common goal of promoting cancer awareness, increasing participation in screening and saving lives.

Traditionally, general practice teams are likely to focus on adopting health persuasion and personal counselling approaches that are based on working with individuals and families (Hogg and Hanley 2008). However, the GPN can still progress community development opportunities. The coronavirus disease 2019 (COVID-19) pandemic demonstrated the value of having efficient, sustainable and accountable public, private and third sector health and social care systems that are supported by a sufficient supply of nurses (Royal College of Nursing 2023). The role of the GPN in community development can increase the reach and effect of messages about the importance of cervical screening uptake by identifying potential groups, developing and sustaining community partnerships, collaborating with community agencies and cascading information through these channels (Elliott et al 2014). Moreover, given their expertise, the GPN can identify screening needs as well as communicate and disseminate health screening-related information with community partners to reach disadvantaged communities, such as those with lower socioeconomic status and migrants.

Conclusion
The uptake of routine cervical screening continues to be a public health issue. Despite widespread evidence supporting the benefits of cervical screening and early detection of cancer, various demographic, socioeconomic, emotional and practical barriers remain that may hinder women’s participation in screening programmes. Overcoming these barriers is instrumental to the success of cervical screening programmes.

### Table 3. Applying Beattie’s model of health promotion to cervical screening uptake interventions

<table>
<thead>
<tr>
<th>Health promotion quadrant</th>
<th>Objective</th>
<th>Focus of intervention</th>
<th>Type of intervention</th>
</tr>
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</table>
| Health persuasion techniques | To protect women by reducing the risk of cervical cancer and encourage a healthy lifestyle including screening uptake | Interventions are directed at women, and led by professionals including the general practice nurse (GPN) | » Provision of expert advice  
» Provision of timely, up-to-date and evidence-based cervical cancer information |
| Legislative action for health | To safeguard communities by facilitating access to cervical screening programmes | Interventions are directed at communities, and led by professionals including the GPN | » Policy and strategy development and implementation  
» Regional and national monitoring of cervical screening uptake |
| Personal counselling for health | To empower women to take control of their health by accessing cervical screening | Interventions are women-led, and facilitated by professionals including the GPN | » Counselling on a one-to-one basis  
» Focused on personal development, including confidence and self-belief  
» Ensuring privacy and dignity  
» Provision of education  
» Provision of accessible screening times and locations |
| Community development for health | To empower community groups to recognise what they have in common and how cervical screening, directly and/or indirectly, influences their lives | Interventions are community-led, and facilitated by professionals including the GPN | » Provision of knowledge and education to enhance group empowerment and development  
» Focused on group development including giving community groups a voice |

(Adapted from Naidoo and Wills 2016)
Nurses working in general practice are in a prime position to raise cervical cancer awareness. GPNs have opportunities to educate and encourage women to change their health-related behaviours. The application of Beattie's (1982, 1991) model of health promotion is a useful framework that can guide health-related interventions specific for overcoming barriers to cervical screening uptake. This can be achieved through a bottom-up negotiated approach that incorporates personal counseling and community development interventions, together with a top-down authoritative approach that includes health persuasion and legislative actions.

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