Leading the Way:

The role and value of nurses in general practice in England

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Foreword

A familiar sight in many general practice surgeries, the role of the general practice nurse (GPN) is often downplayed or misunderstood. Few people - healthcare professionals and public alike - realise quite how important GPNs really are. Nor do most of us appreciate the extent of the value they generate for their patients, communities, and the NHS as a whole. This report and the underlying research was commissioned by NHS England and NHS Improvement as part of the General Practice Nursing Ten Point Plan Programme, to encourage further investment in and development of the profession.

This research could not have come at a better time. During the COVID-19 pandemic general practice nurses demonstrated their value and importance to the delivery of primary care services. Emerging from a (nurse-led) national vaccination programme in response to COVID-19, the nation is acutely aware of how valuable an asset the NHS is. Yet much of the discourse has been centred on the more visible, hospital-based acute care that most of us hope we will never need. GPNs have been something of a 'Cinderella' profession, which continues to confidently lead the way in preventative and patient-centric primary care - the type of care that is central to the evolving structure of the NHS under its Long Term Plan, and which is essential in coping with the reality of an ageing population, increasing chronic diseases and limited resources. The NHS of the future will be far more focused on promoting and enabling good health through primary care working in partnership with communities.

For the first time, the full extent of the GPN role has been explored and articulated and the findings are compelling. Using a combination of investigative techniques, the research has informed a robust framework through which the GPN role can be properly understood and valued. It probes the skills, training and approaches of GPNs to establish exactly what it is that is so valuable about the role, describing a set of 8 core 'value drivers' on which all GPNs routinely rely, and showcasing GPNs themselves as a workforce of skilled, confident and resourceful professionals, working independently with high levels of autonomy and authority to deliver expert patient care.

This is not a role formed from an overlap of other disciplines, but a clear, identifiable discipline in its own right. The value created by GPNs is laid out for all to see, and many will be shocked by how significant this value really is. It makes a compelling argument for further investment in general practice nursing which is providing a significant return on investment. With further sustained focus on the education and training, career development, supervision and leadership opportunities for general practice nursing, there is an opportunity to deliver on the NHS Long Term Plan in creative and innovative ways. So much has already

been achieved by general practice nurses, and it is a testament to the tenacity and leadership of nurses themselves during these unprecedent times that they have delivered outstanding care and support to their communities and delivering the NHS Vaccination Programme. Yet there is so much more that could be achieved with structured focus and further investment.

Without focus, further investment and a pipeline of new nurses entering general practice, the impact of GPNs is unlikely to be fully realised. The future of the NHS is built upon a firm foundation of primary care and this research has shown that primary care relies on GPNs, who deserve the kind of recognition that can only come through understanding of their value. Asked what they would do without GPNs, practices participating in the research simply could not imagine such a scenario, and this report explains why. Simply put, no other group of healthcare professionals has consistent access to the unique set of skills and approaches found in GPNs, and through this research we now have a clear framework for understanding, valuing, and supporting their contribution.

This report articulates the role and the value of this unique and crucial profession. Without recognition, investment, training and the establishment of a clear career pathway for GPNs, we are at risk of squandering the value when it is most needed.

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Executive Summary

Nurses working in general practice (General Practice Nurses or 'GPNs') are highly skilled and resourceful professionals who play an essential part in the daily running of a general practice. They provide expert clinical care, take the lead in facilitating and supporting patients to manage their health conditions, and act as 'super connectors' between other healthcare professionals and service providers both within and outside the practice. GPNs have specialist skills which complement those of the other professions in primary care. They bring an essential insight to patients, their situations and what can work for them. Their understanding of the social determinants of health, influenced by lifestyles and communities, means they work with a wide and holistic view of delivering health and wellbeing outcomes.

The clinical knowledge, expertise and skills required for the role are vast and complex yet are often downplayed or poorly articulated by GPNs themselves and underestimated by others. This significant and vital branch of the nursing profession remains something of a well-kept secret, its role unclear and the range and depth of its unique and essential contribution to effective primary care only partially seen. The perception of many members of the public is primarily shaped by their own experience (interacting with nurses as patients, often in quite specific and limited contexts) and augmented by images and impressions gleaned from the media. Colleagues in other parts of the NHS rarely experience the day-to-day reality of working in general practice and myths about what the role entails abound. There is no common understanding across the NHS of the true *value* that GPNs bring to primary care, and it is therefore difficult to effectively raise the profile of nurses working in general practice in the eyes of NHS colleagues, patients, and the general public, nor to appreciate the huge impact that GPNs have on health outcomes and the effectiveness of the NHS system.

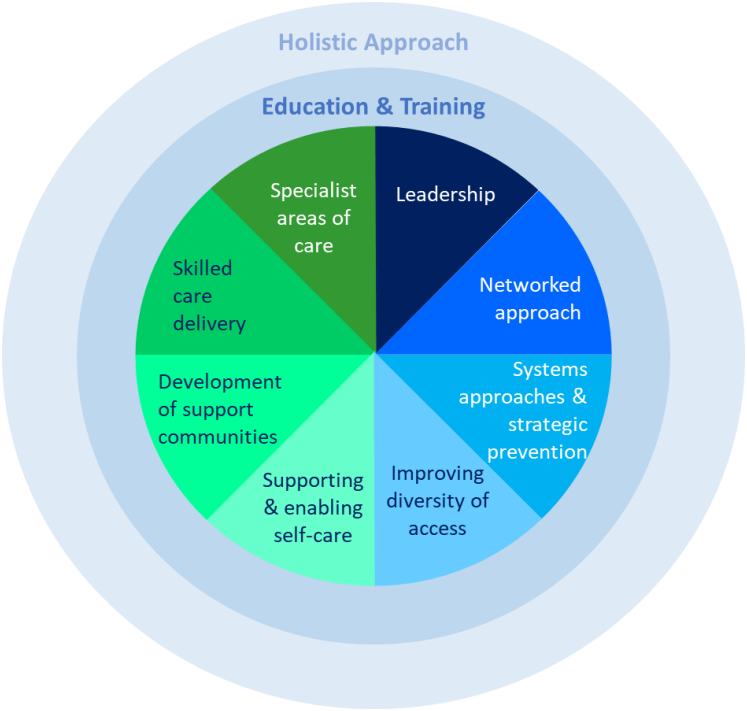
How GPNs create value

This report is the result of nine months of exploration into the reality of the work of GPNs. It explains, for the first time, what it is about GPNs that make them so valuable, such a key part of general practice today, and a vital component in the planned development of the NHS.

The research shows how GPNs are leading the way towards the future of primary practice as they work alongside GPs, physiotherapists, pharmacists, phlebotomists and other healthcare professionals, all of whom are experts leading care in their field, supporting their patients, and supporting each other in multi-disciplinary teams. The research found that GPNs create value through a set of eight distinct factors, as illustrated by the segments making up the central circle in the diagram:

- **Leadership** – in multiple forms, including: in management and development roles within the practice, regionally, and potentially nationally; in making decisions and leading care across the range of general practice work; and in specialist fields.
- **Networked approach** – sharing expertise and insight both within and beyond the practice, so that patients get the care they need and service delivery benefits from best practice wherever it orginates.

- **Systems approaches and strategic prevention** – understanding the progression of diseases, their causes and outcomes; designing and delivering education and prevention programmes; taking a health population view to improve health at community level.
- **Improved diversity of access** – providing a complementary and different approach to that of GPs and other healthcare professionals, that is more appropriate to some patients and situations.
- **Supporting and enabling self-care** – recognising that health conditions are mostly managed at home and supporting patients to play their part in staying well.
- **Development of support communities** – helping patients to tap into support from those around them, either by signposting or facilitating support.
- **Skilled care delivery** – competence and confidence based on robust training and a wealth of experience.
- **Specialist areas of care** - developing individual areas of excellence and responsibility.



These eight factors, which can be drawn on individually or in combination, are called Value Drivers and are supported by two enabling factors (shown as rings around the central circle). The enabling factors - strongly in evidence in the work of GPNs, and key to the skilled use of the Value Drivers themselves - are:

- The nature of the **education and training** of GPNs, which prepares them for working independently and flexibly in a role that demands a wide range of skill and deep expertise in certain areas of specialism; and
- The **holistic approach** of nurses – patient-centric and grounded in realism, pragmatism and curious enquiry.

Of course, other healthcare professionals also have some of these factors at their disposal. However, research shows that it is this particular combination of value drivers that makes GPNs unique. Nurses in general practice possess all eight of the value drivers and draw on them constantly, skilfully, and intuitively. It is a skillset and a role that is hard to substitute – the whole genuinely is far greater than the sum of its parts.

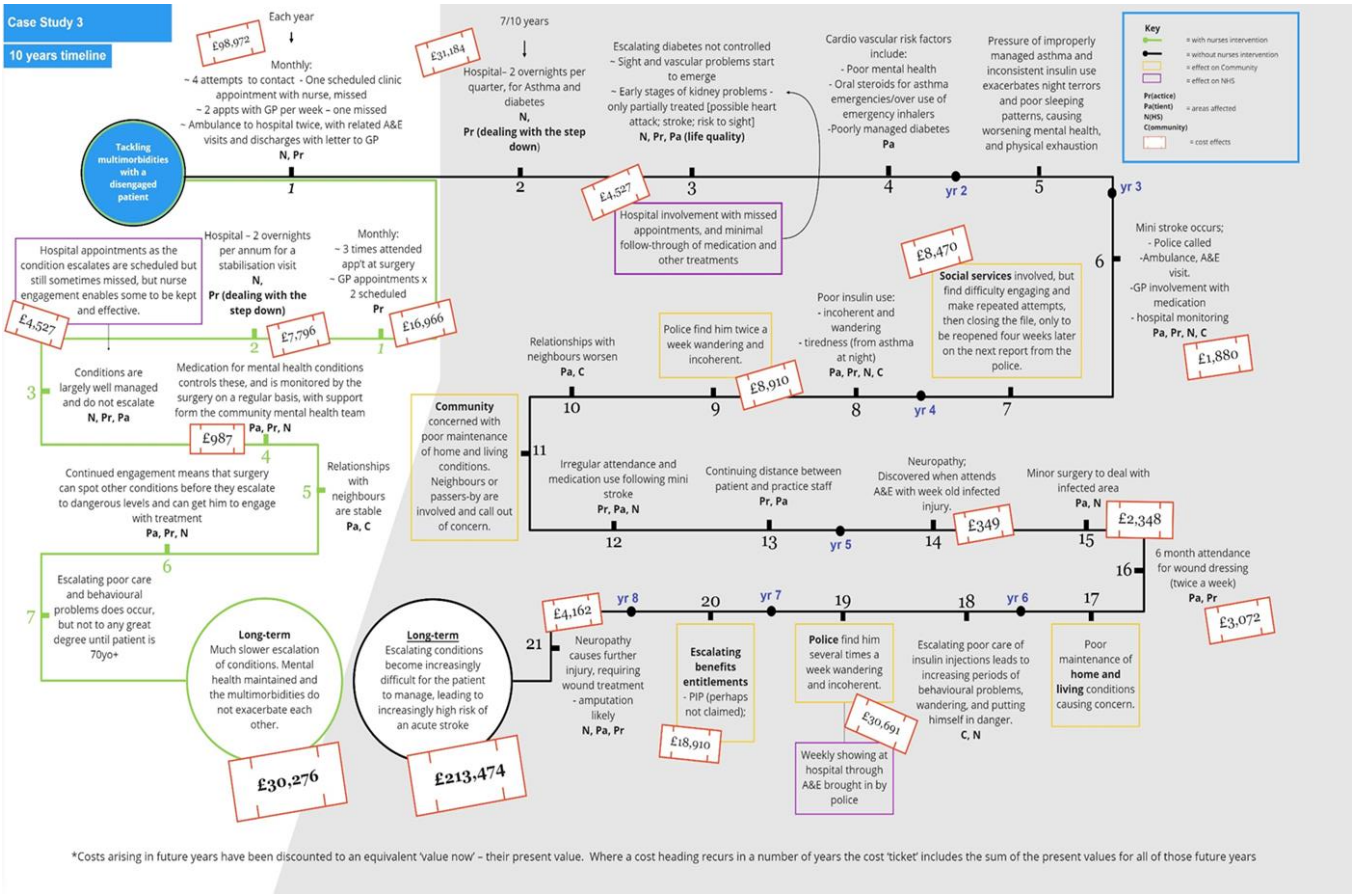
Illustrating the value of GPNs

GPNs are hugely valuable because the work they do, and the way they do it, leads to better outcomes. The value can be seen in four distinct arenas: the GPN's **practice**, their **patients**, the wider **community,** and the **NHS** as a whole. Outcomes in these four arenas of value may include: better health overall, reductions in 'flare-ups' of

chronic conditions, wounds or post-operative sites that heal more effectively, or a programme of care that manages multiple needs in streamlined appointments. The nurse is often the one professional within the practice that the patient feels able to talk to informally, disclosing information that is key to unlocking better health, identifying the need for screening or diagnostic tests, or recognising mental health or other support needs.

The benefit of the GPN role is illustrated in the diagram on the next page; this shows the difference between the health 'journey' of a patient that resulted from a GPN being involved in their care, compared to what might reasonably be expected to have happened without the GPN involvement. Each event on the two journeys that is being compared is allocated a 'ticket' indicating the cost of that event. The diagram's key explains who pays those costs, and therefore who benefits from GPN support to the patient. Other examples of journeys and nurse-led care programmes, with more illustrations of the values brought, are shown in the body of the report.

The patient represented in the diagram has multiple health conditions. Without nurse intervention these conditions can be inadequately managed, resulting in a poor quality of life that is disrupted by multiple acute episodes, A&E visits, and hospitalisations. However, under the care of a GPN, the patient is supported in managing their conditions more effectively in a way that works for them and ensures that they get the care they need in a coordinated way. Consequently, their health improves, their life and that of their family and support network is benefitted due to the patient's condition being better managed, and the practice is using valuable resources to best effect.



The lynchpin of the future NHS

Nurses in general practice are a lynchpin of the future NHS – more than ever before their role and skills are critical if new models of care are to function effectively and enable the best use of budgets and resources in the face of increasing healthcare demand. Without a renewed clarity regarding what GPNs do and how they deliver value and impact, this branch of the profession risks under-investment - not only in financial terms, but also in terms of recruitment, education and training, structural support for networks and capabilities, and effective mechanisms that enable other parts of the NHS to work with and through GPNs. For the Long Term Plan to be realised to its full potential it would benefit from a renewed focus on general practice nursing with increased funding particularly around the education, training and leadership opportunities for GPNs and investment in a pipeline of new nurses coming into what is currently an ageing profession.

This report is the result of detailed research into GPNs and, for the first time, fully articulates their unique role and value. In so doing, it seeks to catalyse a step change in appreciation of the profession and allows us all to shake off outdated perceptions about GPNs, their skills and their expertise. The value described here constitutes a compelling reason to invest in this profession and creates confidence in a much greater return on that investment.

Case for Future Investment in General Practice Nursing

General practice nursing is hugely rewarding and satisfying, offering scope for progression, choice and autonomy that is simply not available elsewhere in the NHS, as well as an opportunity really to get to know patients, their families and circumstances, and to see the difference that GPNs make in their lives and health outcomes. General practice nursing is an exciting career opportunity that is hiding in plain sight and deserves to be better understood. The myth that GPNs provide a handful of basic care and support services could not be further from the truth – the role has evolved over recent decades (often by 'stealth' and without full recognition) to one that forms the core of primary practice care delivery, encompassing a wide choice of specialisms and a full breadth of clinical expertise and responsibilities.

Although patients and colleagues increasingly benefitting from the leadership and care management of GPNs, the role is still misunderstood by many other NHS professionals and by the general public, whose perceptions are often limited by their own direct experience. General practice has rarely been a 'first choice' career for newly registered nurses, and it is reported that many nurses only make a move to general practice mid-career, often because the role is flexible enough to fit around family life and other commitments. Newly registered nurses in the past have rarely been encouraged to enter general practice.

GPNs are employed directly by the practices themselves and are an integral part of the NHS system. Each general practice operates as an independent small business and delivers services under contract to the NHS. The fact that practices decide for themselves how many nurses to employ and with what specialisms they focus on to meet their population needs means every practice is different. This has led to a huge variation in working arrangements, pay and the terms and conditions of employment of general practice nursing staff. This creates a particular dynamic

around recruitment and resourcing that sets GPNs apart from their colleagues – roles are advertised on private, rather than NHS job boards and can therefore be difficult to find and calibrate against others. In addition, the professional support framework (formal and informal) that exists in settings with larger numbers of nurses at various career stages is one which GPNs re-create for themselves by networking, and by forming and working in teams that extend beyond the practice itself. For nurses who want to explore and define the boundaries and development of their own career it is a hugely liberating model, and one in which the eight value drivers identified by the research can be exploited to their full potential.

Realising the potential – a call to action

The potential value of GPNs cannot be achieved through their own efforts alone. The research has identified a number of barriers that limit their potential and, if addressed, would unlock innovative ways of working that will drive the effectiveness of the NHS primary care system and support the recruitment of newly registered recruits. If the value of GPNs is to be harnessed for the benefit of all, the following issues must be urgently addressed:

1. There should be a campaign to raise the profile of GPNs with measures taken to raise public awareness of the skills and expertise of today's GPNs. The campaign could lead to the removal of subliminal messaging that implies they are less valuable than other professionals (for example, enhancing their positioning on practice websites), and to challenge misleading representations of GPNs in the media. This should also reemphasise the essential role they play within the Multi-disciplinary Teams that are increasingly being seen in general practice, and how their role, contribution and value is developing to keep pace with change.

2. Investment is needed to support the development of new pathways and opportunities for newly registered nurses wanting a career in general practice nursing. The provision of elements of these will be through General Practice employers.

3. Education and training programmes should reflect the enhanced understanding of the GPN role and how GPNs create value, actively promoting the unique nature of the role and creating a workforce that acknowledges its own value.

4. General practice nurse training courses should include modules to equip GPNs with the entrepreneurial skills and support needed to work in a small to medium business enterprise and manage their own career paths.

5. Based on this research investment in the general practice nurse professional support framework is required so that GPNs are provided with the resources, networks, information, and authority that they need to do the job well, including support from PCNs to enable nurses to work across practices as a networked team offering peer-to-peer interaction, support and knowledge sharing.

6. Line management of nurses by non-clinical managers should be balanced by a professional support infrastructure that works across a whole Integrated Care System, ensuring resourcing and development meets system-wide needs.

7. Through the new primary care infrastructure efforts should be made to achieve consistency in general practice nurses pay and terms and conditions of employment.

8. GPNs should be actively recruited to key stakeholder groups in the new primary care infrastructure such as PCN and ICS boards, allowing the system as a whole to benefit directly from their insight and expertise, whilst providing GPNs with appropriate leadership opportunities that reflect that expertise.

Quite simply, general practice nursing has been a 'Cinderella' profession for too long. Over the years the role has developed in breadth and depth and general practice nurses have not felt recognised or valued for far too long. Changes to clinical approaches outlined in the Long Term Plan and elsewhere imply that there are further responsibilities for primary care to come, much of which will be delivered or co-ordinated by general practice nurses. Plans to recruit more general practice nurses are to be applauded and investing in the profession makes little sense without investing in the infrastructure that supports it.

1. Who are GPNs and where do they work?

This report discusses findings from a nine-month research project commissioned by NHS England and NHS Improvement. With a brief both to articulate and to evaluate the role of GPNs, the initial research involved nurses, GPs, and practice managers from a sample of practices in England, generating an initial view. This was then tested and validated with a second research cohort and a survey of employees working in a variety of roles in the participating practices. Full details of the research methodology and participants can be found in the Appendices.

The role of General Practice Nurses

Nurses are highly skilled professionals working in a range of roles in general practice as part of the practice healthcare team.

General Practice Nurses[1] are unique within the nursing profession, in that they care for all age groups, and support all significant stages of the life course. The role of the General Practice Nurse (GPN) is diverse, providing a wealth of opportunity to deliver high quality, personalised care across the practice population and to influence care on a wider scale. They work in general practices as part of the primary healthcare team, which may include doctors, pharmacists, and other specialist healthcare professionals such as physiotherapists.

In larger practices a team of several practice nurses will share duties and responsibilities. Smaller practices may have just one or two GPNs who, as a consequence, may each hold broader sets of responsibilities. Some practices have developed such that nurses lead the practice overall. Statistically, the profession is staffed largely by women, with a high number of mature workers (37% aged over 55) and part-time workers. GPNs constitute a significant proportion of the primary care workforce in England (26% of an average practice staff profile) and are the second largest group after GPs. As primary practice moves towards its new model under the NHS Long Term Plan[2], GPNs are increasingly working collaboratively across practices within a Primary Care Network, bringing collective experience and skills together into larger teams.

Every practice is different in terms of its size and shape and in the demographics and healthcare needs of the community it serves. The role of GPNs has evolved to meet the needs of the general practice in ways that may not be fully apparent to those not working in them, and herein lies the challenge. The GPN role is somewhat hidden from view, or 'taken for granted' and must be better understood if we are to fully realise its potential value. Long gone are the days in which nurses acted purely in a supporting role to doctors, taking blood samples, dressing wounds, and comforting nervous patients. Today's GPNs may be partners in the practice, taking a senior leadership role as well as working alongside their GP counterparts and other healthcare professionals. They have specific responsibilities that are separate and complementary to those of GPs, and many patients' needs are fully and

[1] For the purposes of this report, we use the terms 'GPN', 'General Practice Nurses' and 'nurses in general practice' interchangeably. We do not include healthcare assistants (HCAs), whose qualification and supervision routes are different or Nursing Associates as this role is relatively new to the practice setting.

[2] NHS England. (2019) *The NHS Long Term Plan*

expertly met through the nursing teams – for example, the effective management of long-term conditions such as diabetes, the skilled delivery of childhood immunisation programmes, or approaches to care tailored to the needs of the patient (e. g. the frail and elderly).

The role is highly skilled, requiring qualification at degree level (or with equivalent experience) and ongoing training and development. More than two thirds of our survey respondents, and a significant proportion of workshop attendees, had a post-graduate qualification. GPNs are Registered Nurses working across a range of roles and specialisms (including disease specialisms and the ability to prescribe) and are regulated by the Nursing and Midwifery Council. The pattern of roles and expertise in any one practice is driven by several factors, namely: the care needs of the patient population, the skills and specialisms of the nurses employed, and the commissioning priorities of the local Clinical Commissioning Group (CCG) or Integrated Care System (ICS). This variation of service and involvement from one practice to another is perhaps one reason why the role of GPNs is imperfectly understood. Other contributory factors are the variety of routes into the profession and the employment model for GPNs, which is unique in the NHS nursing landscape.

Routes into the profession and the employment model

General practice nursing is a richly rewarding and varied profession, offering a wide choice of progression and specialisation options.

Nurses working in general practice routinely speak of a varied and rewarding role, with significant scope for autonomy, leadership, and self-direction. Routes into the profession vary, and it is less common for nurses to enter general practice immediately on qualifying than it is for them to transfer from a hospital or specialist setting, perhaps after a career break (many of the nurses participating in this research cited family-friendly hours as a primary reason for moving into general practice). Other reasons included the attraction of a clinical focus (found to a lesser extent in community nursing (a role that also offers predictable and family-friendly hours), the privilege of getting to know patients and their circumstances well and providing continuity of care in a holistic and person-centric way.

Despite suggestions from colleagues that a move from a hospital setting into general practice would inevitably lead to ‘de-skilling’ over time, nurses taking part in the research have found the opposite to be true. GPNs must maintain a broad and robust skillset across patient cohorts and nursing fields. They regularly draw on their skills and professionalism in order to adapt their processes and care delivery to fit with changing circumstances.

The profession is, however, facing some challenges to recruitment. Some nurses reported having had to ‘create their own pathway’ into general practice nursing. For example, a nurse who was initially working as a Healthcare Assistant (HCA), but who found no supported progression into nursing, was forced to exit clinical practice to fully retrain before using her knowledge of the general practice environment and its networks to secure her new GPN role. Fellow students on her training course reported struggling to find a route into general practice nursing because they had no connections there. Whilst this may be an extreme case, it does point to a lack of transparency surrounding the various routes into general practice and the support available to do so, including the new

apprenticeship options for Nursing Associates and Registered Nurses. Historically, nursing degree courses did not routinely include placements in general practice, and this has been cited by many as a fundamental barrier that is deterring newly qualified nurses from entering this area of the profession (accounting in part for the gradual ageing of the overall workforce).

The scarcity of pre-registration training placements may be one factor that deters newly qualified nurses from choosing a career in general practice; however, another factor includes the fragmented delivery of training and development courses once in the role. These tend to be focussed on individual skills or service delivery and are booked 'as needed' but with variable availability. Nurses can wait a long time before the course they need is available locally and many report being frustrated during the 'waiting period', which they see as a waste of their potential due to not being able to offer the additional services their patients need until they are trained.

This role within the nursing profession can be differentiated from others in the NHS by its employment model. Unlike their counterparts in the wider NHS, GPNs are employed directly by the practice(s) in which they work, which operate as independent small businesses. As such, GPNs have a different employment experience to what many people might assume – they are simultaneously part of the NHS delivery model, but employed by independent organisations, a unique model that offers opportunities and challenges.

As employees of independent practices, GPNs experience far more uncertainty regarding pay scales and terms and conditions of employment than their colleagues in the NHS who are generally aligned to the NHS Agenda for Change framework. Our research revealed, at a detailed level, a wide variety in employment terms and practice – from nurses whose daily routine included catching up on administration whilst hastily grabbing lunch at their desk between patients, to those with shorter clinic hours and dedicated slots for catch-up and paperwork. Other terms of employment, such as holiday allowance, vary from practice to practice and are difficult to discover in advance of applying for a specific job – potentially one reason why nurses tend not to move between practices.

Many of the nurses in our research cohort had been employed at the same practice for 20 years or more and had built up additional employment benefits as a result. These could be perceived as 'at risk' in any potential move, notwithstanding the implied benefit of being able to directly negotiate their own terms and progression. Our research suggests it likely that moves between practices are more often instigated in an attempt to secure growth opportunities or greater autonomy than in pursuit of better terms and conditions. This private employment model also leads, inevitably, to a fragmented jobs market. Although a central NHS-hosted jobs board does exist, vacancies are usually advertised on private sector jobs' boards and through recruitment agencies rather than through a central general practice recruitment 'hub', visible across the NHS network, though a central NHS-hosted jobs board does exist.

The pay and terms and conditions of GPNs (which can be viewed as an investment by the practice in its nursing team) is an important part of the assessment of the value that GPNs bring and have been drawn into the investigation of the evaluation model developed in this research.

2. General Practice Nursing – a varied and rewarding profession

Fig. 1 RCN principles of nursing practice

What GPNs do

Nurses are employed by general practices to fulfil a variety of roles, ranging from 'treatment room' responsive care, to leading the management of long-term condition clinics. Their role is varied and offers the opportunity to build long term relationships with patients.

Nurses working in general practice fulfil a variety of roles, underpinned by comprehensive training and education. This incorporates and embeds not only clinical knowledge, competence, and skills, but also a set of nursing principles, developed by the Royal College of Nursing, that is applicable to all nursing staff and nursing students in any care setting (as illustrated in Fig.1).

This unique foundation both attracts and develops professionals who are concerned with delivering holistic, person-centric care. The GPN approach is rooted in a curiosity about the patient's situation and priorities ('What matters?' as distinct from 'What's the matter?'), respect for and primacy of the patient's choices, an open and straightforward style that is non-judgmental and encourages disclosure and confidence in even the most personal matters, and a determination to solve problems in a pragmatic and effective way.

There are multiple job titles within the profession, but it is difficult to make accurate assumptions about how job titles or grades relate to responsibilities within any given practice. Whilst most nurses will see a variety of patients in the course of a day – from reviews of long-term conditions to 'treatment room' activities such as wound care, or the facilitation of group consultations – many will develop specialist areas of expertise and take on responsibility for specific areas on behalf of their practice, group of practices or PCN.

Some nurses (notably, but not exclusively, Advanced Nurse Practitioners[3]) have been trained to diagnose and prescribe within the parameters of their role. Others will be the practice or PCN expert in particular conditions and will lead clinics, prevention, and management programmes in those areas (asthma, COPD and diabetes being the most frequently cited). Individual (non-core) services, such as screening or weight loss management, are delivered according to what has been commissioned from each practice and in response to the needs of the patient community. This is balanced with the training that members of the practice nursing team have undertaken and their levels of expertise, with GPNs training in specific treatments or services by agreement with their practice and in response to patient need. Whilst many of the practices we spoke to were happy to share expertise with others in the PCN, a few nurses had experienced reluctance by the practice to make their expertise visible to others, apparently for fear of the nurse in question being 'poached' for that expertise.

Nurses were most commonly attracted to general practice due to the pattern of employment as well as the variety within the role and the available career opportunities. Employment patterns also emerged as a reason to stay in general practice; however, making a difference and the opportunity to work long term with patients and their families were also cited as reasons to stay (but not as attractors into the role), suggesting that these attributes of the role are less well-known to those not already working in general practice.

There is a degree of self-direction within the GPN role that comes directly as a consequence of the employment model. Some of the nurses in the research group reported 'pushing back' on requests to specialise because this would lead to a much less varied role; however, this should not be seen as a reluctance to take on the work - rather that the nurses in question can see better ways of meeting the need. The increasing collaboration in teams that span multiple practices was held up as an example of how this might be done, providing the opportunity to lead within a specialism but sharing the workload and therefore gaining a better perspective of what is working and how the service might be improved. The agility that comes with working in general practice is much prized. Problems, once identified, can quickly be solved and opportunities can be seized with minimal obstacles.

Responsibilities and opportunities vary, but most practices benefit from the proactive and pragmatic leadership that GPNs provide due to them anticipating and responding to the needs of the practice and its patients as well as designing, testing, and developing appropriate healthcare programmes. An example cited during the research was of nursing teams in Gateshead developing particular competency in providing care to frail and elderly patients, either in their own home or in nursing homes, with positive results for both the patients (whose dignity and individuality was maintained) and the practice team (which was able to cater for their changing needs without over-medicalising them). Some practices have nurses as Partners, and a few are truly nurse-led, but this is a model that is just emerging. There are clearly more opportunities where GPNs might begin to fill roles traditionally held by GPs,

[3] The term Advanced Nurse Practitioner (ANP) was used by participants in the workshops and is reflected in the findings here. Elsewhere in this document we also use the terms 'Advanced Nurse' or 'ACP (Primary Care Nurse)' to align with job role titles as outlined in the draft *Primary Care and General Practice Nursing Career and Core Capabilities Framework*.

but which could benefit significantly from a nursing approach – for example, being the designated clinician providing support for care homes.

Although actively viewing themselves as part of a team (teamwork is a concept that resonates strongly throughout the research), most GPNs enjoy the freedom to work autonomously in their own rooms and are conscious of the responsibility that demands. Most report working with an 'open door', in a collaborative style – supporting each other in decision-making where necessary and constantly learning from each other.

Training and continuing development

Nursing training does not stop on qualification. All nurses undertake continuing training and development, both in the practice and through formal courses. Many will train in specific techniques or areas of care in order to meet the needs of their community.

The nature of the GPN employment model means that training and development is partially done 'on the job', complementing and consolidating what is learnt in formal training modules. All the nurses who responded to the research survey were involved in teaching pre-registration student nurses and new registrants, and the majority were also involved in training medical students and others in the practice team.

GPNs generally view training and the development of others as a core part of their role. They recognise the benefits of student nurses learning from experienced peers as well as in formal training settings, particularly since the timing of courses can be irregular and nurses can wait for extended periods before a course is available.

Some nurses have expressed concerns about whether the current placement of nurses in a single practice whilst pre-registration students is sufficient when compared to the rotation around multiple practices that is usual for trainee doctors, and which affords a more rounded view of general practice. Indeed for those who subsequently enter general practice, they may not have experienced a pre-registration placement in that environment. Concerns have also been raised by participants about the safety of the so-called, 'See one, do one, teach one' model for in-practice training for new registrants and, indeed, more experienced nurses, especially in view of the isolated working environment mentioned above. Both of these concerns have potential implications for service quality and continuity in practices that have smaller working teams and where individuals leave, retire or are absent for other reasons. The changing shape of NHS provision, which sees far greater collaboration across practices, should go some way to alleviate these concerns if GPN training models are included in ICS plans.

A unique and privileged role

A common description of the GPN role is that of a rewarding and 'privileged' position – an opportunity to get to know patients and really make a difference that few other careers offer.

Most of the nurses participating in the research spoke warmly of the profession as being hugely rewarding and providing scope for development in multiple directions. The nature of the job itself was compared several times to that of a detective, with nurses piecing together what they know about a patient to make sense of what is (and is not) said during a consultation. This is perhaps one of the most significant contrasts with GPs, who have a more medical and diagnostic focus, and who may only see patients occasionally. It is not unusual for GPs to work part time, in multiple practices on a locum basis, or to move practice more frequently than nurses. It can therefore be the nursing team that holds the collective insight into the patients registered with a particular practice - insight which lies at the heart of the effective delivery of the NHS Long Term Plan.

Nurses describe themselves as problem solvers, curious and tenacious in pursuit of better outcomes for their patients. Many of the stories told during this research described nurses who knew their patients well enough to ask probing questions (often during general conversation whilst performing the task in hand) and to know when something 'felt wrong' with a patient's situation or response that prompted further investigation or follow-up. This gives them a privileged and key position in which to be. Nurses regularly refer to themselves as the 'glue' that holds a practice together – following up to see that referrals have been made, spotting patterns across patient groups, working with other professionals to coordinate care. All these are vital activities, non-clinical and therefore often overlooked when thinking about what a nurse in general practice *does,* and they will become increasingly important as the NHS evolves into the future model espoused in the NHS Long Term Plan.

Nurses also describe themselves as working in partnership with their patients. Recognising that health and wellbeing is affected to a far greater degree by what happens at home than by what happens in the surgery, nurses actively work with the patient to find a treatment or care plan that will work for them and that will reduce the likelihood of a relapse or deterioration of their condition. As well as making sure that medication is understood and able to be taken effectively, this can extend to adapting the provision of treatment to meet individual needs. Several nurses in our sample had experience of women arriving for a cervical screening appointment but being unable to continue with the procedure due to it triggering memories of prior abuse. The nurses were able to draw on their training, not only to deal sensitively with the situation (accepting the disclosure with an appropriate reaction, putting the women at ease and allowing them to 'build up to' a future appointment when the procedure could be undertaken in a way that felt safe), but also to make sure that any additional needs that arose from the act of disclosure were swiftly and appropriately met.

GPNs are a vital component of an NHS workforce that is deliberately turning its focus away from treating the effects of ill health and towards the encouragement and support of better health and illness prevention. This approach must work for all patients, including those with communication challenges of any kind – whether because of not speaking English well, or due to having a learning disability. The holistic approach of nurses and their focus on finding a practical solution or treatment means they actively check comprehension and reinforce messages until they are sure the patient fully understands what is required.

3. How GPNs create and deliver value

This section explores the work that GPNs do in terms of the value they create, the communities they benefit and the way in which value is delivered to those communities. It demonstrates a unique combination of skills, approaches and expertise that is not found in any other group within the NHS.

Arenas of value creation (who benefits?)

The value that GPNs create extends beyond the health of their patients and the effective running of the practice into benefits for the wider community and the NHS as a whole.

Our research includes the development of a framework through which the value of GPNs can be fully understood and articulated, whatever the size of the nursing team or the specific duties of any one nurse. The framework was developed by first exploring the arenas in which value is created and then identifying the key drivers of that value – the things that nurses do, the approaches they take and the skills they have which bring about positive outcomes.

As well as the care activities and services provided to patients, it is clear that part of that value creation stems from the nature of the professional nursing approach, the core of which used to be known as the Nursing Process. Talking with GPNs in different locations, from different sizes and types of practice and with varying levels of seniority and expertise, we are able to appreciate the full extent of the value created by nurses in general practice. We can determine four distinct arenas in which that benefit is felt, with the value itself responding directly to the needs of those arenas and the people within them. GPNs create value:

- **In the practice** – whose needs are to provide quality care to patients, develop services to meet the future needs of the local patient population group and the wider strategic needs of the NHS, and be financially and operationally viable.
- **Amongst patients** – who need timely and effective care, and to feel and be supported and enabled to make informed decisions regarding their health.
- **In the wider community** – which needs to enjoy better well-being (contributing to illness prevention) and to be linked with or 'signposted' to all forms of health and social care.
- **Within the wider NHS and social care systems** – which need to develop, be accessible and inclusive and to efficiently deliver high quality care.

Fig. 2 (overleaf) illustrates how value builds across each of these arenas. The arrows describe the effects of nurses:

1. delivering 'transactional' and local value within the practice (such as seeing individual patients, leading and developing programmes of activity and responsive care such as post-operative dressing management),
2. delivering a broader range of value to patients themselves, such as managing clinics to monitor long term conditions, or delivering preventative programmes and personalised health management advice,
3. leading activities responding to local area and health population needs and developing outreach and community support programmes that meet that need, and
4. being key to effective, agile and responsive delivery of primary care within the wider NHS system.

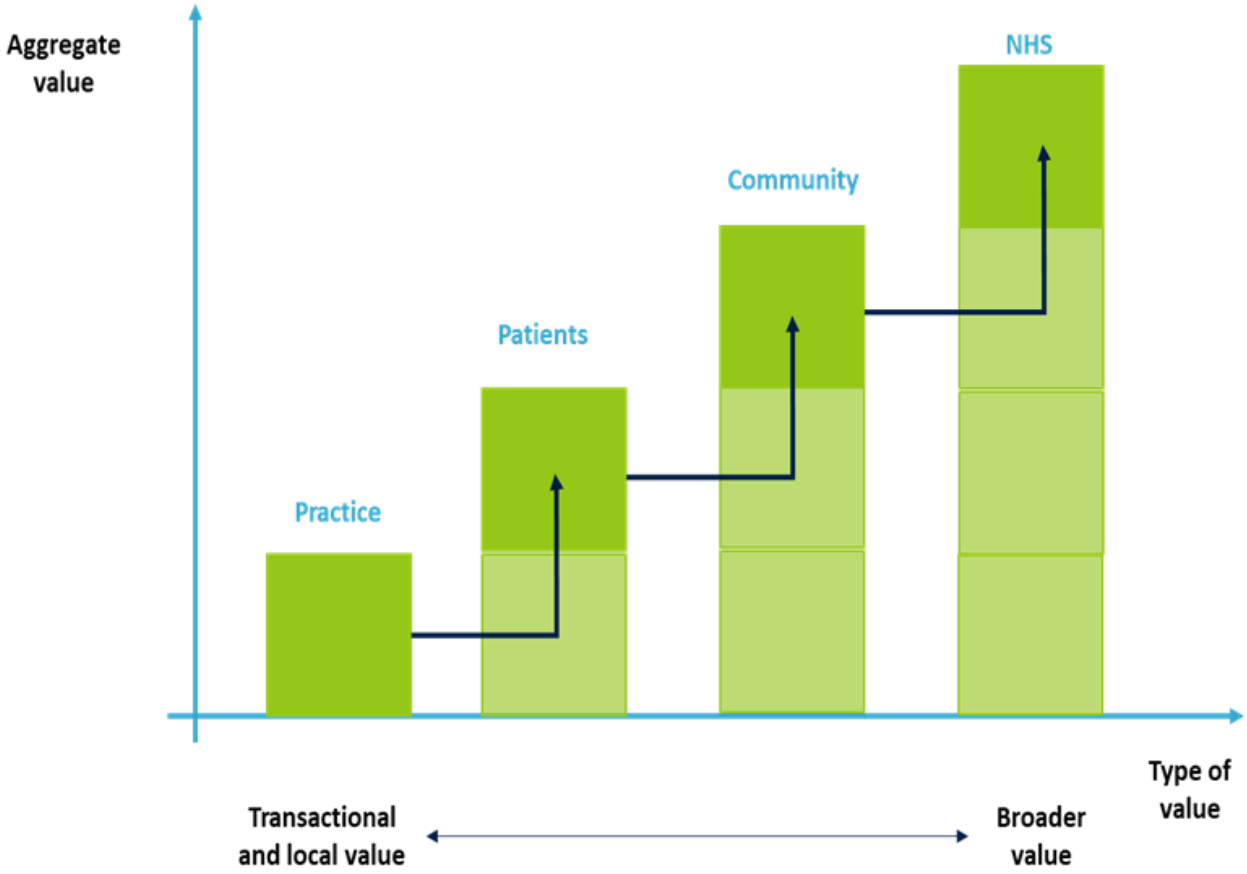


Fig. 2 Arenas of value creation

Each of the four arenas of value creation – the practice, patients, communities, and the NHS as a whole – experience positive outcomes[4] because of the work and activities of GPNs.

[4] The term 'outcome' is used to describe positive changes that meet a need in each of the arenas.

Value drivers and enablers (how GPNs create value)

Nurses in general practice draw on a distinct set of qualities that – individually or in combination – create value for their patients and wider beneficiary groups.

The positive outcomes are not achieved simply by having nurses fulfilling a set of tasks – if that were the case, those tasks would be easily transferable to others with no discernable effect on the outcomes. In contrast, our research demonstrates a set of around 40 distinct activities, approaches and capabilities that combine to bring about those outcomes, and which are evident in GPNs and the work they do. Not all are in evidence all the time, but the full set can be drawn on in varied combinations to create the value that GPNs bring. The full set can be usefully reduced to eight core thematic areas, which we call Value Drivers. As illustrated in Fig. 3 (below) these are:

- Leadership – at multiple levels
- Networked approach
- Systems approaches and strategic prevention
- Improving diversity of access
- Supporting and enabling self-care
- Development of support communities
- Skilled care delivery
- Specialist areas of care

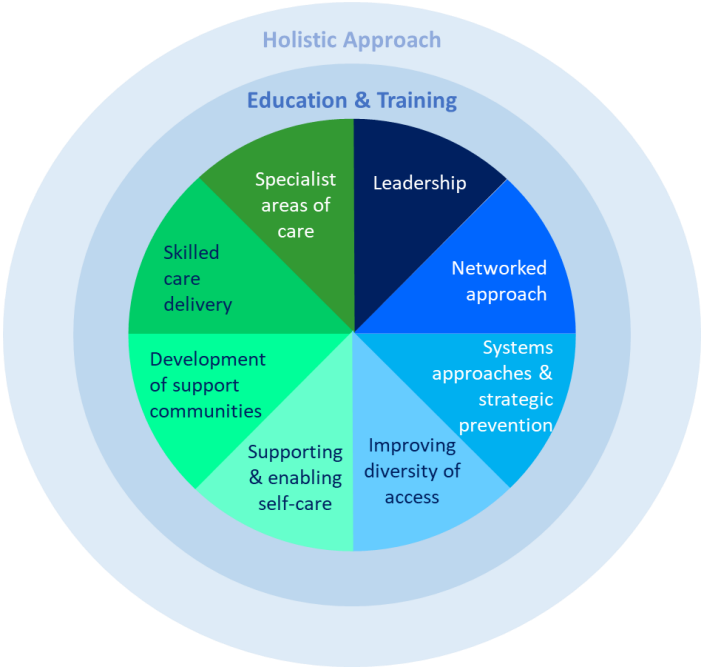


Fig.3 Value drivers and enablers

The Value drivers are supported by two enabling factors, also strongly in evidence in the work of GPNs, and key to the skilled use of the Value drivers themselves:

- The nature of education & training of GPNs
- The holistic approach of nurses

The creation of value as described here is not a series of individual or sequential actions or 'transactions' taking place in the confines of the surgery or clinic, but stems from a response to the outcomes needed in the lives and social situations of real people. Nurses, as we have seen, are skilled problem-solvers, focused on how to help their

patients manage treatments and conditions and thereby enhance their well-being in the longer term. The value created is not always immediately apparent or measurable – it may build over time, resulting for example in a gradual lessening in frequency of acute episodes (which ripple through into a reduced demand in secondary care settings). Longer term outcomes translate into lasting impact, and it is often only at this stage that the true value can be fully appreciated or measured. Appreciating value as both cumulative and operating in multiple timeframes allows us to evaluate differences in approach and treatment pathways 'in the round'.

Simplistically, the value drivers and enablers identified in the research combine to produce an overall framework that draws on the instinct and training of GPNs, enabling them to think holistically about the patient, take on board psychosocial needs alongside physical needs, consider their circumstances, and empower that patient to help themselves by the best means available. By contrast, a more formulaic or mechanistic approach might be to provide the patient with a list of 'do's and don'ts' which will be of little value without an assessment of whether the patient is able and willing to stick to those rules (or properly understands them). GPNs can motivate patients to make real change in their lives by developing, with them, a plan of care for their benefit.

Understanding the value created

Considering the Value Drivers in the context of the Arenas of Value Creation allows us to draw a comprehensive picture of where and how GPNs create value.

Our research framework includes an evaluation of the order of value that GPNs create in each of the arenas identified. This was developed from an illustrative mapping of the outcomes delivered in each arena through our eight value drivers (shown in Fig. 4). The table shows the needs in the four value arenas to which the GPNs respond, offering services that meet those needs. They create outcomes (changes in the lives of patients, the community, the practice, or the wider NHS). It then shows which value drivers appear to be key to their delivery of those outcomes.

As we have seen, each value driver does not always work alone. It is the combination of them that is particularly powerful, and the fact that nurses have all eight at their disposal to combine, as necessary. Their holistic approach and extensive training enable them to do this skillfully and instinctively. Other health professionals can undoubtedly bring value in several of these areas; however, it is the GPN team that brings value through all eight as an integrated whole. Their holistic approach embraces several diagnostic techniques with an ability to synthesise information to better understand a patient's needs. This role is very different to other nursing roles which may focus on a disease pathway. When participants were asked in the research survey about their contribution, the areas of value most cited were 'Caring for a specific practice population' and 'Leadership responsibilities' – answers that resonate well with the information gathered through workshops and interviews.

It is interesting that, although the vast majority of nurses and other professionals participating in the research recognised all eight value drivers and could provide strong examples of each from their own experience, those

responding to the survey request to rank those in operation within their practice identified, 'Supporting and enabling self-care' and 'Skilled care delivery' most readily. Perhaps this suggests that other aspects of GPNs' value creation are more hidden or less frequently recognised or celebrated.

Arena of Value	Needs	Outcomes	GPN Value Drivers
Practice	• To deliver quality care to patients • To meet required targets and receive associated income • To meet CQC standards • To effectively manage the delivery of responsive and preventative care • To efficiently manage appointment time and resources • To employ good staff and help them develop • To embrace continuous improvement	➢ Practice maintains strong patient base ➢ Practice attracts and retains good staff ➢ Practice is financially sustainable ➢ Practice effectively reaches and delivers care to all its patients ➢ Practice is viewed as a leader – adopting innovative staff-led approaches and adapting to new models of care	❖ Leadership ❖ Networked approach ❖ Skilled care delivery ❖ Specialist areas of care ❖ Improving diversity of access ❖ Systems approaches & strategic prevention
Patients	• To have care needs met in a holistic model • To feel looked after • To be able to make informed choices about health • To be empowered to play a role in maintaining and improving health • To feel supported in times of poor health • To maintain independent living for as long as possible	➢ Patients receive holistic, joined-up care ➢ Patient care needs are met in good time ➢ Patients trust nurses, doctors and other healthcare professionals ➢ Patients are listened to, not just prescribed for ➢ Patients are offered and are empowered to make choices regarding their treatment ➢ Patients are supported to manage their own health	❖ Leadership ❖ Supporting & enabling self-care ❖ Development of support communities ❖ Skilled care delivery ❖ Specialist areas of care ❖ Systems approaches & strategic prevention ❖ Improving diversity of access
Community	• To have links with local practices to benefit community-wide health • To provide non-medical support to those experiencing health difficulties • To have healthy environments that support good health and wellbeing • To have networks and other means of support for independent living • To properly recognise and support carers	➢ Patients benefit from non-medical therapies and support within the community ➢ Grass-roots and community groups are signposted from general practice ➢ Place-based support networks are created ➢ Population health needs are identified and addressed effectively	❖ Leadership ❖ Networked approach ❖ Supporting & enabling self-care ❖ Development of support communities ❖ Skilled care delivery ❖ Specialist areas of care ❖ Systems approaches & strategic prevention ❖ Improving diversity of access
NHS	• To have resources managed efficiently and used effectively • Patients to receive appropriate and timely care • Early interventions to be made with patients so that conditions do not deteriorate (and may improve) • To maintain and support a high quality workforce to deliver care	➢ NHS system works effectively with care delivered in the right place ➢ NHS can shoulder the burden placed upon it, with room to flex when necessary ➢ NHS and NHS partner organisations are recognised as good employers	❖ Leadership ❖ Networked approach ❖ Supporting & enabling self-care ❖ Development of support communities ❖ Skilled care delivery ❖ Specialist areas of care ❖ Systems approaches & strategic prevention

Fig. 4 Value drivers mapped to arena needs and outcomes

Value drivers and enablers in action

The Value Drivers are everywhere – GPNs draw on these skills and qualities instinctively in response to need and opportunity. They form an innate skillset that all GPNs have in common.

The two enablers identified in the value framework above are significant and inter-related. Without these two working together, the GPN's ability to realise their full value potential would be compromised.

- **Education and training** for GPNs is, as we have seen, both comprehensive and continuous. The training prepares nurses to work confidently, competently and safely within the Nursing Principles. It is second nature to nurses in general practice to assess and manage risk, to work within their capabilities and to put the patient first. Several nurses in the research cohort mentioned limits of professional indemnity as one guide used to determine how and where to act independently. It is not only clinical knowledge and expertise that is taught, but also the professional approach that is so important in a general practice setting, where nurses often work independently without close supervision.
- The **holistic approach** that is common to GPNs is in part an innate preference - workshop participants laughingly referred to being 'detectives' or 'being nosy' when talking of how they were tenacious in seeking additional contextual information to ensure a sound diagnosis and appropriate care plan. It is an approach consolidated by the training they receive, namely, to understand the patient and their concerns, to take a person-centric and not a condition-centric view and to respond accordingly.

To fully understand the value drivers, it is useful to explore each in more detail, drawing on examples of them working in practice – separately or in combination with others. Note that these examples were provided to the research team before the value framework was created and the value drivers identified. The research informed the framework and not the other way round; we can therefore be confident that these examples are natural and have not been 'forced' to fit the framework artificially.

Leadership

Defined as a process of social influence which maximises the efforts of others towards achievement of a goal. Leadership - as distinct from management – is a key skill that is highly developed in GPNs, and seen at multiple levels:

- Being alert to patterns of behaviour and responding to them (leading insight)
- Self-reliance in analysing needs and initiating a response (self-leadership)
- Proactive research and design of a response, often in collaboration or consultation with others (leading design)
- Facilitation of responses, including catalysing and coordinating resources (leading others)
- Developing guidance and support to broader adoption and continued improvement of responses (leading strategically)

It is also evident in the way in which nurses navigate and shape their own career paths and support the development of others – identifying opportunities for specialism or growth themselves as well as for the benefit of the practice.

The Covid-19 pandemic has accelerated a pre-existing trend towards well-being support and support for self-care (providing leadership for patients). Here the leadership itself benefits from the networks in which GPNs participate, both within and outside the practice. Examples of leadership in action include:

- Solely managing and delivering certain areas of patient care
- Looking out for what has worked elsewhere – adopting and adapting to suit local needs and conditions

- Sharing ideas and approaches with other practices and teaming up for area-wide effect
- Leading by example to influence the culture of the practice and its engagement with the community
- Shaping responses when initiatives are mandated at a high level, without detailed implementation instructions (for example, organising the Covid-19 vaccination programme at a practice level).

Interestingly, whilst providing us with examples of good leadership, many nurses we consulted did not recognise themselves as leaders – what they did was 'just part of the job'. Some were reluctant to take opportunities for broader leadership if that would detract from the core clinical role. Others equated leadership with management or grade progression.

Networked approach

Nurses in general practice have an open style of working, high levels of mutual support, and readily engage with and develop in a variety of networks - including the practice nursing team itself, GPs, and other professionals within the practice.

Internal networks are focussed on skills and information sharing, mutual support and development and collaborating to 'get the job done'. External networks exist with community organisations, other practices, and nurses and other professionals within the wider NHS. Some of those most frequently cited are:

- District and community nurses
- Social prescribers
- Schools
- Care homes
- Charity and private sector support providers
- Local religious groups
- Universities, colleges, and training providers
- Communities with limited access to care (e.g., homeless people, refugees).

GPNs' desire for continual improvement and pragmatic problem-solving means a variety of other networks are valuable to them:

- Other general practices within the PCN (sharing best practice and innovative ideas)
- Other primary care staff (following up on or advocating on behalf of patients)
- Specialist primary care and secondary care providers (in multi-disciplinary care teams, for example, or in informing hospital specialists of patients' situations and practical needs)
- Mental Health professionals and providers (liaising on appropriate support for patients)
- Professional Bodies and National Leadership (contributing to research and professional development).

Networking draws on a range of skills, principles and attitudes including coordination, intelligence sharing, and education. It is fundamental in being able to support patients to get the help they need – be that from the practice or elsewhere – especially within a commissioning model in which services are often funded only for a limited period. It relies on the common understanding of the needs of patients and patient groups and a shared desire to meet that need. It also often relies on the detective skills and innate curiosity that nurses regularly disclose to find the right contact within a network.

Not all of these networks are formal or supported by visible structures but have instead evolved as nurses themselves recognise both the need and the benefit of keeping them active. WhatsApp and Facebook groups are used extensively, for example, as a way for groups of nurses across practices to support each other, answer questions,

or give advice. Being a 'super connector' is an important part of the role of nurses in general practice.

Networks are clearly important now, but are also key to the effective delivery of primary care under the NHS Long Term Plan and, in particular, of Integrated Care Systems (ICSs) in which NHS teams work in partnership with non-NHS professionals and other providers. The design of ICSs is predicated on a widespread capability to draw value from networks at the heart of service delivery.

Systems approaches and strategic prevention

GPNs regularly take the lead in designing and implementing approaches to care that focus on prevention and condition management. The UK has an ageing population, with increasing numbers of co-morbidities (one in three patients admitted to hospital as an emergency has five or more health conditions, up from one in ten a decade ago[5]) and a focus on prevention and on keeping people healthier for longer is a critical part of the nation's health and care strategy.

Built on a deep understanding of how conditions progress or heal over longer periods, and how they are affected by the social and psychosocial contexts of the patients themselves, GPNs tailor their advice to meet individual needs – a natural consequence of an approach rooted in pragmatism and effective problem-solving, developing capacity, knowledge, and confidence within individual patients that enables them to understand their condition and actively help to control and manage it. Where multiple patients share care and advice needs, nurses take the lead in designing education and health management services, often identifying and designing a response to gaps in provision (e.g., healthy eating groups, or group consultations).

A similar approach is evident in system improvement initiatives. GPNs are often instrumental in the design, re-design, or improvement of systemic approaches to recalls, and the observation of indicators of escalating need. This helps to ensure that the wider patient base is managed effectively, and that income generated by effective and proactive practice can be applied.

Enabling community-led prevention by understanding and working within the local context is an important factor in ensuring effective use of practice budgets. Managing and delivering public health programmes, such as seasonal flu vaccinations, have an impact on the wider health system, improving outcomes for communities and health populations and reducing the need for expensive (and often disruptive) treatment in acute or bed-based care settings.

Improving diversity of access

A key focus of the nurses in general practice is to ensure that the practice reaches the whole community and is visible and accessible to all. People are not all the same and their situations can change rapidly. GPNs' preferred or default approach to engagement with patients complements that of doctors and of specialist health professionals, and it is only by being able to offer the best of all approaches that the general practice can achieve the best possible and most equitable access to care.

A pertinent example of this has been in evidence throughout the Covid-19 pandemic, during which nurses have continued face-to-face contact with patients throughout periods of 'lockdown', whilst many GPs have

[5] HM Government. (2021). *Integration and innovation: Working together to improve health and social care*

been consulting by telephone only. This in-person contact with nurses has been acknowledged as a deeply comforting and vital element of care delivery in difficult times. Indeed, it is largely nurses who are administering the vaccines, in the biggest vaccination programme the NHS has ever undertaken.

Much of the work that GPNs do cannot be done remotely, but the pandemic has also offered opportunities to make better, targeted use of technology and communications strategies to ensure that none of their patients are 'left behind' during this difficult period. Some obvious examples include telephone campaigns to encourage the uptake of cervical screening and shifting group activity to social media platforms such as Zoom or Skype.

Exemplified by a nursing approach that works 'with' patients, not 'on' them, GPNs provide a mix of forms of engagement that complement those of GPs and other healthcare professionals, including different ways to reach and treat people who might otherwise not engage with the practice:

- Longer term, open and friendly relationships – including repeat appointments with the same 'named nurse'
- Varied and flexible appointment times (e.g., longer sessions for those newly diagnosed with diabetes)
- Conversations with nurses often cited as being 'on a level' with patients (not too remote or medicalized, and not judgmental)
- Active encouragement of patients to attend appointments and follow-ups – developing recall systems and a range of forms of contact
- Delivering clinics or 'outreach' services in places where patients are likely to be (e.g., prostate checks at a local football ground or women's health clinics delivered in a safe space accessible to a city's sex workers).

GPNs report that there appears to be a widespread belief amongst patients that nurses may have more time than GPs (regardless of whether that is always true), and patients often feel more able to raise additional concerns during a consultation than they would in a 10-minute, single condition consultation with a GP.

These are known as 'door handle' conversations and are recognised as an important point at which patients disclose the one thing that is really worrying them. The fact that GPNs are often the professionals with whom patients are most readily willing to share small or niggling concerns (whilst acknowledging that GPs and other professionals also experience them) means that they need always to be alert to these. A seemingly trivial moment of disclosure may be the only hint that a patient gives that something may be seriously wrong.

Supporting and enabling self-care

Self-care by patients is a key component of public health management. GPNs have an important role to play here, both in helping to identify health concerns that are common across health populations and in delivering preventative and enabling support to drive down demand at an early stage.

The emphasis on public health rightly prioritises keeping people well, keeping conditions under control, and avoiding the frequency and severity of acute episodes that drain NHS resources and which are preventable. The economic implication here is important, but so too is the well-being of the individuals and communities that nurses support in this way.

Developing and enabling self-care is about understanding people in their social and human context and enabling them to develop strategies that keep them healthy, including support to manage long-term conditions. It demands that the patient understands the need for self-

care and how to do it, that they want to do it - for reasons which make sense to them over the longer term - and that they believe it is possible.

Self-care support draws heavily on a GPN's knowledge of the patient's circumstances (allowing them to select practical solutions), and their ability to pinpoint and help to marshal support from family and friends. Key elements include:

- Taking time to discuss the impact of the patient's conditions on their lives, and ways of dealing with that impact.
- Spotting areas where additional help is needed.
- Advocating for patients in obtaining additional support.

One interviewee told us that someone with diabetes needs to spend around 1,000 hours each year actively managing their condition. Only three of these hours are spent in the company of a healthcare professional (usually a nurse), so that nurse needs to be skilled in assessing the self-care capability of the patient, equipping them with additional advice and resources to effectively improve that capability and spotting when things are going off track.

The support provided by GPNs in enabling self-care includes:

1. **Influence** – to get messages across convincingly, and to persuade the patient to act.
2. **Problem-solving** – to find ways of overcoming the challenges in self-care posed by everyday realities.
3. **Planning** – both for engagement by the patient with formal care settings, and in how the individual can plan to make the self-care happen.
4. **Monitoring** – so that recalls happen when needed and conditions are holistically monitored, involving the patient and their family or carers in the monitoring.
5. **Forward thinking** - both an awareness of what may emerge (as problems) and a prevention-focussed vision of how to change lifestyles and other factors to head off risks in a practical, holistic way.

Development of support communities

Communities of support are important for individual wellbeing. Combining the empathy of those with shared experiences, the support of carers and those with similar conditions, and the encouragement to persevere, they are a powerful force. Related to their support for self-care, nursing teams often initiate, design, facilitate and support the continuation of communities of support for various diseases and health conditions. Some of the examples we have heard about are:

- 'Club' settings such as a Leg Club (to help those with circulatory or mobility problems manage their conditions), or 'It's Good to Talk' online loneliness support sessions.
- COPD clinics developing mutual support between people who live with this condition.
- Working with patients and family members to extend effective care into the home environment and empower that source of support - through the provision of information and guidance, and simply by 'allowing' them to be involved.
- Enabling development of support groups for carers, so that they can support each other (providing an 'official' identity for an often-hidden cohort).

Communities of support are extremely valuable, but often under-appreciated. Nurses are skilled at recognising when group settings or activities will be helpful for patients. The Covid-19 pandemic, for example, has revealed a need in many people for connection with others who are struggling with similar issues – a need to know they are not alone in

their struggle, and to share support and tips for getting through it.

Group consultations are being rolled out more widely in general practice, in many cases facilitated by GPNs, and feedback from many nurses who have been trained to facilitate them suggests that patients often take advice more readily from others in the group than from the healthcare professional. Whilst coming as something of a surprise to the nurses involved, this tendency is testament to the importance of shared experience and mutual support and nurses readily harness the powerful potential that comes from such groups. As a secondary outcome, and a key enabler of ongoing care, patients often build lasting and trusting relationships over time with others in the consultation group, to whom they turn directly for support at times when they would otherwise be booking a GP or nurse appointment to discuss a worry or concern.

Skilled care delivery

Nurses working in general practice bring a set of existing skills and experience enabling them immediately to benefit patients and practices through treatment, advice, and condition management. In addition, many will build on existing specialisms and knowledge in response to patient and practice needs.

Our research offers mixed views as to whether experience in other settings is necessary before a move into general practice, but most participants suggest that it is not, and that GPNs retain a varied set of skills coupled with the autonomy and flexibility to use them to best effect in any given situation.

The skillset is a broad one, drawing on training in a variety of technical skills and engagement models, and in how to identify the most appropriate of these to use in any given situation. In general practice this skillset is often broader than in acute or specialist settings, as nurses will need to respond appropriately to any problem presented by the patient. The nursing skillset is flexible and can be tailored to meet individual practice or community requirements, for example:

- Deploying the skills that are uniquely held by nurses to deliver prevention programmes (such as cervical screening and childhood immunisations)
- Upskilling to provide specific services where these are needed by the practice (for example, diabetes prevention in areas of high prevalence)
- Building specialist teams across practices (such as long-term condition management) such that responsibility for delivery is shared and outcomes can be improved with the benefit of area-wide insight)
- Attracting income to the practice through contracts for skilled service offerings.

The level of academic qualification required to practice as a nurse is high (degree level) but also encompasses the skills needed to deliver care with a high degree of competence, and those necessary to operate in a general practice environment (such as risk management, autonomous working, safe delivery of care, additional knowledge of immunisations, cervical cytology, wound care and much more besides).

In addition to using their skills directly with patients, nurses actively support the training of younger or more junior nurses within the practice and beyond. This is important as there are no universally adopted general practice standards of training or continuing development for nurses. In some practices training relies heavily on peer supervision, support, and development.

Skilled delivery of care by the GPN teams is strongly rooted in the professional standards of nurses as individuals, underpinned by the eight principles of nursing. This includes an inherent duty:

- Not to do what they are not skilled to do
- Always to act in the best interests of patients
- In practice, to go 'the extra mile' for patients and colleagues.

Specialist areas of care

There is a misapprehension that 'doctors diagnose and nurses support', however this could not be further from the truth. The role of GPNs includes a wide variety of specialisms, with considerable academic training and practical professional skill to back this up. The GPN role and its specialisms are truly complementary to those of doctors and other professionals in the practice.

Specialisms can range from diagnosis and triage as part of an urgent care team, to dealing with minor procedures and post-operative care in 'treatment room' settings, which reduces the demand on secondary care facilities.

Other areas which commonly see nurses specialising within general practice (often leading treatment and condition management clinics) include:

- Chronic disease or long-term condition (LTC) support, empowering patients in self-care
- COPD, asthma, diabetes, and hypertension reviews
- Childhood immunisations and adult vaccination programmes
- Family planning
- Cervical screening
- Comprehensive Well Woman, Well Man and 40+ health checks.

The choice of specialist care offered by GPNs is often closely related to the specific needs of the community supported by the practice, with opportunities for leading local approaches to care delivery being closely linked to population health management.

The needs and priorities of commissioners also has an influence on opportunities to specialise, as does the readiness of practices to invest in additional training. Many moves between practices are prompted by a desire to increase specialisation or to train in additional skills not available or required by the GPN's current practice.

4. Illustrating the value that nurses create

This section takes the analysis of value delivered by GPNs and considers it through a financial or economic lens. In exploring this we needed to consider the counterfactual – to what should we compare the involvement of nurses in the role we have seen – and whether to measure the values 'across the board', or by taking selected cases as illustrations.

Nurses bring value: but how can we illustrate that? An alternative – of not having nurses in general practice – was widely seen as 'unthinkable', so we must look at the change their role has made in practice.

The counterfactual can be considered, either by looking at what would be done in the absence of nurses, or by looking at the change they make in terms of outcomes delivered. The response from clinical professionals and practice managers was clear: in the absence of nurses the practices would look to GPs and HCAs, and perhaps other professionals, to retrain to what was clearly a description of nurses, in practice and in skill and experience. The realistic alternative to nurses is nurses. For this reason, the counterfactual approach in this research is to compare the effects of delivering nurse-led services and care to a scenario in which these services are not available or not fully embedded in the practice.

In formulating such a comparison, a richly nuanced view was developed by understanding the stories of individual patients and exploring the differences that nurse-led care had made to them when compared to what would have otherwise happened. In many cases, the 'what would have happened otherwise' journey was longer, involved more touchpoints with multiple healthcare professionals and was beset by delays in referrals and deteriorating conditions. The comparisons emerging allowed us to identify tangible outcomes of GPN involvement and to place financial values on some of those outcomes (where the outcomes were clear and where it was possible to calculate with reasonable levels of assumptions). The use of QALY[1]s was not pursued here as the values described qualitatively in the four areas begged a wider view of value than the extension of life and its quality for a single patient.

The illustrations below are built on case study examples and anecdotes shared in the research workshops. Whilst they are not a perfectly accurate depiction of any one patient's experience, they are a realistic representation of illustrative patient journeys and the outcomes of care programmes undertaken, as discussed and developed through the research. In all cases the illustrations were re-confirmed with the nurse or nurses who raised the original case with us, as well as at least two other specialists in the field with front-line clinical experience.

The first two case studies are of programmes developed and run by nurses in two particular practices. The description of the situation the nurses faced and what they did with the support of others inside and beyond their practices, but substantially developed and driven by them, leads into a table in which the achievements of the

programme are reflected in the views from each of the four arenas of value. Where reasonably apparent, the value of those achievements is shown by tickets attached to some of the boxes in the table.

Case studies three and four are individual patient journeys. The description of the patient and their situation, with an explanation of what the nurses did, leads into journey maps that show the difference that GPNs make by contrasting:

- The patient experience that might be expected if a GPN is not consulted, including costs incurred in any or all of the four arenas of value creation introduced in Section 3 (beginning on page 12)
- The resulting journey when a GPN *is* consulted, showing different costs, but overall savings in those areas.

Case Study 1: Diabetes clinic redesign

Careful risk-stratification of patients and re-framing whom they see and when has significantly increased the practice's capacity for early-stage prevention. The nurse-led programme has been rolled out across 23 practices giving at least £5m p.a. of gains.

Combe Down Surgery had an estimated 9,000 patients needing support to manage diabetes. Chronic disease management was covered by one GP lead and a specialist nurse running three clinics over two days, and the practice was able to reach 7,000 patients in this way. The hospital could expect to pick up the patients whose conditions could not be managed at primary care level, whether because of underlying escalation of the patient's condition, or a lack of capacity amongst the general practice staff. There was a wider nursing team at Combe Down, but they were not actively involved in diabetes management or pre-diabetes prevention work. Capacity for fasting blood tests, a key to the diagnosis of pre-diabetes, was particularly limited.

The nursing team developed a solution involving:

- Stratification of patients into five risk levels to enable the specialists to focus on those that most needed them, matching specialists to the patient's need, and prioritising appointments for patients with the most urgent need. The patients were stratified according to local and national risk guidelines which considered their age, stage of diabetes, mental health needs, health complexities and co-morbidities. The assessments were based on the skills of the practice team at that time, and it was understood that stratification was 'fluid' and that patients could move between groups.
- Building and restructuring the team to include the GP Lead and two nurses with specialisms in diabetes, respiratory disease and cardiovascular disease, a diabetes administrator, HCAs and reception staff.
- Re-structuring appointment times, clinic times, and recall systems to spread the workload evenly over six days a week, throughout the year.
- Changing and developing diagnostic pathways to pick up pre-diabetic patients and offer effective preventative interventions as well as to enable effective condition management for those already diagnosed with diabetes mellitus, avoiding escalation of the condition.

- Improved systems, including the use of templates for appointments to enable non-clinical staff to be actively involved in the administration and recall processes.
- 'Safety netting' for patients at various stages of the revised diagnosis and treatment process, including a 3-monthly search for those at HbA1c>42 without a diagnosis of pre-diabetes or diabetes, follow-ups or missed appointments still outstanding, and wider elements of care.
- Improving communication between primary and secondary care enabling the latter to draw on nurses' insight in condition presentation and management, leading to an informed replanning of treatment in some cases.

Following its success at Combe Down, the programme was rolled out with support from the Hospital Trust and the CCG to 22 other practices covering the whole of Bath and North-East Somerset, coordinated by the nurse lead from the Combe Down programme.

Value creation

The project has brought benefit in each of the four arenas of value, and we have laid these out below, with indications of the value brought where possible to estimate this. The table shows the nature of the value added, in no particular order, in four columns representing the four arenas of value. Where it has been possible, conservatively, to illustrate the value brought to Combe Down's work in its practice with a quantification of costs saved or other gains, these are shown in red tickets against the relevant boxes. An explanatory table showing the calculations and the assumptions, with selected references is attached at Appendix 3.

In addition to the value brought through the originating practice, the roll-out of the programme to 22 more practices in Bath and North-East Somerset ("BANES") brings additional value. With some 210,000 patients across the group of practices and based on Combe Down's proportion of patients with diabetes or those at risk of it, this brings a further group of diabetic patients and others that need reaching as potentially pre-diabetic. Comparative illustrative figures for the whole BANES area are shown in yellow tickets, with the detailed workings and assumptions shown in the right-hand column of the second table. All figures are annual savings, set at best estimates of current prices at the date of publication.

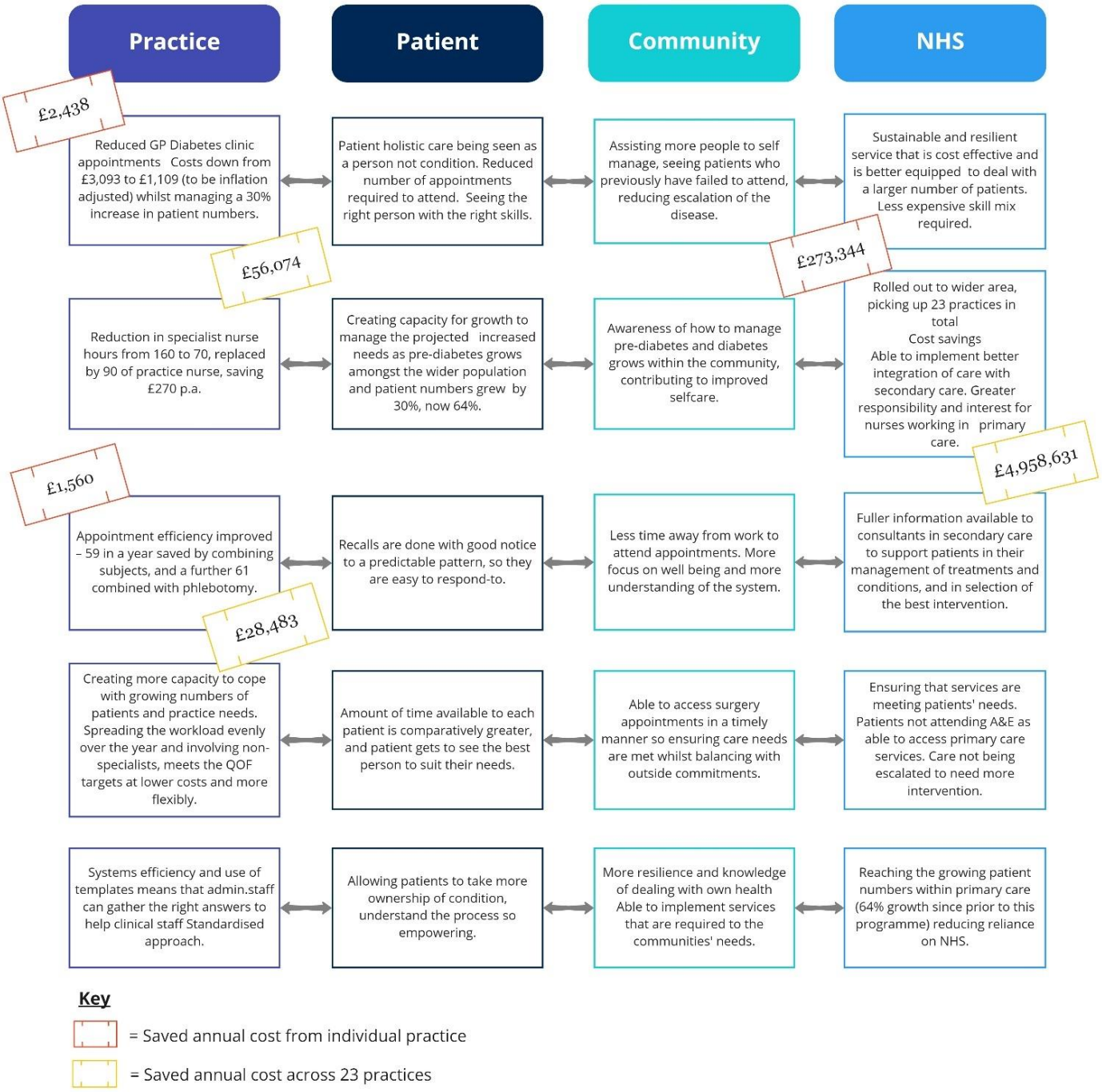


Fig. 5 Case study 1 value grid

Case Study 2: Improving hydration for care home residents

Clinical support in residential care homes is primarily provided through local general practice surgeries. In Tower Hamlets GPNs noticed that many patients from the local care home were presenting regularly with urinary tract infections as a result of poor hydration. Investigating this they discovered that elderly patients were reluctant to drink sufficiently and were frequently refusing drinks for extended periods of the day. This was a fundamental problem that had consequences in a number of other areas of health and well-being management.

The nurses, working with care home staff and the manager, decided to address this by organising a coffee morning at the care home with staff, residents, and their families. They arranged this as a special event with cakes and a relaxed atmosphere, and invited the care manager's dog, which added to the overall ambience. As a result of the positive, relaxed, and social experience, residents who would ordinarily refuse to drink anything were drinking beverages, and the care assistants and manager remarked on how much easier it became to get them to do so.

Following the success of this, the GPNs delivered training to the care home staff on hydration and nutrition over an 18-month period. This enabled the care home staff to develop expertise, not just in hydration and nutrition, but also in monitoring blood glucose and similar more clinical types of support. The effectiveness of this training has been clear during the recent lockdowns for Covid-19 with no residents needing to come into the surgery for any issues relating to poor hydration or nutrition. Staff members at the care home have also continued to run the coffee morning.

Value creation

The project has brought benefit in each of the four arenas of value, and we have set these out below, along with indications of the value brought where possible to estimate this. An illustrative minimum annual cost saving of £51,816 has been delivered by this project – a full breakdown of where these savings were made can be found in Appendix 3.

In addition to the value brought through the original exercise and the involvement of the nursing team over 18 months, it should be noted that raising awareness of the approaches with care staff and managers, care home operators, and with friends and family is likely to roll out that good practice more widely.

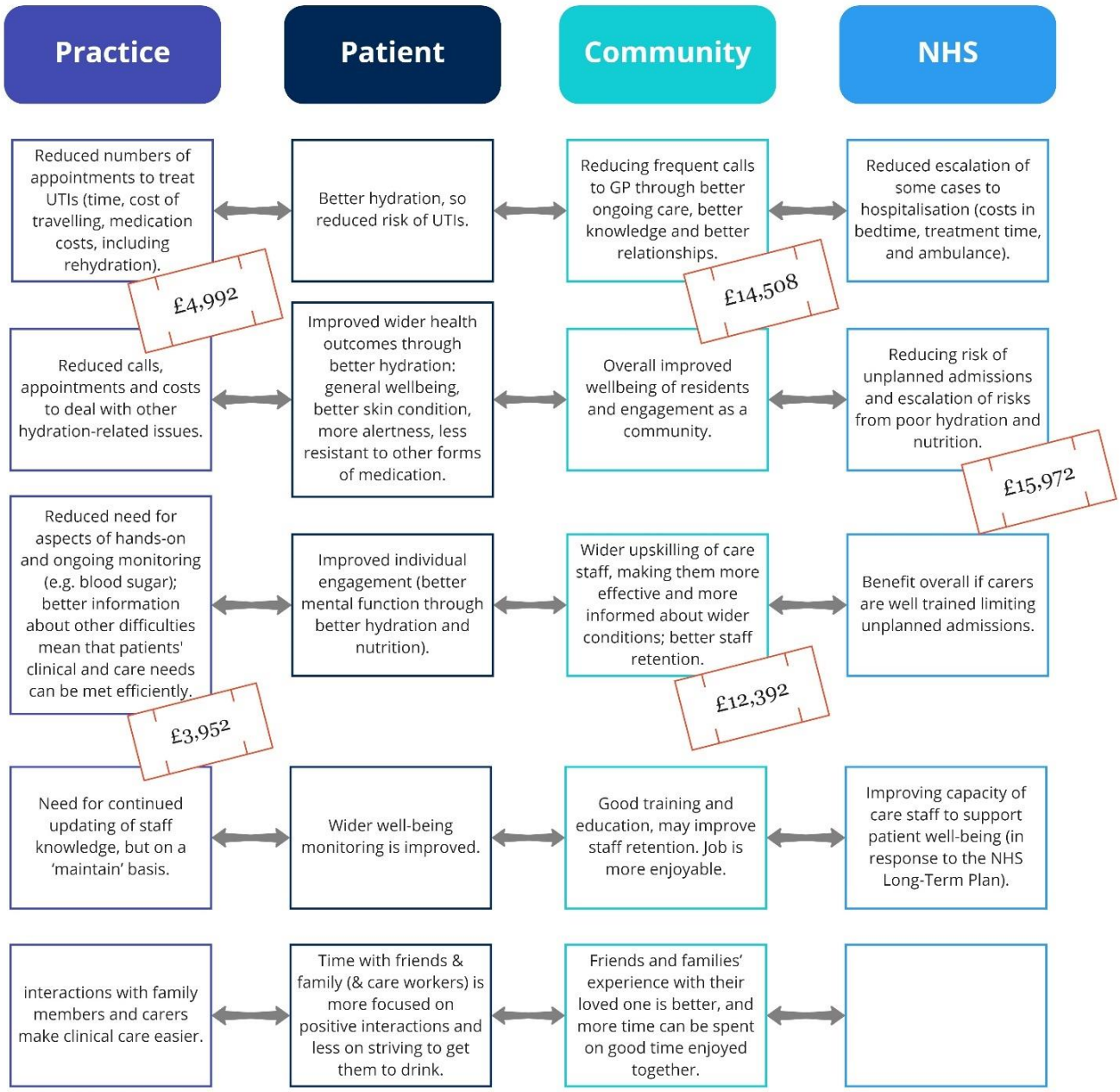


Fig. 6 Case study 2 value grid

In delivering those points of value, the nursing team involved can be seen to draw upon most, if not all, of the eight value drivers on page 18, a pattern that is shown further in the following two case studies that describe how nurses have worked with two specific patients.

Case Study 3: Tackling multi-morbidities with a disengaged patient

Building rapport with a nurse and focusing support through her deeper knowledge has dramatically changed this man's condition management yielding benefits in quality of life and saving at least £200k in costs over 10 years.

A man in his 40s had asthma and diabetes. He was insulin dependent. Despite the efforts of the surgery to support him in managing his conditions, he did not respond to invitations, and rarely attended of his own volition. The clinical team knew he struggled to control his diabetes, was over-using his reliever inhaler (Salbutamol) and was not taking his preventer inhalers. This resulted in his asthma being poorly managed.

The practice nurse realised a different approach was required. She made contact by telephone and had a good conversation with the patient, realising through her experience in mental health care that he also had difficulties in this area. As his trust grew during the conversation, the patient told the practice nurse that he had had talking therapies in the past. After the call, the nurse spoke with the mental health team and discussed with the GP how best to manage the patient's needs whilst avoiding the need for a separate GP appointment (which the patient was unlikely to attend). Armed with that information she was able to arrange an appointment with him that covered all his conditions in a holistic and natural way. By talking him through and practicing blood sugar monitoring, encouraging an informed use of insulin and developing his understanding of how to manage his asthma using his preventer inhaler, she handled the patient's clinical, and self-care needs and was able to work with and around his mental health needs.

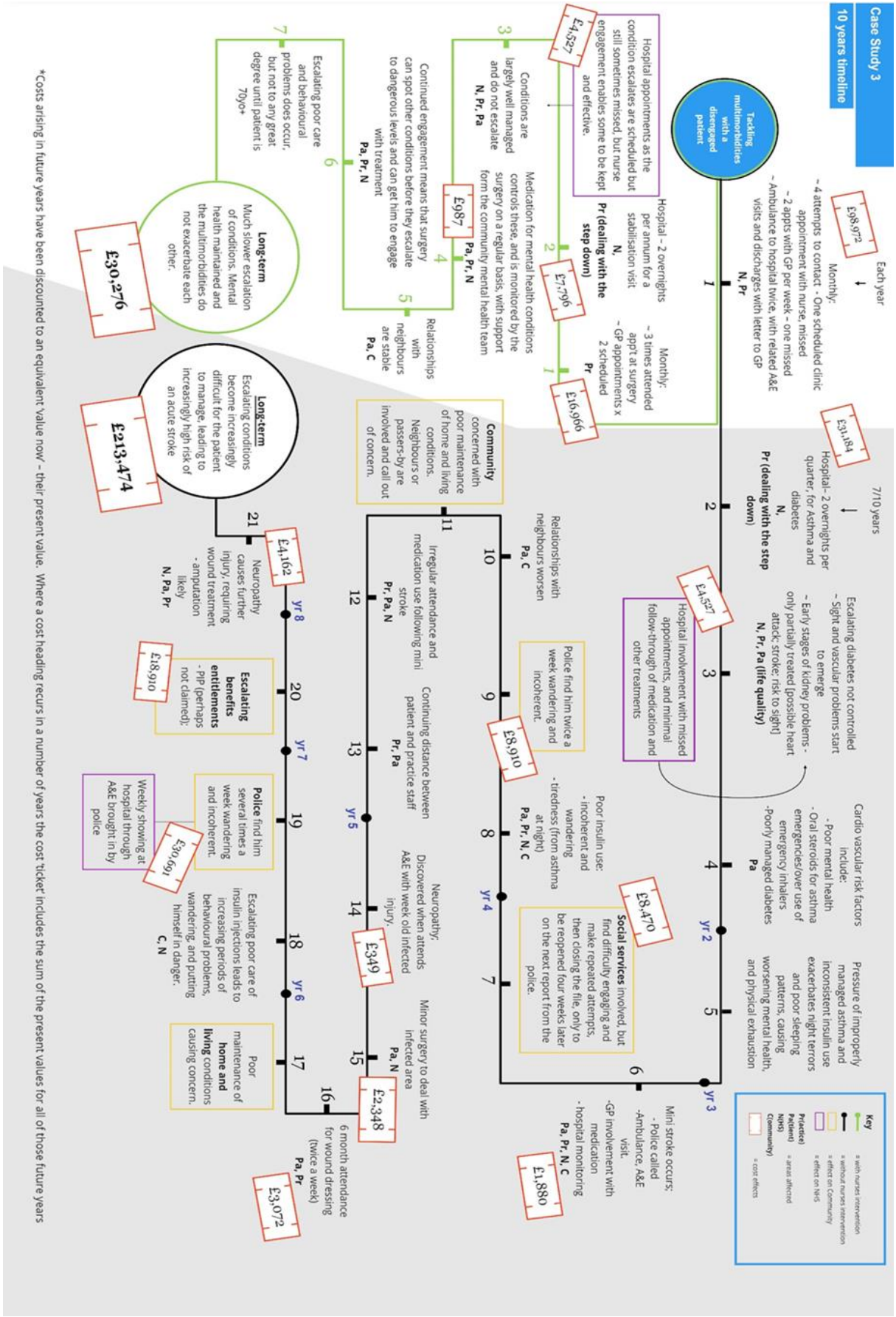
The nurse has since built on that engagement and has been able to follow up to support the patient's ongoing care. With a better understanding of his condition, and proper use of his preventer inhaler, he is not now waking up at night, breathless and worried and thereby not suffering with his asthma. He is using his insulin regularly and appropriately and feels that he is in control. Appropriate and tailored support has been accessed for his mental health condition.

Timeline of value

Fig. 7 on the next page shows two illustrative timelines for this patient. The left-hand timeline one (green line, white background) illustrates at points 1 and 2 what is currently happening for this patient and the practice as they try to manage his conditions. From point 3 onwards it illustrates how the situation for all concerned might be expected to escalate and deteriorate without the timely intervention of the GPN in the way described above.

The right-hand timeline (dark blue line, blue-grey background) shows what can be expected to follow now that intervention has happened. The patient's situation will not be perfect but is showing significant improvement. Each of the events along the two timelines includes not just an explanation of the illustrative outcomes, but also some indicators of costs where available. It also shows (by stating Pr(actice), Pa(tient), C(ommunity) or N(HS)), in which of the four arenas of value that benefit will arise.

Fig. 7 Case study 3 comparative timelines



*Costs arising in future years have been discounted to an equivalent 'value now' – their present value. Where a cost heading recurs in a number of years the cost 'ticket' includes the sum of the present values for all of those future years

We have used ten years as a reasonably predictable period within which to illustrate the comparison between the two flows. Each of the events along the two timelines also includes, not just an explanation of the illustrative outcomes, but, for some of the events, and where this is reasonably quantifiable, an illustration of the costs incurred; this is given and shown in the red tickets. Where these relate to a number of annual recurrences of that event, the ticket shows the sum of all the years of flows. All are shown at present value – the equivalent value at year one of the flow - in order to give a fair comparison. The timeline also shows (by stating Pr(actice), Pa(tient), C(ommunity) or N(HS)), in which of the four arenas of value that benefit will arise. The totals of the two lines are shown in the tickets on the final circles: costs avoided are at least £213,474 and are replaced with costs of £30,276. Full analysis can be found in Appendix 3.

Case Study 4: Treating the patient well

A patient with learning difficulties was helped to make informed choices and engagement with her was adapted to help her to manage her conditions, saving over £200k over 10 years.

The patient, a woman in her 40s with some learning difficulties, was placing considerable demand on the practice. She would call the surgery and the emergency services multiple times each day complaining of chest pain, sickness, dizziness, rashes and took up a good deal of time with both the GPs and the wider clinical team. Clinically the GP had prescribed weekly injections for thyroid and diabetes, but that regime was not being consistently applied. The District Nurses were trying to deliver this at home, but the patient was rarely at home when they visited. She had had periodic hospital admissions during which her medication was brought under control, but on returning home, despite claiming to maintain the regime, the surgery observed erratic blood counts, suggesting that this was not the case.

The key to getting this situation under control and to meeting the patient's needs effectively and efficiently was to engage with the woman as an adult who was able to make decisions for herself, whilst acknowledging and working with her learning difficulties. The nurses also realised that they needed to engage with and work with her behaviours rather than fight against them, recognising that her resistance to coming in for treatment, whilst demanding multiple appointments unrelated to her recognised conditions, was a way of her trying to take control of her own life and not be treated as incapable. The nurses agreed with the GP that weekly GP appointments would be scheduled alongside a nursing appointment so that the response to daily calls could be: 'We'll see you on Tuesday when you come in for your injection…'. The patient was able to understand that the former was conditional on the latter and, so far, has been attending both successfully. This was where recognising how to communicate with the patient and give her the right level of control was key.

The patient will never have her diabetes under total control, however, she is controlling it in her way and is attending for treatment more than before. She is also placing much less of a burden on not just surgery staff, but also the ambulance, hospital, and district nursing services, none of whose time was being used effectively in her long-term care.

Timeline of value

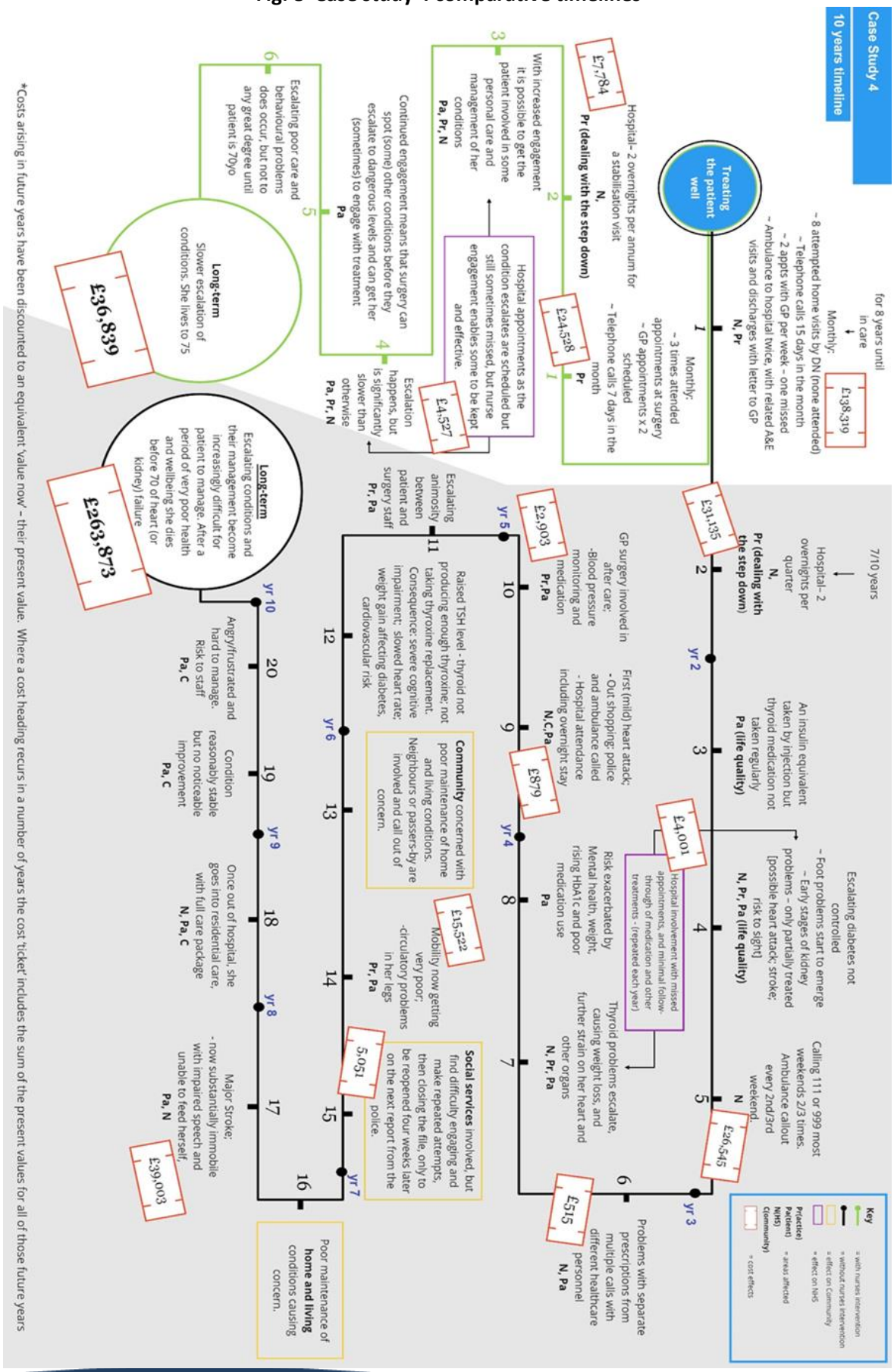
Fig. 8 (on the next page) shows two illustrative timelines for this patient. As with Case Study 3, the right hand one, dark blue on a blue-grey background, illustrates at points 1 and 2 what is currently happening for this patient and the practice as they try to manage his conditions. From point 3 onwards it illustrates how the situation for all concerned might be expected to escalate and deteriorate without the timely intervention of the GPN. The left-hand timeline (green line on white background) shows what can be expected to follow now that intervention has happened. Again, the patient's situation will be far from perfect, but is showing significant improvement against the current prognosis.

Once again, we have used ten years as a reasonably predictable period within which to illustrate the comparison between the two flows. Each of the events along the two timelines also includes, not just an explanation of the illustrative outcomes but, for some of the events, where this is reasonably quantifiable, an illustration of the costs incurred; this is given and shown in the red tickets. Where these relate to a number of annual recurrences of that event, the ticket shows the sum of all the years of flow. All the figures are shown at present value – the equivalent value at year one of the flow - in order to give a fair comparison. The timeline also shows (by stating Pr(actice), Pa(tient), C(ommunity) or N(HS)), in which of the four arenas of value that benefit will arise.

The totals of the two lines are shown in the tickets on the final circles: costs avoided were at least £263,873 and were replaced with costs of £36,839. Full details of the evaluation are shown in Appendix 3, together with a table of the core unit costs used in our modelling.

The case studies explored in this section tell a compelling story. In each case, the outcomes experienced by the patient, the practice, the community, and the wider NHS, translate into tangible cost savings over time. The payback on an investment in GPN capability may not be immediately apparent (though frequently it is – at least in part), but aggregated across the country and considered at system scale, the role is one that has significant impact and creates tangible value.

Fig. 8 Case study 4 comparative timelines



*Costs arising in future years have been discounted to an equivalent value now – their present value. Where a cost heading recurs in a number of years the cost 'ticket' includes the sum of the present values for all of those future years

5. The role of GPNs in context - a developing model of nursing in primary care

Since nurses were introduced formally into general practices with a role in the broader delivery of primary care, their role and contribution has grown considerably. The previous pages have described the current position which stands in contrast to the 'traditional' view of nurses being additional resources and support to GPs. This section explores how the role is still evolving, and how GPNs are set to play a foundational role in the future NHS model.

A new operating model for the NHS

The NHS Long Term Plan describes a system that is fundamentally different from what we are used to. In the new model, care is delivered expertly in the right place and considerable attention is paid to wellness, self-care, and illness prevention.

In today's general practices the eight drivers of value have emerged as recognisable and widely replicated elements that help us to define and articulate the role, contribution and value of GPNs. General practice has developed to span:

- Diagnosis, prescription, and referral
- A variety of treatment types, including social prescribing, delivered in systems and social contexts
- Selected areas of work in prevention and promotion of well-being in certain parts of the community, or focused on particular needs
- Outreach, coordination, and leadership in the operation of primary care across wider areas.

The NHS Long Term Plan sets out further developments in the scope and responsibilities of primary care as it seeks to address demand in more appropriate settings than the current model can support. In the new operating model, general practice will expand to include:

- Efficient management of all elements within an expanded primary care delivery
- Stronger networks of support, coordinating health care resources and reaching into communities to improve wider population well-being
- Broader education of the general population and specific groups within it to seek and improve their own well-being individually and collectively
- Leading and running Integrated Care Systems across all areas of England.

The implications of the changes and ambitions set out in the Long Term Plan (and related strategies for transforming the NHS[6]) is an NHS operating model that is markedly different from the one we have now. This target operating model is driven by three major factors, which are examined on the next few pages:

1. A changing pattern of demand and supply
2. A changing operational and funding context
3. A foundational role for primary care.

In this new Target Operating Model (right hand side in Figure 5, below) we see several significant changes:

- The remit of primary care is expanded to include Urgent Treatment Centres. These remove some of the burden from A&E and enable a more effective and appropriately targeted provision of treatment.
- Existing links with social care through expanded local networks are further enhanced by the wider roll-out of Integrated Care Systems as a key element of future primary care governance and coordination.
- Secondary, tertiary, and quaternary care remain essentially as they are, but can expand their capacity a little and refine it as investment in digital technology supports its functions.
- The expansion of responsibility and scale of primary care includes wider and explicit responsibility for harnessing and developing self and community care, reducing the burden on formal healthcare systems.

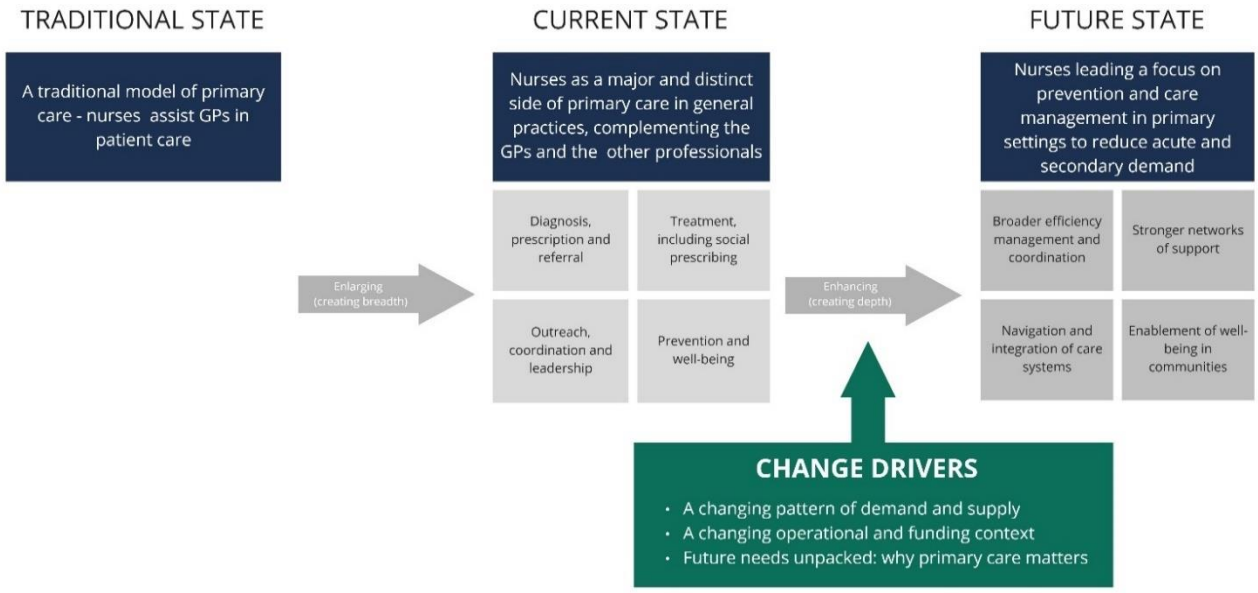


Fig. 9 A developing model of nursing in primary care

[6] NHS England. (2016) *General practice forward view;* NHS England. (2018) *General practice – developing confidence, capability, and capacity: A ten point action plan for general practice nursing.*

A changing pattern of demand and supply

Long term ambitions for NHS change include the acceleration and expansion of screening and condition monitoring – much of this work will fall naturally into the primary care arena and is likely to be managed or carried out by GPNs.

The NHS was designed to manage ill health – to deal with episodes of illness and accidents, providing quality care at the point of need. Today's NHS is doing much more than that, and the demands placed on it – largely arising from changing population demographics and public health trends – necessitate a new understanding of the service as a whole, and the role of primary care within it.

The NHS Long Term Plan describes a re-designed NHS, in which resources and expertise are focussed on where they are needed and used effectively and efficiently. To meet the support needs of growing numbers of older people and those living with long-term conditions (LTCs), more needs to be delivered through primary care settings. Older people and those with LTCs are not acutely *ill* (albeit they can have acute episodes). Rather, they have *conditions* which need careful management, and most have some capacity for managing their own conditions well – with the right support available from the general practice and the wider community. Much of this support is delivered by GPNs, and we have examined via the eight drivers of value why this makes sense.

All of this means that the focus is on health and public health outcomes – diagnosing and treating illness when it occurs, certainly, but emphasising prevention and enabling wellness. Re-doubled efforts in screening and prevention services (including social prescribing and health management) mean more demand is being channelled into primary care. The Covid-19 pandemic has underlined this by relying on GPNs not only to manage winter flu vaccinations, but also to prepare for and deliver an adult vaccination programme of unprecedented scale and complexity at very short notice. Just a few examples of clinical strategies outlined in the Long Term Plan that will result in increased demand flowing through, or supported in some way, by primary care professionals – many of them GPNs – include:

- a projected doubling of diabetes prevention programmes
- an increase in smoking cessation pathways
- enhanced continuity of maternity care in deprived areas and certain communities
- an additional 110,000 physical health checks for those with severe mental health problems by 2024
- specialist pre-term birth clinics across England to help prevent early births and extra neonatal nurses
- additional support for children and young people's mental health and eating disorders and for children with complex needs including trauma
- extra support for young adults including transition to adult mental health

- an increase in cancer screening programmes, and by 2021 every cancer diagnosis having access to personalised care (needs assessment, care plan, health and well-being support, right to support from a Clinical Nurse Specialist or other support worker)
- people with heart failure and heart valve disease to be better supported by multi-disciplinary teams as part of primary care networks
- greater access to echocardiography in primary care to improve the investigation of those with breathlessness, and the early detection of heart failure and valve disease.

Due to these changes of context and priorities, things are beginning to look different in general practices: larger and more autonomous nursing teams, (including advanced nurse practitioners; prescribing pharmacists; allied healthcare professionals) are forming part of an extended delivery team. Many of the GPN skills and capabilities we have encountered in our research are well-suited to this new delivery context – in particular, the emphasis on person-centric, holistic, and socially-contextualised care.

Add to this the additional, and as yet unquantified, demand originating from the direct and indirect effects of the Covid-19 pandemic, and it is not difficult to see that demand for the skills and expertise of GPNs and their colleagues in general practice is set to rise dramatically, demanding continued innovation, collaboration and agility as practices adapt to meet the needs of their patients and communities.

A changing operational and funding context

The development of Integrated Care Systems will place networks and collaboration at the heart of place-based care delivery.

Funding and resource management is also changing. The creation of Integrated Care Systems (ICSs) (and within those, Primary Care Networks, serving neighbourhoods, and Integrated Care Partnerships, serving places) demonstrate a very different operating landscape from the one we are used to. Primary Care Networks, in particular, are viewed as a fundamental building block that will enable the development of ICSs. As the Kings Fund observes:

> *'Over time, they will be required to deliver a set of seven national service specifications, provide a wider range of services in primary care, use the skills of a greater range of professionals and work closely with other services in the community through multidisciplinary teams.'*[7]

[7] King's Fund, The. (2020*) Integrated care systems explained: Making sense of systems, places and neighbourhoods*

The new GP contract is designed to enable this new philosophy from a funding perspective. As the Kings Fund explains:

> *'Just as changes to the GP contract in the 1960s and 1990s saw significant investment in practice nurses who became a core part of the service, this investment will mean patients attending their general practice in years to come may also see a pharmacist, paramedic, or physiotherapist, with advanced training in diagnosis and treatment in their specialist areas. This signals a fundamental change in how patients will experience general practice, expanding general practice to much more of a 'team sport' that is better suited to meeting patient need.'*[8]

It is often GPNs who are leading the way in making this work on a practical level – capitalising on their networking and organisation skills to ensure holistic and appropriate care is available to all. This highly networked, system-based model of delivery will provide new and expanded opportunities for GPNs to bring their skills to the fore, shifting the nursing team's role within the practice. Nurses will be more involved in networking, sharing best practice, facilitating and convening MDTs, enabling self-care, and advocating for patients within a complex delivery system.

A foundational role for primary care

Primary care in the future NHS model will be the focus of most of our care delivery – staffed by multi-disciplinary teams, in which professionals of all types work together to deliver high quality care with the needs of the patient and NHS resources in mind.

The structural changes being made to the NHS under the Long Term Plan re-appraises the hierarchy of care settings, acknowledging hospital and emergency care in their place at the top of the pyramid, but changing the way in which this precious resource is used. This kind of care setting is scarce and expensive and quite rightly needs to be used only when necessary, yet the current model is struggling to manage demand in these settings. List quotas, treatment thresholds and sheer weight of demand means that patient care is too often delayed or misplaced, such that conditions deteriorate and urgent or more extensive care is necessary.

The overall intention of the Long Term Plan is to successfully manage patients in lower tiers of the care setting hierarchy such that they remain well for longer and manage their long-term conditions (LTCs) with minimal intervention needed. With additional capacity for specialist clinical or healthcare support available through primary care practices, fewer instances of 'failure demand' (conditions left to deteriorate whilst waiting for appropriate treatment) will be driven up the care hierarchy into hospital admissions. Better preventative approaches mean more time and resource will be available for other forms of demand outside of LTCs.

[8] King's Fund, The. (2019*) A significant moment for general practice*

Such an expansion in service and role for primary care is simply not possible in what many still think of as a 'traditional' profile of general practice, with nurses and HCAs believed by those less familiar with the detail of such practices to be doing little more than supporting the work of doctors. GPNs, GPs and other professionals are already, and will increasingly be, working together in Multi-Disciplinary Teams – each specialism bringing their own skills and capabilities into the mix, and each needing to lead and manage, both the design and the delivery of the service they provide, responding to the needs of their communities and neighbourhoods proactively and flexibly.

The inevitable consequence of the evolving NHS model is that primary care settings will truly become 'primary' in both senses of the word: they will be both the *first* point of care and the *main* point of care. The new model, whilst being driven by a combination of economic and demographic factors, results in a healthcare system that is predicated on enabling and supporting wellness for a wider proportion of the population, and which is efficient and effective at coordinating care at all levels without generating 'failure' demand in acute settings. Critical to this is the primary care layer. If this layer fails, the whole pyramid will once again find that demand is squeezed 'upwards' as conditions are poorly managed, treatment is delayed, and staff are hard to recruit and retain.

Figure 6 (below) illustrates the changing shape of the NHS system in relation to the settings in which different types of care are to be accessed, and the more efficient and appropriate flows of referrals and patient journeys through the system. The expanded responsibility for self-care, and the additional responsibility of primary care providers in enabling that, whilst taking pressure off secondary care, are apparent in the extra layers in the right-hand pyramid. The white arrows representing patient flows narrow as they reach the top of the system in the Target Operating Models, contrasting with the high, but often inappropriate, demand in the Current Operating Model. In the new Target Operating Model, the role of the nursing teams is key in enabling effective care and self-care, keeping demand where it belongs – in or supported by the primary care layer.

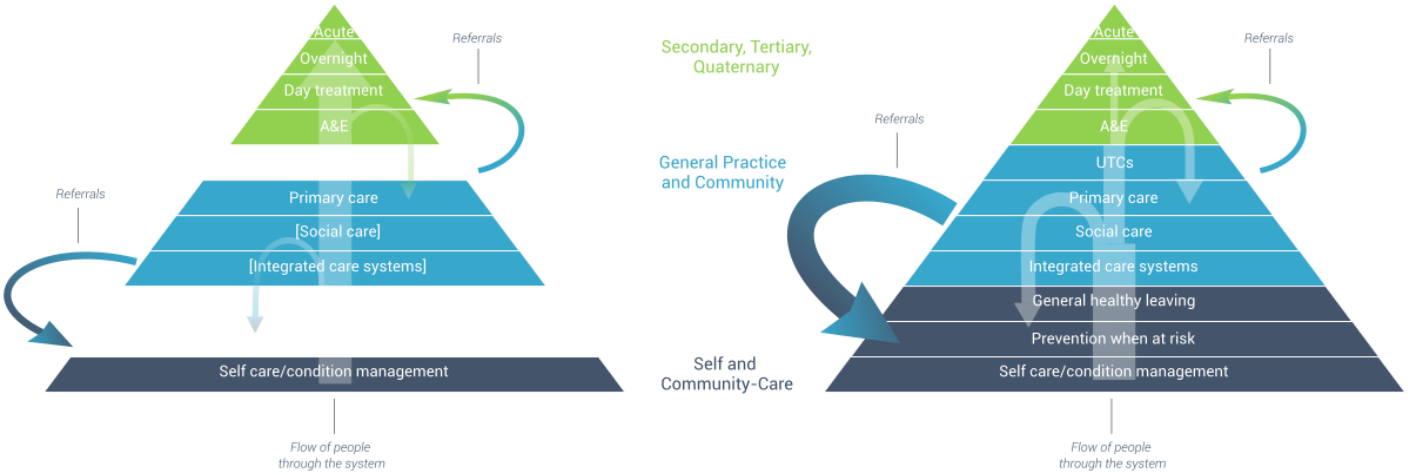


Fig. 10 Illustration of the evolving NHS operating model (inferred from the NHS Long Term Plan)

Much of the evidence we've heard around innovation and leadership from GPNs is testament to early moves into this space, and this has been recognised in the recent White Paper on Health and Social Care[9], suggesting that the 'professionals are ahead of the organisations'. However, it is largely only 'insiders' who appreciate the fundamental change that is happening. There is much to do in order to change perceptions, both in inspiring public confidence in the expertise of GPNs as being highly skilled professionals and in educating patients in the role that they themselves must play in supporting an NHS re-designed to support healthy, longer lives.

[9] HM Government. (2021, p67). *Integration and innovation: Working together to improve health and social care*

6. Harnessing the value: Risks, barriers and enablers

The research findings presented in this report tell the story of a valuable, agile, and highly skilled workforce, which is not always how nurses believe others view them. Whether it is GPNs themselves that hold onto those outdated perceptions of the role (and consider aspects of their everyday work to be acting 'over and above' what they are employed to do), or whether others (GPs, other nursing professionals, patients, or the public at large) are collectively uninformed about how much the role has changed in recent years, is something of a moot point.

What is clear is that the GPNs are essential. They fulfil a role that is hard for others to fulfil and create value in a unique way. This value is implicitly assumed in the design of the future NHS system, which is evolving at pace, but there are a number of risks and barriers to the realisation of the true value of GPNs that have become apparent in the course of this research. These will need to be addressed, in some cases taking advantage of the enablers that have also been identified.

Risks to value

Structural and attitudinal changes in the NHS rely on a less rigid, more collaborative place-based approach to primary care delivery. GPN skills are an excellent match for the task but the variety in their employment and deployment patterns will lead to variations in patient experience.

The risks identified through the research primarily originate from the structural nature of GPN employment in practices that are – at one and the same time - part of the NHS service model and self-contained independent businesses. As such, practices have dual motivations for choices made regarding service provision, skills development, size and 'shape' of nursing teams and so on - considering practice viability and financial success alongside health outcomes and commissioner priorities. The effects of the employment model are felt by nurses in both positive and negative ways – GPNs enjoy a level of freedom to innovate and lead that their colleagues in other nursing settings do not have. They can 'change overnight if need be' in order to meet urgent need, or to react quickly when a process or approach is not working well. However, there are some risks associated with this hybrid model as outlined in the first three risks in the numbered list below. One example of this is a practice nursing team innovating to encourage the uptake of cervical screening throughout the pandemic lockdown period by phoning all eligible patients, talking them through the procedure, answering questions, calming fears, and inviting them to make an appointment during the call.

Six risks to value have been particularly highlighted in our review.

1. Variation in **terms and conditions of employment**, expectations, and career opportunities has implications on the perceived status, importance, and value of the role. In particular, it is not widely viewed as an attractive career choice for newly qualified nurses, one of the factors meaning that the profession tends towards an older age profile.

2. The **lack of transparency** in pay and conditions discourages GPNs to move from one practice to another, as they prefer not to put at risk the long service benefits accrued in one particular practice. This limits the extent to which expertise, best practice and experience can naturally be spread across and between practices, placing further reliance on formal training and informal networks to reduce variability in care delivery.

3. Training and development opportunities vary widely, influencing not only how nurses feel about taking up a general practice role, but also **how patients experience care** (apparently at odds with NHS-wide campaigns to reduce variability in care). Aspects of this include:
    - Line management of GPNs that is inconsistent: many report to Practice Managers but worry that those managers are not sufficiently clinically experienced to be able to develop nursing teams.
    - In smaller practices with only one or two nurses, there is a lack of resources for supervision and training 'sign-off'. This may result in either the GPN being trained and confident but not allowed to deliver the specific treatment or aspect of care, or practices not choosing to offer those services to patients, choosing instead to refer or signpost elsewhere.
    - Peer support is delivered effectively through networking (physical and social), but this is often compensating for the lack of a structured and system-wide continuing development expectation.
    - A shift to training and communications online (both in response to the pandemic lockdown restrictions and as part of a pre-existing trend) removes a vital opportunity for nurses to network and exchange best practice informally 'in the margins' of a training event. If a significant amount of training moves to online delivery it may be necessary to create alternative mechanisms for nurses to network informally – we have seen that this is a crucial skill for keeping up to date.

4. There is a 'buck stops here' reality experienced by GPNs that affects their ability to deliver quality outcomes to some patients, and in so doing has a knock-on effect on time available for other patients. This is apparent in cases where patients waiting for specialist care (where treatment list numbers are capped according to clinician capacity) are deemed to be 'safe' in the care of the practice. Nurses continue to do their best for the patient but often do not have the skills to deliver the actual care needed (hence the referral to a specialist). This '**failure demand**' adds to the workload of the practice with no regard to capacity and the effects on waiting times for genuine primary care. In such cases patients can pay for private treatment but often simply remain on specialist waiting lists until their condition deteriorates sufficiently to pass the specialist service threshold criteria.

5. The **reliance on non-clinical skills** (networking, coordination, etc) that is central to the future NHS model is seen by some GPNs as over-reliance, and something that could both introduce risk to the system (a risk that is hard to mitigate) and deter nurses from working in general practice. We have seen through our research that a strong clinical component to a varied workload is a key draw to the role.

6. In addition to the increased screening and personalised care outlined in the NHS Long Term Plan, there are changes to clinical approaches outlined in the Health and Social Care White Paper that may create **additional demand** for the primary care workforce. It is likely that some of this will be felt by GPNs, particularly since boundaries between practice-based and community-based nursing look to be increasingly permeable. Notable examples are the proposal for a 'discharge to assess' capability for hospitals, meaning that patients are discharged home before care packages can be put in place, but where they still require care at some level.

Barriers to value

To realise the value of the GPN workforce we must celebrate the role and make pathways into the profession more transparent and accessible.

We have seen that the GPN role is one that brings significant value to the practice, patients, the community, and the wider NHS. The realisation of that value is inhibited by barriers or challenges of varying types – structural, behavioural, and systemic. Not least of these is the shortage of GPNs in an ageing workforce: around one third of GPNs are due to retire in the next five years, the very period during which the NHS as a whole is transitioning to a more modern model, predicated and reliant on prevention, self-care, and robust primary care provision.

7. Most of the nurses who have spoken to us believe that others (patients, the general public, some GPs and other healthcare professionals) regard them as **'only' a nurse** – by implication, something less valuable than other professionals. GPN job titles are unhelpful in dispelling this myth (they do not in themselves lead to a known expectation). We heard about one recent recruitment round in which applicants were asked to describe what they thought the role entailed with five out of six describing an HCA role.

8. Practices themselves sometimes fail to confer an **appropriate status** on nurses in comparison to GPs or other professionals, and this is often done unknowingly or unintentionally. One example of this can be found on practice websites, on which doctors are often listed with title and surname but where nurses are referred to by their first name only. This may be intended to imply friendliness and approachability but has the side-effect – and presumably unintended consequence - of suggesting a lower status or value.

9. Responsibility for changing this perception lies not only within the NHS, but also outside. Many media **portrayals of nurses are stereotypical and outdated**; even the most recent TV public health adverts urge patients to 'talk to their GP', subliminally by-passing the nursing team.

10. Some of the nurses who participated tended to **take for granted** and thereby downplay the full range and depth of their achievements until challenged and presented with them. They do celebrate what is being achieved, but the instinct to attribute success to the wider team could be masking individual potential. There is some suggestion that, in a workforce that is predominantly female (see Appendix 1 for demographic data), this could be a gendered response. If this is true – and the question is beyond the scope of this research – then that will have implications on how future cohorts of nurses must be encouraged to value their own role.

11. The non-clinical elements of the nursing skillset are becoming increasingly critical to the role and need to be properly recognised, included in perceptions of what nurses do, and rewarded appropriately. There is widespread evidence of **GPNs absorbing more** and more duties without formal re-evaluation of the scope and importance of their work and the value it creates. Nurses value the focus on clinical work and being able to make a tangible difference, but many of the skills in everyday use are hidden to those outside the profession, reducing interest in the role and an appreciation of it. In addition, organic growth of the scope of the role without efforts to standardise and share approaches across practices will inevitably lead to duplication of effort, and reinventions of the wheel, each with its own idiosyncrasies.

12. Whilst GPNs have a high degree of control over specialisation and development choices, **access to relevant training** can be difficult to secure, being reliant on the practice appreciating the cost/benefit arguments for providing the training and bearing the cost in lost nursing hours during it. Working in tandem with the variability of activities undertaken, services offered and specialisation possible within each GPN job title or, the patient experience can vary widely between practices.

13. When asked how they came to be a GPN every one of the research participants told a different story. This is both a good and bad thing: good, in that it demonstrates a career choice that can be taken at virtually any point in a nurse's working life, and one that is uniquely suited to family life; bad, in that it underlines the **lack of recognised pathways** into the profession, which can be assumed to contribute to the shortage of nurses entering general practice.

14. Despite GPNs being actively encouraged to take on leadership roles on behalf of their practices, several research participants spoke of Primary Care Network boards and meetings as being 'GP heavy' and 'not a nice place for a nurse to be'. Others reported no nurse representation on boards at all. Whilst this can be expected to change with the development of PCNs and ICSs, the experience of a largely female, older workforce should be taken seriously when designing **inclusive and equitable PCN boards**.

Enablers of value

Adaptive and flexible ways of working during the Covid-19 pandemic highlight the importance of technology in unleashing value.

Many enablers of value support the aspiration of nurses themselves looking to innovate and take the lead in delivering new services in new ways. Retaining the flexibility that comes from working in small and largely self-managed teams will be a key enabler in place-based care going forward. Other enablers are already apparent, and their use accelerated throughout the pandemic period, and GPNs have worked hard to stay engaged with their patient population. Finally, some enablers are rooted in improving the professional framework surrounding general practice nursing – training, career paths, networking and proper recognition of status and expertise.

15. Since GPNs are employed directly by private practices, **enhanced training** to equip nurses to work more effectively in a general practice setting would be of benefit – both with respect to creating national consistency of standards and cover and in preparing GPNs to be accountable for negotiating their own pay, conditions, responsibilities, and progression. Recognition and reward for additional work undertaken does not come automatically – GPNs will need to learn to stand up for themselves and forge their own path, but to balance this with the needs of their patients and communities. Other specific aspects of skills development that would support new methods of care delivery include:

- Facilitation skills, which are increasingly important as group consultations become more widely available. Facilitation is a distinct skill that is different from advising and problem-solving and can run counter to a nurse's natural calling to provide advice.
- Consultation skills, including history taking, which are needed when dealing more holistically with patients and their circumstances and which are vital for those wishing to specialise in Advanced Level Practice with prescribing capabilities.

16. Better and more current awareness of the wider systems surrounding patients and communities which create the **context for NHS primary care delivery**, and support or limit care and wider well-being outcomes. This is not a formal requirement for nurses – it is something they 'pick up' as they work, but in future operational models will be key to effective delivery. In particular, nurses reported that it was difficult to 'keep up with' the ever-changing wellbeing provision commissioned on short term contracts from third parties.

17. Better and more current **awareness in other parts of the NHS system about the role of the GPN**. One example we were given was that of a hospital nursing team referring a patient back to the practice for a treatment not actually provided by that practice's nursing team. The Health and Social Care White Paper proposes a new 'Triple Aim' for all NHS organisations to support better health and wellbeing for everyone, better quality of health services for all and sustainable use of NHS resources. This will not be possible without a proper and current understanding of what each part of the system actually does. This extends within the practices themselves – a worryingly high proportion of research participants believed their practice managers, reception staff and care navigator teams did not understand their role well enough to make best use of it, leading to wasteful appointment booking and referral processes.

18. Clear and accessible **pathways to becoming a GPN** are essential if the NHS is to reverse the decline in this part of the workforce. Training premiums and job guarantees have already been announced to encourage new nurse trainees, supported by a media campaign. The HCA (Healthcare Assistant) and HCSW (Healthcare Support Worker), Apprenticeship and Nursing Associate career pathways advocated in the Ten Point Plan[10] should help provide entry points into general practice, but consideration should be given to 'fast track' or 'conversion' pathways for these groups of professionals that do not necessitate them resigning from and having to re-apply to a practice once re-trained as a nurse. The progression pathways and junctions should be known, signposted and smoothed.
19. **Team working** is key to adding value. Enabling GPNs to work in teams – both within and across practices – allows space for each nurse to step back and look at the bigger picture, reduces variation in standards (learning from each other), and increases breadth and depth of care without inflating costs. Nurses speak of teams as being a vehicle through which to unite their voices and amplify impact. There is also a social benefit to teamwork, in what can sometimes be a solitary working environment.

[10] NHS England. (2018) *General practice – developing confidence, capability and capacity: A ten point action plan for general practice nursing*

20. Finally, the Covid-19 pandemic has accelerated the adoption of some aspects of **technology** that were always available but not routinely used. This shock to the system has enabled GPNs to make valuable progress in using and trusting technology and this should be acknowledged and built upon. One example is the now routine provision of pulse oximeters at home to monitor Covid-19 symptoms and allow fast and appropriate care when blood oxygen falls to dangerous levels. We have already mentioned telephone appointment campaigns for screening services and online groups to promote self and community-based care. As medical care advances there are more treatments available and more conditions can be treated Technology is a vital tool in the GPN armoury – when care can be done well at home, it should be the preferred default. GPNs have told us that they are finding patients and their families to be far more resourceful than they have previously thought them to be – often perfectly capable of dressing wounds, following GPN guidance, and not needing to come to the surgery for daily dressings.

Conclusions and Implications

Our research has revealed four main arenas in which GPNs create value (practices, patients, the community, and the wider NHS) and nurses have demonstrated a keen awareness of the importance of their work to each of these arenas. That said, the understanding is, in many cases, implicit - nurses in general practice cannot point to an approved, well-publicised explanation of what they do and why it matters – they simply know, and see, that their work is both vital and worthwhile.

Within those four arenas we have seen many examples of outcomes that GPNs deliver, and eight factors that drive value creation. It is the totality of the eight, and the way that they interact, that show why GPNs are a key facet of their practices' delivery. This is not a group for which there is a ready range of alternatives, even with new additional healthcare roles coming into general practices and wider primary care. Representing between 20% and 70% of the healthcare professionals in the practices we consulted, and averaging 26% across all general practices in England, GPNs are a substantial part of the workforce and key to delivering what is currently demanded of primary care.

Considering both the evolving shape of the NHS and the demographic and economic challenges faced by us as a society, the role of GPNs demands to be better understood – by nurses, by other healthcare professionals, by the public (patients) and by decision makers in Government. Without a full acknowledgement of how important GPNs are, and the extent of their potential value to the wider system, we risk both de-valuing the profession and actively reducing the extent to which GPNs can bring about positive value to society (a significant opportunity cost).

The general practice nursing workforce is a mature ageing one, and pre-registration nursing students and newly-registered nurses are not always aware of the wonderful opportunities available to a GPN., meaning staff shortages are anticipated in the coming years as well as subsequent vulnerabilities in ongoing skills development in the form of peer-to-peer supervision. This position must be reversed if we are to staff the primary care sector sufficiently well to meet both future demand and support the future NHS operating model. General practice training placements as an option for all pre-registration nursing students would help to address this problem, simultaneously encouraging newly qualified nurses to choose general practice and delivering (through those who choose other first roles) a better understanding of what GPNs actually do.

Leadership is important in an environment that allows individual GPNs the freedom and choice about what they do, where they specialise and where they work. The CARE Programme (Connected, Authentic, Resilient, Empowered) has helped to develop understanding in many nurses about the multiple ways in which they lead, and the Kings Fund's ABC of leadership fundamentals (Autonomy & Control, Belonging and Competence) help us to understand the conditions that help leaders to flourish. However, a strong message has come through in the research that not all GPNs want to take on leadership responsibilities. We have identified three broad approaches to self-development:

1. Developing on steps to become an Advanced Nurse or ACP (Primary Care Nurse) - general leadership aspiration motivated either through value perception or personal growth.
2. Adding strings to one's bow in the form of specialisms and courses and becoming Lead Nurse in those specialisms - local or specific leadership aspiration motivated by deepening excellence.
3. Broad aspiration to greater excellence in a generalist field - motivated by a desire to retain variety but be increasingly skilled at providing holistic care.

Whichever they choose, the role involves leadership in the broadest sense, even where this does not involve a formal management role.

This is clearly not a passive workforce that is responsive to the leadership of others, but one that, in spite of some notable barriers to be overcome - some of which are already cause for genuine concern as we move towards an expanded remit for primary care under the NHS Long Term Plan - uses its own strength, leadership, insight and vision for the benefit of the whole practice. Barriers that can be overcome and processes that can be worked around in the relatively small scale practices will become truly problematic in the newer construct of ICSs supported by PCNs. At best, good workarounds will become institutionalised; at worst services will cease to operate well. A better alternative would be to fundamentally re-appraise the future model through the eyes of the general practice nursing workforce, asking key questions relating to:

- Scope of the role: whether it is properly understood, recognised, supported and rewarded;
- Value of the role: how practices can be given confidence in the benefits of investing in the nursing team, perhaps by sharing risks and value creation with partners in the ICS, who would otherwise experience greater demand for their own services;
- Profile of GPNs: whether the role is publicised, celebrated and given proper status both within the NHS and in the eyes of the public;
- Variety of specialisms: how the contribution of those who choose to specialise in non-leadership roles is acknowledged and how we might de-mystify job titles for the benefit of patients, leading more often to a nurse appointment being a first choice.

Investing in nursing without looking at the wider system (and its role in enabling their work) will yield only partial benefits and may ultimately be wasted. There is great potential in the structure of the new NHS model for GPNs to flexibly replicate the support and professional development that their colleagues in hospital settings already get (including student placements, return to work, inductions and preceptorships), but to work effectively this needs to happen by design and not through necessity.

The research has identified a number of barriers that are already limiting the potential, and that poses a real risk of compromising the effectiveness of the NHS primary care system – not least the fact that the profession is not attracting enough new recruits. If the value of GPNs is to be harnessed for the benefit of all, the following issues must be urgently addressed:

1. There should be a campaign to raise the profile of GPNs with measures taken to raise public awareness of the skills and expertise of today's GPNs. The campaign could lead to the removal of subliminal messaging that implies they are less valuable than other professionals (for example, enhancing their positioning on practice websites), and to challenge misleading representations of GPNs in the media.

2. General practice employers need investment to support new pathways and opportunities for newly registered nurses wanting a career in general practice nursing.

3. Education and training programmes should reflect the enhanced understanding of the GPN role and how GPNs create value, actively promoting the unique nature of the role and creating a workforce that acknowledges its own value.

4. Nurse training courses – principally the graduate programmes - should include modules to equip GPNs with the entrepreneurial skills needed to work in an SME environment and manage their own career paths.

5. Based on this research investment in the general practice nurse career framework is required so that GPNs are provided with the resources, networks, information, and authority that they need to do the job well, including support from PCNs to enable nurses to work across practices as a networked team offering peer-to-peer interaction, support and knowledge sharing.

6. Line management of nurses by non-clinical managers should be balanced by a professional support infrastructure that works across a whole Integrated Care System, ensuring resourcing and development meets system-wide needs.

7. Through the new primary care infrastructure efforts need to be made to ensure consistency in general practice nurses' pay and terms and conditions of employment. This will need to be reflected in the contract between NHS England / Improvement and the general practices.

8. GPNs should be actively recruited to key stakeholder groups in the new primary care infrastructure such as PCN and ICS boards , allowing the system as a whole to benefit directly from their insight and expertise, whilst providing GPNs with appropriate leadership opportunities that reflect that expertise.

Quite simply, general practice nursing has been a 'Cinderella' profession for too long. The role has developed in breadth and depth over the years without proper recognition or celebration of that fact - to the extent that it is now a vital but under-resourced profession. Changes to clinical approaches outlined in the Long Term Plan and elsewhere imply further responsibilities for primary care to come, and much of that will be delivered or co-ordinated by nurses. Plans to recruit more GPNs are to be applauded but investing in the profession makes little sense without investing in the infrastructure that supports it.

Appendix 1: General Practice Nurses in numbers

The following data, graphs and tables are drawn from information in the NHS England General Practice Workforce dataset for 2020.

Numbers – Whole of England

In 2020, there were approximately 190,000 employees (up 5% from 2015) working in 6,650 practices in England and providing care for an average of 9,081 patients per practice. These employee figures include GPs, nurses, other direct patient care professionals, and administrative staff.

The number of nurses working in general practice has risen by 5% since 2015, from approximately 22,000 to 24,000 in 2020. Practice nurses represent the majority of the nursing staff within general practice in England. Advanced Nurse Practitioners are the second largest role, representing 21% of the general practice nursing workforce in 2020. There are much lower numbers of both Nursing Partners and Nurse Dispensers.

Staff profile of GP practices in England	2019	2018	2017	2016	2015	2020 Total	2020 Practice average	2020 Proportion
GPs	25%	25%	24%	24%	24%	**46,857**	**7**	**25%**
Nurses	13%	13%	13%	13%	13%	**23,952**	**4**	**13%**
Direct Patient Care staff	11%	10%	10%	10%	10%	**20,980**	**3**	**11%**
Administrative staff	52%	52%	53%	53%	53%	**96,476**	**14**	**51%**

Table 1: Staff working in general practice (England)

Totals	2015	2020	% change 2015 - 2020
Advanced Nurse Practitioner	3,359	**5,054**	50%
Nurse Specialist	877	**739**	-16%
Extended Role Practice Nurse	541	**981**	81%
Practice Nurse	17,854	**16,932**	-5%
Trainee Nurse	134	**223**	66%
Nursing Partner	21	**53**	152%
Nurse Dispenser	19	**44**	132%
Total Nurses	22,805	**24,026**	5%

Table 2: Changes in number of nurses by general practice job role (England)

Demographics - Whole of England

Gender: Approximately 82% of general practice staff identify as female, with an imbalance across job roles. Whilst 43% of GPs identify as male, this number reduces to 3% for nurses (compared to 2% in 2015). The majority of male nurses are in Practice Nurse or Advanced Nurse Practitioner roles.

Age: The majority of nursing staff (79%) are aged 40-64 – indeed the workforce is often described as an 'ageing' population. One contributory factor for this could be that pathways into the profession often involve nurses first training and working in secondary care before moving into general practice for the rest of their career. The small increase in younger nurses in recent years may be the result of increased focus on trainee recruitment.

Age band	2015	2016	2017	2018	2019	2020
Under 25	0%	0%	0%	1%	1%	**1%**
25-29	2%	3%	3%	3%	4%	**4%**
30-34	4%	5%	5%	5%	6%	**6%**
35-39	7%	8%	8%	8%	8%	**8%**
40-44	11%	11%	11%	11%	11%	**11%**
45-49	16%	16%	15%	14%	14%	**14%**
50-54	22%	23%	22%	21%	19%	**18%**
55-59	18%	19%	20%	20%	20%	**20%**
60-64	8%	9%	10%	11%	11%	**12%**
65 and over	3%	3%	3%	3%	4%	**4%**

Table 3: Nurse proportions by age band, 2015 to 2020 (England)

Ethnicity: Across England, the majority of General Practice Nurses who disclosed their ethnicity are white. The table below shows ethnicity profiles for all CCGs in each region of England, showing some variations in ethnic diversity – most notably in London, where 19% of nurses are black, compared with 44% who are white (and still the majority group). Population ethnicity is clearly not reflected in the diversity of nurses working in general practice.

Area	Asian/ Asian British	Black/ African/ Caribbean/ Black British	Mixed/ Multiple ethnic groups	White	Other ethnic group	Not recorded
London	12%	19%	2%	44%	4%	19%
South-West	0.3%	0.3%	0.1%	86%	0%	13%
South-East	2%	2%	0.3%	84%	1%	11%
Midlands	4%	2%	1%	83%	1%	10%
East of England	2%	3%	1%	80%	1%	14%
North-West	2%	1%	1%	85%	1%	11%
North-East and Yorkshire	2%	1%	0.4%	86%	0.4%	11%

Table 4: Nurse proportions by ethnicity and geographic area, 2020

Staff profiles of participating practices

Practices participating in the research were drawn from broadly similar urban areas in Phase One and broadly and contrasting rural areas in Phase Two. Their size and staffing profiles showed some variability, with nurses making up between 9% and 38% of the practice employees. Correcting for the Cuckoo Lane Practice, which is nurse-led, the upper limit of this range is still 30%, although this practice (Elm Lodge Surgery) had noticeably fewer additional staff involved with Direct Patient Care, which implies a greater reliance on the nursing team for certain services.

Participating Practice (Phase One Research)	Number of Nurses	% Nurses	% GP	% Direct Patient Care staff	% Admin staff
Rivergreen Medical Centre	**4**	15%	30%	11%	44%
Tudor House Medical Practice	**3**	20%	27%	7%	47%
Family Medical Centre	**5**	12%	35%	12%	42%
Beacon Medical Group	**18**	10%	24%	12%	54%
St Austell Heath	**16**	12%	17%	19%	51%
Combe Down Surgery	**6**	15%	22%	15%	49%
Elm Lodge Surgery	**6**	30%	25%	5%	40%
The Cuckoo Lane Practice	**8**	38%	14%	10%	38%
Parchmore Medical Centre	**5**	9%	23%	11%	57%
Voyager Family Health	**7**	14%	18%	8%	60%
Crondall New Surgery	**2**	9%	32%	36%	23%
Manston Surgery	**3**	12%	28%	4%	56%
Windsor House Group Practice	**5**	9%	38%	2%	51%
Westfield Medical Centre	**4**	20%	20%	10%	50%
Lea Vale Medical Practice	**7**	9%	15%	21%	56%

Table 5: Nurses as a proportion of the workforce in participating practices, 2020

Compared to the national picture in 2020 our participating practices employ almost twice as many nurses than the average (just below eight per practice, compared to a national average of four). They represent between 20% and 70% of professional staff, against a national average of 26%.

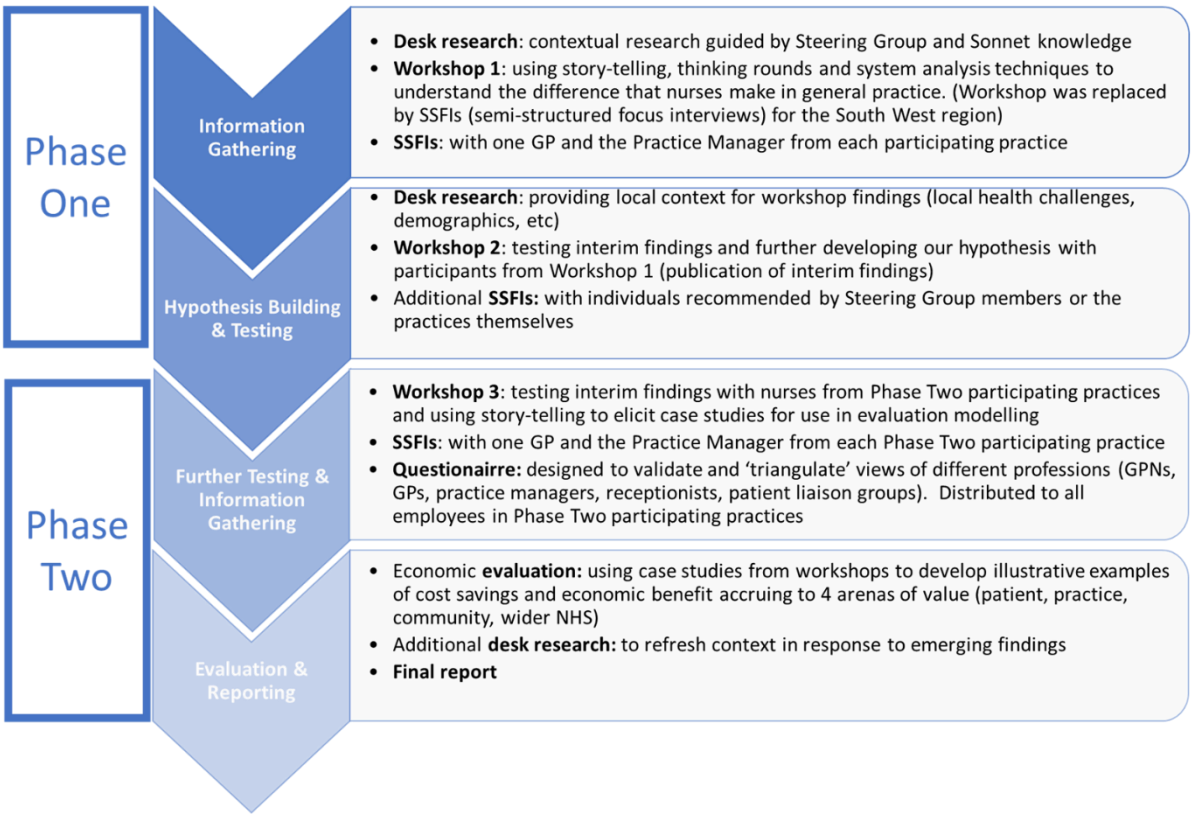
Appendix 2: Research Methodology

The research has been commissioned by NHS England and NHS Improvement as part of their GPN 10 Point Plan programme of work. Its brief was 'to articulate the role and value of nurses working in general practice' and the work was carried out in two phases:

- Phase One: Working with nurses and other professionals in three NHS regions (Nottinghamshire, London, and the South-West) to build and test a hypothesis around the role and value of GPNs.
- Phase Two: Further testing the hypothesis with practices from two additional NHS regions (the South-East, and the North-East and Yorkshire), developing the valuation model and finalising reporting.

Methods and participants

A full list of participants (excluding the 65 questionnaire survey respondents) is attached as Appendix 3. The research methodology is shown in the diagram below.



An expert **Steering Group** met five times during the course of the project. The Steering Group's role was to:

- check course and provide guidance on participation and engagement methods
- review findings as they emerged, asking questions, challenging assumptions and providing additional perspectives
- review this final report and sign off the project findings overall.

Appendix 3: Case Study Evaluation Tables and Unit Cost Tables

Case Study 1: Diabetes clinic redesign

Individual Practice annual saved costs			All 23 practices annual saved costs		
Saved diabetic appointments					
In 2017 the practice reduced GP diabetic clinic appointments saving £1,984 Adjusting for Inflation to current prices, this is a saving of £2,438 for the practice.			Multiplied up by the other 22 practices = £2,438 x 23		
Saved cost for the practice:	**£**	**2,438**	**Saved cost across all 23 practices:**	**£**	**56,074**

Pre-diabetic saving:					
Given the practice was at capacity for screening pre-diabetic patients, we have assumed that, as the practice grew, without action, screenings as a proportion of the total patient population would fall. On this basis, we can estimate the number of additional pre-diabetic patients that were found as a result of this project which increased screening capacity			Need to multiply up across all patients from the 22 other practices. *(210000 patients in total of all practices; combe down 11500 patients)*		
813 pre-diabetics in Combe Down Additional Combe Down patients : 813 x (11,500-7,000)/11,500 = **318** new prediabetics in Combe Down			318*(210,000/11500) = **5,807** new pre-diabetics across all 23 pratcices		
We assume that 25%[i] of pre-diabetics become diabetic over 5 years. We also assume that, of the pre-diabetics found by the practice 80% engage and are cooperative with GPs/GPNs, and 20% are not, or the intervention is less effective					
318 x 80% x 25% = **64** new pre-diabetic pateints avoided			5807 x 80% x 25% = **1,161** new diabetic patients avoided		
Saved cost for the practice:	64 x £4271 (Average annual cost to treat diabetes)[ii]		**Saved cost across all 23 practices**	1,161 x£4,271	
	£	**273,344**		**£**	**4,958,631**

Other Saved Appointments					
The Practice saved 59 and further 61 appointments from their diabetic redesign (combined with phlebotomy). Therefore 120 appointments were saved by the practice across the year.			Need to multiply up across all patents from the 22 other practices. *(210000 patients in total of all practices; combe down 11500 patients)*		
We have assumed these appointments would of mainly consisted of Nurse or equivalent professional's time and so have used the average cost for nurse time to assess the avoided cost. for these appointment : Cost £38/hr nurse time[iii] but assumed only 20mins for appointment so £13 ea. (£38 x 20/60)			120 x [210000/11500] = 2191 Professional appointments saved		
Saved cost for the practice:	£13 x 120		**Saved cost across all 23 practices**	£13 x 2191	
	£	**1,560**		**£**	**28,483**

Total savings for the Practice	**£**	**277,342**	**Total Savings across 23 Practices**	**£**	**5,043,188**

Extra patients screened for diabetes
We have not attempted to quantify the QOF implication for the practices' screening and seeing more patients for diabetes. Therefore, we have not included any incremental QOF payment as a result of increasing numbers of screening for pre-diabetics and their follow on support.

Sources

i. https://www.diabetes.co.uk/pre-diabetes.html - 5% to 10% per annum – so 25%+ within five years. Also: Tabák, A., Herder, C., Rathmann, W., Brunner, E. and Kivimäki, M., 2012. Prediabetes: a high-risk state for diabetes development. The Lancet, 379(9833), pp.2279-2290. *Availiable at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3891203/*

ii. Kanavos.P, Van den Aardweg.S and Schurer.W (2012), Diabetes expenditure, burden of disease and management in 5 Eu countries, London, LSE Health, London School of Economics pg6.

iii. [iii] Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 HE 22

Case Study 2: Improving hydration for care home residents

Annual cost savings from Hydration and Nutrition project				
Saved on unplanned admission to hospital with a UTI				
Avoiding at least one resident in every 42 unplanned hospital admissions for UTIs				
Average cost of a UTI hospital admission	£1,331			
Annual saving:		£1,331 x 12		
Saved cost:			**£**	**15,972**

Saved GPN visits				
GPN visiting every other day for blood tests and other concerns - can cut to twice a week from four;				
Assumed cost per hour for nurse [ii]	£38			
Annual saving:		£38 x 2 x 52weeks		
Saved cost:			**£**	**3,952**

Saved GP visits				
Saving one GP visit per week				
Assumed cost of GP contact - cost per hour of patient contact, out-of-surgery activity (clinics, home visits)[iii]	£279			
Annual saving:		£279 x 52 weeks		
Saved cost:			**£**	**14,508**

Sources

i. NICE: National Institute for Health and Care Excellence.- Reducing incidence of Urinary Tract Infections by promoting hydration in care homes. Available at: https://www.nice.org.uk/sharedlearning/reducing-incidence-of-urinary-tract-infections-by-promoting-hydration-in-care-homes#results

ii. Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 HE 22

iii. Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 HE 20.1

Saved District nurse visits				
Saving two DN visit per week				
Assumed cost of DN per hour [iv]	£48			
Annual saving:		£48 x 2 x 52 weeks		
Saved cost:			**£**	**4,992**

Saving from retention of care staff				
Assume two fewer are replaced in a year, so saving recruitment and induction time – 3 weeks of lost time, back-filling with agency staff for 3 weeks (at an enhanced cost of 25% x £8.50 ph[v]) plus recruitment cost of, say £5,000 each time				
Recruitment cost saved (£5,000)	£5,000			
Saved on agency staff: ((25% x £8.50)+£8.50) x 37.5hrs/week x 3weeks	£1,196			
Annual saving:		£5,000 x 2 £1,196 x 2		
Saved cost:			**£**	**12,392**

Total savings	**£ 51,816**

Longer-term effects of poor nutrition and hydration - not evaluated here
Including confusion, inactivity and loss of mobility, increased risk of falls, pressure sores and skin conditions, risk of death by stroke, all with significant costs reduced in likelihood not evaluated

Longer-term effects of poorly controlled diabetes - not evaluated here
Including incidents of hypo/hyper-glycemia, Cardiovascular risks, risk of kidney failure and neuropathy with significant costs reduced in likelihood not evaluated

Sources

iv. Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 HE 23

v. Skillsforcare.org.uk. 2019/20. Pay rates. [online] Available at: <https://www.skillsforcare.org.uk/adult-social-care-workforce-data/Workforce-intelligence/publications/Topics/Pay-rates.aspx>

Case Study 3: Tackling multi-morbidities with a disengaged patient

Pathway details and calculations – without nurse intervention

Without nurse intervention						
time per year		**Stage 1**				
Monthly (x12):		detail	cost bearer	cost unit	**cost**	
12		~ 4 attempts to contact	N	Nurse time	**£38**	assumed 15mins
		~ one scheduled clinic appointment with nurse, missed once	Pr	Nurse, GP practice - cost per hour	**£23**	assumed 20 mins nurse time + 80% of nurse time(to correspond to missed)
				total	**£998**	
				total annual	**£11,978**	
			Pv figures for the following years	y1	**£11,573**	
				y2	**£11,182**	
				y3	**£10,804**	
				y4	**£10,438**	
	3.5%			y5	**£10,085**	
				y6	**£9,415**	
				y7	**£9,097**	
				y8	**£9,097**	
				y9	**£8,789**	
				y10	**£8,492**	
					Y1	**£11,573**
					PV remaining 9yrs	**£87,398**
		Assumptions: We are assuming this repeats for the full 10yr timeline				
		Assumed that 15 mins of nurse time is included for attempting to contact the patient				
		We have assumed that for one appointment with a nurse takes 20mins and so proportioned down the cost of an hour and included 80% of an additional appointment time for dealing with the missed appointment				
		The same assumption has been used for the missed GP time .				
		For the GP's time on the letter we have assumed its a similar cost for a GP phone call.				

		Stage 2				
time per year						
		detail	cost bearer	cost unit	**cost**	
quarterly (x4)		Hospital – 2 overnights per quarter, for asthma and insulin	**N**	Avoided non-elective in-patient short stay	£1,204	
4			**Pr** (dealing with the step down)	GP and nurse time after hospital stay 1hr of each time -	£71	
				total	**£1,275**	
				total annual	**£5,100**	
	3.5%		Pv figures for the following years	y1	**£4,928**	
				y2	**£4,761**	
				y3	**£4,600**	
				y4	**£4,444**	
				y5	**£4,294**	
				y6	**£4,149**	
				y7	**£4,009**	
					Y1	**£4,928**
					PV remaining 6yrs	**£26,257**
		Assumptions:				
		Assumed that after the overnight stay there will be some GP and GPN time dealing with any follow up and so included an hour each of their time. This is assumed to only continue for 7/10yrs of the timeline and any other visits are counted in stage 1				
		Stage 3				
time per year						
		detail	cost bearer	**cost unit**	**cost**	
1	just do dia	Escalating diabetes not controlled	Hospital involvement with missed appointments, and minimal follow-through of medication and other treatments	Missed hospital appointment + cost of monitoring and meds of diabetes	£544	One attended and one missed - which recurs every year
		~ Sight and vascular problems start to emerge	**N**			
		~ Early stages of kidney problems – only partially treated	**Pr**			
		[possible heart attack; stroke; risk to sight]	**Pa** (life quality)			
				total	**£544**	**pv every year till end**
				total annual	**£544**	
			Pv figures for the following years	y1	**£526**	
				y2	**£508**	
				y3	**£491**	
				y4	**£474**	
	3.5%			y5	**£458**	
				y6	**£443**	
				y7	**£428**	
				y8	**£413**	
				y9	**£399**	
				y10	**£386**	
					Y1	**£526**
					PV remaining 9yrs	**£4,001**
		Assumptions:				
		Assumed this counts for the cost of a missed hospital appointment and the cost of monitoring and medication for diabetes, and will repeat every year starting from the first year y0				
		Stage 4				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
		Cardio vascular risk factors include:	PA			**Not costed in here - qualitative point telling the story**
		- Poor mental health				
		- Oral steroids for asthma emergencies/over use of emergency inhalers				
		-Poorly managed diabetes		total	**£0**	
				total annual	**£0**	

		Stage 5				
time per year						
		detail	cost bearer	**cost unit**	**cost**	
		Pressure of improperly managed asthma and inconsistent insulin use exacerbates night terrors and poor sleeping patterns, causing worsening mental health, and physical exhaustion	PA		Not costed	**Not costed in here - qualitative point telling the story**
				total	**£0**	
				total annual	**£0**	
		Stage 6				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
1		Mini stroke occurs;	PA			
		- Police called		Anti-social behaviour; no further action taken (simple police reporting of incident)	£50	
		Ambulance		Ambulance call out	£246	
		A&E visit.		A&E vistis	£169	
		-GP involvement with medication		This is the combined cost of a consultation with the GP (£31) and a prescription (£32)	£33	Incremental cost above basic surgery involvement at stage 1
		Hospital monitoring/procedure		Cardiovascular disease (CVD) - average cost of hospital admission for TIA (mini stroke) needing a surgical procedure	£1,586	
				total	**£2,084**	
				total annual	**£2,084**	
			3.5%		**PV Y3**	**£1,880**
		Stage 7				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
1		Social services involved, but find difficulty engaging. Make repeated attempts then closing the file, only to be re-opened four weeks later after the next report from the police.		6 hrs of social worker time x 4 times a year	£1,320	repeated for remaining 7 years
				total	**£1,320**	
				total annual	**£1,320**	
			Pv figures for the following years	y3	**£1,191**	starts in year 3 so take this value
				y4	**£1,150**	
				y5	**£1,111**	
				y6	**£1,074**	
	3.5%			y7	**£1,038**	
				y8	**£1,002**	
				y9	**£969**	
				y10	**£936**	
					PV Y3	**£1,191**
					PV remaining 7yrs	**£7,280**
		Stage 8				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
		Poor insulin use:				
		- incoherent and wandering				**Not costed in here - qualitative point telling the story**
		- Tiredness (from asthma at night)				
				total	**£0**	
				total annual	**£0**	

		Stage 9				
time per year						
		detail	cost bearer	**cost unit**	**cost**	
52		C. Police find him twice a week wandering and incoherent		police call out and no further action x2 x52weeks	£100	**repeats for 2 years - as after this police found more times**
				total	**£100**	
				total annual	**£5,200**	
				y4	**£4,531**	starts in year 4 so take this value
	3.5%			y5	**£4,378**	
					PV Y4	**£4,531**
					PV remaining 1yr	**£4,378**
		Assumptions:				
		Assumed this only repeats for 2 years, as after this the police start to find him several times. Separate cost added later				
		Stage 10				
time per year						
		detail	cost bearer	**cost unit**	**cost**	
		Relationships with neighbours worsen	Pa			**Not costed in here - qualitative point telling the story**
			C	total	**£0**	
				total annual	**£0**	
		Stage 11				
time per year						
		detail	cost bearer	**cost unit**	**cost**	
		Community concerned with poor maintenance of home and living conditions. Neighbours or passers-by are involved and call out of concern.				**Not costed in here - qualitative point telling the story**
				total	**£0**	
				total annual	**£0**	
		Stage 12				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
		Irregular attendance and medication use following mini stroke	Pr			assumed covered category 1 - maybe other missed appointments not taken into account
			Pa			
				total	**£0**	
				total annual	**£0**	
		Assumptions:				
		Assumed this is counted for in stage 1, we acknowledge there may be other missed appointments but we have not taken them into account here.				
		Stage 13				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
		Continuing distance between patient and practice staff	Pr			**Not costed in here - qualitative point telling the story**
			Pa	total	**£0**	
				total annual	**£0**	
		Stage 14				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
1		Neuropathy;	Pr	Ambulance call out	**£246**	
		Discovered when attends A&E with week old infected injury.	Pa	A&E visit	**£169**	
				total	**£415**	
				total annual	**£415**	
			3.5%		**PV Y5**	**£349**

		Stage 15				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
1		Minor surgery to deal with infected area	Pr	Minor Foot Procedures for Trauma	£2,788	
			Pa			
				total	**£2,788**	
				total annual	**£2,788**	
			3.5%		**PV Y5**	**£2,348**
		Stage 16				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
192		6 month attendance for wound dressing (twice a week)	Pr			assumed incremental time on top of normal appointments and scheduling time counted for in category 1
		GPN time	Pa	GPN time/ hr	£19	assumed 30mins of GPN time
				total	**£19**	
				total annual	**£3,648**	
			3.5%		**PV Y5**	**£3,072**
		Assumptions:				
		Assumed this is an incremental time cost on top of normal appointments and scheduling counted for in stage 1.				
		Assumed only 30mins of GPN time used - multiplied by 192 (2x4 weeks x 24 weeks (6 months))				
		Stage 17				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
		Poor maintenance of home and living conditions causing concern.	Pr			**Not costed in here - qualitative point telling the story**
			Pa	total	**£0**	
				total annual	**£0**	
		Stage 18				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
		Escalating poor care of insulin injections leads to increasing periods of behavioural problems, wandering, and putting himself in danger.	Pr			**Not costed in here - qualitative point telling the story**
			Pa			
				total	**£0**	
				total annual	**£0**	
		Stage 19				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
52		Police find him several (4) times a week wandering and incoherent		Anti-social behaviour; no further action taken (simple police reporting of incident)	£200	
		Weekly showing at hospital through A&E brought in by police		A&E visits (for per week) [x52 for year]	£169	
				total	**£369**	
				total annual	**£19,188**	
			PV	y6	**£15,609**	starts in year 6 so take this value
	3.5%			y7	**£15,082**	
					PV Y6	**£15,609**
					PV remaining 1yr	**£15,082**
		Assumptions:				
		Assume this repeats for 2 years until year 8 when amputation is likely to occurs; likely to be less mobile afterwards.				

are

		Stage 20				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
1		Escalating benefits entitlements - PIP (perhaps not claimed)	Basic PIP	daily living entitlement £60/ week	£3,120	**assume he gets basic level of PIP for remaining years y7-y10**
			Basic PIP	mobility entitlement £23.70/ week	£1,232	
			Reduction in council tax if PIP claimant	average South East council tax (1500x25%) annual	£375	
				total	**£4,727**	
				total annual	**£4,727**	
					y7-y10 (x4)	**£18,910**
		Assumptions:				
		Assume he gets basic level of PIP, which is £60/week for daily living entitlement and £23.70/week for mobility entitlement due to increase in his need.				
		Assume a reduction in council tax if he is a PIP claimant - (Surgery was based in SE England so used an average council tax from the SE) and applied a 25% reduction.				
		Assume Benefit inflation offsets effect of discount.				
		Stage 21				
time per year		**detail**	cost bearer	**cost unit**	**cost**	
1		Neuropathy causes further injury, requiring wound treatment- amputation likely		minor amputation	£5,176	
16		2month wound care (twice a week)		GPN time/hr	£304.0	
				total	£5,480	
				total annual	£5,480	
			3.5%		**PV y8**	**£4,162**
		Long-term				
		Escalating conditions become increasingly difficult for the patient to manage, and the interaction with his worsening mental health leads to a rapid decline by his early fifties.			**cost not illustrated beyond 10 years**	
				TOTAL	**£213,474**	

Pathway details and calculations – with nurse intervention

With nurse intervention					
Stage 1					
time per year	detail	cost bearer	cost unit	**cost**	
Monthly (x12):	~ 3 times attended appointment at surgery	Pr	nurse time x 3	**£38**	assumed 20mins appointment time
12	~ GP appointments x 2 scheduled	Pr	GP consultation time and prescribing x 2	**£132**	
			total	**£170**	
			total annual	**£2,040**	
		Pv figures for the following years	y1	**£1,971**	
			y2	**£1,904**	
			y3	**£1,840**	
			y4	**£1,778**	
			y5	**£1,718**	
			y6	**£1,660**	
			y7	**£1,603**	
			y8	**£1,549**	
			y9	**£1,497**	
			y10	**£1,446**	
				Y1	**£1,971**
				PV remaining 9yrs	**£14,995**
	Assumptions: We are assuming this repeats for the full 10yr timeline				
	We have assumed that one appointment with a nurse takes 20 mins. For the GP's time we have assumed this will include the cost of a consultation and prescribing time				
Stage 2					
time per year					
	detail	cost bearer	cost unit	**cost**	
annual	~ Hospital – 2 overnights per annum for a stabilisation visit	**N**	Avoided non-elective in-patient short stay	£1,204	
1		**Pr** (dealing with the step down)	GP and nurse time after hospital stay - 1 hr of time each	£71	
			total	**£1,275**	
			total annual	**£1,275**	
	interest	Pv figures for the following years	y1	**£1,232**	
	3.5%		y2	**£1,190**	
			y3	**£1,150**	
			y4	**£1,111**	
			y5	**£1,074**	
			y6	**£1,037**	
			y7	**£1,002**	
				Y1	**£1,232**
				PV remaining 6yrs	**£6,564**
	Assumptions:				
	Assumed that after the overnight stay there will be some GP and GPN time dealing with any follow up and therefore included an hour each of their time. This is assumed to only continue for 7/10yrs of the timeline and any other visits are counted in stage 1				

Stage 3					
time per year					
	detail	cost bearer	**cost unit**	**cost**	
1	Conditions are largely well managed and do not escalate	Hospital appointments as the condition escalates are scheduled but still sometimes missed, but nurse engagement enables some to be kept and effective.	Cost of meds and monitoring	£412	
		Pa	Missed hospital appointment	£132	
		Pr			
		N			
			total	**£544**	
			total annual	**£544**	
		Pv figures for the following years	y1	**£526**	
			y2	**£508**	
			y3	**£491**	
			y4	**£474**	
			y5	**£458**	
			y6	**£443**	
			y7	**£428**	
			y8	**£413**	
			y9	**£399**	
			y10	**£386**	
				Y0	**£526**
				PV remaining 9yrs	**£4,001**
	Assumptions: Assumed this counts for the cost of a missed hospital appointment and the cost of monitoring and medication for diabetes and will repeat every year starting from the first year y0				

Stage 4					
time per year					
	detail	cost bearer	**cost unit**	**cost**	
1	Medication for mental health conditions controls these, and is monitored by the surgery on a regular basis, with support form the community mental health team		Gp time + Gp prescription	£66	
		Anti-depressants	Sertraline 50mg (28 doses)	£52.68	
			total	**£119**	
			total annual	**£119**	
			y1	**£115**	
			y2	**£111**	
		Pv figures for the following years	y3	**£107**	
			y4	**£103**	
			y5	**£100**	
			y6	**£97**	
	3.5%		y7	**£93**	
			y8	**£90**	
			y9	**£87**	
			y10	**£84**	
				Y1	**£115**
				PV remaining 9yrs	**£872**
	Assumptions: Assume medication prescribed for 6 months on a rolling basis.Assumed this has continued indefinitely for the remainder of the timeline.				

Stage 5					
time per year					
	detail	cost bearer	**cost unit**	**cost**	
	Relationships with neighbours are stable			**Not costed in here - qualitative point telling the story**	
			total	**£0**	
			total annual	**£0**	
Stage 6					
	detail	cost bearer	**cost unit**	**cost**	
	Continued engagement means that surgery can spot other conditions before they escalate to dangerous levels and can get him to engage with treatment			**Not costed in here - qualitative point telling the story**	
			total	**£0**	
			total annual	**£0**	
Stage 7					
	detail	cost bearer	**cost unit**	**cost**	
	Escalating poor care and behavioural problems does occur, but not to any great degree until patient is 70yo+			**Not costed in here - qualitative point telling the story**	
			total	**£0**	
			total annual	**£0**	
Long-term					
	Much slower escalation of conditions. Mental health maintained and the multimorbidities do not exacerbate each other.			**cost not illustrated beyond 10 years**	
			TOTAL	**£30,276**	

Case Study 4:

Pathway details and calculations – without nurse intervention

Without nurse intervention						
Stage 1						
time per year						
Monthly (x 12)	**detail**	**cost bearer**	**cost unit**	**cost**		
12	~ 8 attempted home visits by DN (none attended)	**N**	DN time per hour (x8)	£269	70%	
	~ Telephone calls 15 days in the month	**Pr**	Nurse time for calls/ per hour	£288	Used GP cost per call - adjusted down for nurses by 20%	
	~ Surgery time – 2 appts with GP per week – one missed	**Pr**	GP consultation (avg 9.22 min)	£59	GP time + 80% of GP time(to correspond to missed)	
	~ Ambulance to hospital twice, with related A&E visits and discharges with letter to GP	**N**	Ambulance x2	£492		
		N	A&E visits x2(£160)	£338		
		Pr	GP time for letter	£24	Use cost of phone conversation	
			total	**£1,470**		
			total annual	**£17,642**		
		Pv figures for the	y1	**£17,046**		
			y2	**£16,469**		
			y3	**£15,912**		
			y4	**£15,374**		
	3.5%		y5	**£14,854**		
			y6	**£14,352**		
			y7	**£13,867**		
			y8	**£13,398**		
				Y1	**£17,046**	
				PV remaining 7 years	**£121,273**	
	Assumptions: We are assuming this repeats for 8 years before she ends up in care					
	Assumed that the District nurse (DN) attempts to visit 8 times a month - 70% of full DN time assumed for this as DN does not actually see patient but travel time and calling to check on patient to be included.					
	For the GP time we have assumed 80% added for the missed appointment.					

Stage 2						
time per year quarterly(x 4)	**detail**	**cost bearer**	**cost unit**	**cost**		
4	~ Hospital – 2 overnights per quarter (7/10 years)	N	Avoided non-elective in-patient short stay	£1,204		
		Pr (dealing with the step down)	Some GP and nurse time after hospital stay - 1 hr of time each	£69		
			total	**£1,273**	**year 0**	
	interest		total annual	**£5,092**		
	3.5%	Pv figures for the following years	y1	**£4,920**		
			y2	**£4,753**		
			y3	**£4,593**		
			y4	**£4,437**		
			y5	**£4,287**		
			y6	**£4,142**		
			y7	**£4,002**		
				Y1	**£4,920**	
				PV remaining 6 years	**£26,215**	
		Assumptions: Assumed that after the overnight stay there will be some GP and GPN time dealing with any follow up and so included an hour each of their time. This is assumed to only continue for 7/10yrs of the timeline and any other visits are counted in stage 1				

Stage 3						
time per year	**detail**	**cost bearer**	**cost unit**	**cost**		
	An insulin equivalent taken by injection but thyroid medication not taken properly			**Not costed in here - qualitative point telling the story**		
			total	**£0**		
			total annual	**£0**		

Stage 4

time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
1	Escalating diabetes not controlled	**Hospital involvement with missed appointments, and minimal follow-through of medication and other treatments**	Cost of missed hospital appointments + cost of monitoring and meds (diabetes)	£544	**repeat each year**	
	~ Foot problems start to emerge	**N**			**not costed in here**	
	~ Early stages of kidney problems – only partially treated	**Pr**			**not costed in here**	
	[possible heart attack; stroke; risk to sight]	**Pa (life quality)**			**not costed in here**	
			total	**£544**		
			total annual	**£544**		
	3.5%					
			y2	**£508**	**starts in year 2**	
		Pv figures for the following years	y3	**£491**		
			y4	**£474**		
			y5	**£458**		
			y6	**£443**		
			y7	**£428**		
			y8	**£413**		
			y9	**£399**		
			y10	**£386**		
				Y2	**£508**	
				PV of remaining 8ys	**£3,493**	
		Assumptions:				
		Assumed this counts for the cost of a missed hospital appointment and the cost of monitoring and medication for diabetes and will repeat every year starting from the first year y2				

Stage 5

time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
104	Calling 111/999 most weekends 2/3 times.	**cost of dealing with call**	calls to 999 (7 x 52x2)	£728	repeat each year until into care	
18	Ambulance callout every 2nd/3rd weekend		ambulance call out (233) x (12x1.5)	£4,428	assumed 1.5x a month	
			total	**£5,156**		
			total annual	**£5,156**		
	3.5%					
			y2	**£4,813**	**starts in year 2**	
		Pv figures for the following years	y3	**£4,650**		
			y4	**£4,493**		
			y5	**£4,341**		
			y6	**£4,194**		
			y7	**£4,053**		
				Y2	**£4,813**	
				PV of remaining 5 yrs	**£21,732**	
		Assumptions:				
		Assumed that this patient called an ambulance out 1.5 times a month. When costing we have therefore multiplied the ambulance call out charge by 18 (12 x 15). Any resultant hospital visits cost are covered under stage 1 and 2. We have assumed this is repeated yearly until the patient ends up in care.				

Stage 6						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
	Problems with separate prescriptions from multiple calls with different healthcare personnel			£100		
			total	**£100**		
			total annual	**£100**		
	3.5%					
			y2	**£93**	**starts in year 2**	
		Pv figures for the following years	y3	**£90**		
			y4	**£87**		
			y5	**£84**		
			y6	**£79**		
			y7	**£81**		
				Y2	**£93**	
				PV of remaining 5 yrs	**£421**	
		Assumptions: Assumed £100 of nominal loss annually for this. Repeated each year until the patient goes into care.				

Stage 7					
time per year					
	detail	**cost bearer**	**cost unit**	**cost**	
	Thyroid problems escalate, causing weight loss, and further strain on her heart and other organs	Hospital involvement with missed appointments, and minimal follow-through of medication and other treatments	cost of missed hospital appointments + cost of monitoring and meds (diabetes)		**assumed this is covered earlier in point 4**
		N			
		Pr			
		Pa			
			total	**£0**	
			total annual	**£0**	

Stage 8					
time per year					
	detail	**cost bearer**	**cost unit**	**cost**	
	Risk exacerbated by MH, Weight, rising HbA1c and poor medication use				**Not costed in here - qualitative point telling the story**
			total	**£0**	
			total annual	**£0**	

Stage 9

time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
1	First (mild) heart attack; out shopping police and ambulance called, hospital attendance Inc. overnight stay					
	Police call out		Police call out - but not dealing with situation	**£50**		
	Ambulance call out			£246		
	Overnight stay		A&E attendance - investigation with subsequent treatment, leading to admission	£262		
	Follow up		Cardiovascular disease (CVD) - average annual cost of ongoing NHS care and rehabilitation programmes following a heart attack (myocardial infarction)	£451		
			total	**£1,009**		
			total annual	**£1,009**		
		3.5%		**PV y4**	**£879**	
		Assumptions:				
		Assumed incremental hospital/ambulance/police costs on top of those covered elsewhere.				

Stage 10

time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
12	GP surgery involved in after care:	GP prescriptions - rolling basis	GP prescription	£33		
	Blood pressure monitoring and meds		HCA time x 4 a week for 12 months	£11		
			total	**£44**		
			total annual	**£526**		
	3.5%	Pv figures for the following years				
			y4	**£459**	**starts in year 4**	
			y5	**£443**		
			y6	**£428**		
			y7	**£414**		
			y8	**£400**		
			y9	**£386**		
			y10	**£373**		
				Y4	**£459**	
				PV of remaining 6yrs	**£2,444**	
		Assumptions:				
		Assumed 20mins of HCA time to monitor Blood pressure, which we assume is longer than normal because the patient can be difficult. This is repeated 3 times a week indefinitely				

Stage 11						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
		Pr				
	Escalating animosity between patient and surgery staff	Pa			**Not costed in here - qualitative point telling the story**	
			total			
			total annual			
Stage 12						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
	Raised TSH level - thyroid not producing enough thyroxine; not taking thyroxine replacement. Consequence: severe cognitive impairment; slowed heart rate; weight gain affecting diabetes, cardiovascular risk				**Not costed in here - qualitative point telling the story**	
			total	**£0**		
			total annual	**£0**		
Stage 13						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
	Community concerned with poor maintenance of home and living conditions. Neighbours or passers-by are involved and call out of concern				**Not costed in here - qualitative point telling the story**	
			total	**£0**		
			total annual	**£0**		
Stage 14						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
	Mobility now very poor; circulatory problems in her legs - entitlement for basic PIP benefits	Basic PIP	daily living entitlement £60/ week	£3,120		
		Basic PIP	mobility entitlement £23.70/ week	£1,232		
			total	**£4,352**		
	3.5%		total annual	**£4,352**		
	starts in yr. 6		y6	£4,352	both	
			y7	£4,352	both	
	into care during this year		y8	£4,352	both	
		PV for years	y9	£1,232	just mobility	
			y10	£1,232	just mobility	
				PV	**£15,522**	
		Assumptions:				
		Assume she gets basic level of PIP, which is £60/week for daily living entitlement and £23.70/week for mobility entitlement due to increase in her need.				
		Assumed daily living entitlement stops when she is in care in yr8 only receiving mobility entitlement in care.				
		Assume Benefit inflation offsets discounting effect				

Stage 15						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
4	Social services more actively involved but have difficulty enagaging. Make repeated attempts, close the file and then re-open it four weeks later after the next report received from the police		incremental 6 hrs of social worker time x 4 times a year	£330	repeat each year starting from yr. 6	
			total	**£330**		
			total annual	**£1,320**		
	3.5%		y6	£1,074		
			y7	£1,038		
			y8	£1,002		
		PV for years	y9	£969		
			y10	£969		
				Y6	**£1,074**	
				PV of remaining 4yrs	**£3,977**	
Stage 16						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
	Poor maintenance of home and living conditions causing concern				**Not costed in here - qualitative point telling the story**	
			total	**£0**		
			total annual	**£0**		
Stage 17						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
1	Major stroke; now substantially immobile with impaired speech and can not feed herself	**NHS/ social services**	Average health and social care costs of a patient with a stroke - all types	**£49,623**		
			total	**£49,623**		
			total annual	**£49,623**		
		3.5%		**PV y7**	**£39,003**	
Stage 18						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
	Once out of hospital she goes into residential care – full care package				**this cost is assumed to be covered in the cost above**	
			total	**£0**		
			total annual	**£0**		

Stage 19						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
	Condition reasonably stable – no noticeable improvement				**Not costed in here - qualitative point telling the story**	
			total	**£0**		
			total annual	**£0**		
Stage 20						
time per year						
	detail	**cost bearer**	**cost unit**	**cost**		
	Angry and frustrated and hard to manage risk to staff				**Not costed in here - qualitative point telling the story**	
			total	**£0**		
			total annual	**£0**		
LONG TERM						
	Long-term					
	Escalating conditions and their management become increasingly difficult for patient to manage. After a period of very poor health and wellbeing she dies before 70 of heart (or kidney) failure				**cost not illustrated beyond 10 years**	
				Total	**£263,873**	

Pathway details and calculations – with nurse intervention

With nurse intervention					
Stage 1					
time per year					
Monthly (x 12)	**detail**	**cost bearer**	**cost unit**	**cost**	
12	~ 3 times attended appointment at surgery	Pr	nurse time x 3	£38	
	~ GP appointments x 2 scheduled	Pr	GP consultation time and prescribing x 2	£66	
	~ telephone calls 7 days in the month	Pr	GP contact - cost per telephone consultation (average 7.1 minutes) x7	£134	
			total	**£238**	
			total annual	**£2,861**	
		Pv figures for the following years	y1	**£2,764**	
			y2	**£2,671**	
			y3	**£2,580**	
			y4	**£2,493**	
			y5	**£2,409**	
			y6	**£2,327**	
			y7	**£2,249**	
			y8	**£2,173**	
			y9	**£2,099**	
			y10	**£2,028**	
				Y1	**£2,764**
				PV Remaining 9 years	**£21,764**
	Assumptions: We are assuming this repeats for the full 10yr timeline				
	We have assumed that one appointment with a nurse takes 20 mins				
	For the GP's time on the letter we have assumed it is a similar cost for a GP phone call.				

Stage 2

time per year					
annual	**detail**	**cost bearer**	**cost unit**	**cost**	
1	~ hospital – 2 overnights per annum for a stabilisation visit	N	Avoided non-elective in-patient short stay	£1,204	
		Pr (dealing with the step down)	Some GP and nurse time after hospital stay - 1 hr of time each	£69	
			total	**£1,273**	
			total annual	**£1,273**	
	interest	Pv figures for the following years	y1	**£1,230**	
	3.5%		y2	**£1,188**	
			y3	**£1,148**	
			y4	**£1,109**	
			y5	**£1,072**	
			y6	**£1,036**	
			y7	**£1,001**	
				Y1	**£1,230**
				PV remaining 6 years	**£6,554**

Assumptions:
Assumed that after the overnight stay there will be some GP and GPN time dealing with any follow up and so included an hour each of their time. This is assumed to only continue for 7/10yrs of the timeline and any other visits are counted in stage 1

Stage 3

time per year	**detail**	**cost bearer**	**cost unit**	**cost**	
1	With increased engagement it is possible to get the patient involved in some personal care and management of her conditions	Hospital appointments as the condition escalates are scheduled but still sometimes missed, but nurse engagement enables some to be kept, which are effective.	Cost of meds and monitoring	£412	
			Missed hospital appointment	£132	
			total	**£544**	
			total annual	**£544**	
			y1	**£526**	
	3.5%		y2	**£508**	
			y3	**£491**	
			y4	**£474**	
			y5	**£458**	
			y6	**£443**	
			y7	**£428**	
			y8	**£413**	
			y9	**£399**	
			y10	**£386**	
				Y1	**£526**
				PV of remaining 9 yrs.	**£4,001**

Assumptions:
Assumed this counts for the cost of a missed hospital appointment and the cost of monitoring and medication for diabetes and will repeat every year starting from the first year y0

Stage 4					
time per year					
	detail	cost bearer	cost unit	cost	
	Escalation happens, but is significantly slower than otherwise			Not costed in here - qualitative point telling the story	
		Pa			
		Pr			
		N			
			total	£0	
			total annual	£0	

Stage 5					
	detail	cost bearer	cost unit	cost	
	Continued engagement means that surgery can spot (some) other conditions before they escalate to dangerous levels and can get her (sometimes) to engage with treatment			Not costed in here - qualitative point telling the story	
			total	£0	
			total annual	£0	

Stage 6					
	detail	cost bearer	cost unit	cost	
	Escalating poor care and behavioural problems does occur, but not to any great degree until patient is 70yo			Not costed in here - qualitative point telling the story	
			total	£0	
			total annual	£0	

LONG TERM					
	Long-term				
	Slower escalation of conditions. She lives to 75			cost not illustrated beyond 10 years	
			Total	£36,839	

Tables of unit costs used in calculations

Cost references used				
Input	**Detail**	**Cost**	**Note**	***Reference***
Nurse time	Nurse, GP practice - cost per hour	*£38*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council) - HE 22*
GP consultation	GP consultation (avg 9.22 min)	*£33*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council) - HE 20.2*
GP prescribing	GP prescription charges	*£33*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). - HE21*
GP telephone consultation	GP contact - cost per telephone consultation (average 7.1 minutes)	*£24*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). - HE 20.3*
HCA time	HCA cost per hour	*£10.86*		*NHS Multidisciplinary Framework Costings 2020*
District Nurse time	Community nurse (district nursing sister, district nurse) - cost per hour	*£48*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). - HE 23*
Ambulance call out	Avoided Ambulance call outs	*£246*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). HE 3.0*
A&E visit	Avoided cost of A&E visits	*£169*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v1.4 (Greater Manchester and Birmingham City Council). HE 4.0*
Missed hospital appointment	Hospital outpatients - average cost per outpatient attendance - used for cost of missed outpatient appointment	*£132*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). HE 8*
Non-elective In patient stay	Avoided non-elective in-patient short stay	*£602*		*Curtis, Lesley A. and Burns, Amanda (2020) Unit Costs of Health & Social Care 2020. University of Kent, Personal Social Services Research University. (p87)*
Diabetic medication and monitoring	Annual outpatient cost for diabetes (meds and monitoring supplies)	*£412*	Average was taken and inflated £300-371 (335.5)	*Diabetes.co.uk (2019) Cost of Diabetes. Available at: https://www.diabetes.co.uk/cost-of-diabetes.html*
Cost of Anti-depressants	Anti-depressant medication (Sertraline)	*£4.39*	Sertraline 50mg (28 doses)	*NICE- National Institute for Health and Care Excellence. Available at: https://bnf.nice.org.uk/medicinal-forms/sertraline.html*
Police call out	Anti-social behaviour no further action taken (simple police reporting of incident)	*£50*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). CR 1.1*

Social worker time	Social worker - adult services: cost per hour, with and with out qualification costs	*£55*	Average of with qual - £63; without - £47	*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). SS 21 & SS 21.1*
Cost of dealing with a 999 call	Ambulance services - average cost of 999 calls to ambulance services (but no further action taken, and ambulance not sent out), per incident	*£7*	Per 999 call	*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). HE 3.1*
Follow on treatment after a heart attack	Cardiovascular disease (CVD) - average annual cost of ongoing NHS care and rehabilitation programmes following a heart attack (myocardial infarction)	*£451*	Per year	*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). HE 7.3*
Admission for a mini stroke	Cardiovascular disease (CVD) - average cost of hospital admission for TIA (mini stroke) needing a surgical procedure	*£1,586*	Per incident	*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). HE 7.1.5*
Average health and social care costs of a patient with a stroke - all types	Per person	*£49,623*	This cost was used for the evaluation but the cost below will be used as a comparison and confirmation that this cost is in line and accurate.	*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). HE 30*
Estimated societal costs of stroke in the UK		*£45,409*	2019 figure	*Patel, A., Berdunov, V., Quayyum, Z., King, D., Knapp, M. and Wittenberg, R., 2019. Estimated societal costs of stroke in the UK based on a discrete event simulation. Age and Ageing, 49(2), pp.270-276.*
Minor surgery on feet	Minor Foot Procedures for Trauma	*£2,788*	2269 2015/16 figure - inflated	*Reference Cost Collection: National Schedule of Reference Costs - Year 2015-16 - NHS trust and NHS foundation trusts*
Minor foot amputation inpatient care		*£5,176*	Adjusted for inflation:2019 total cost of amputations £16,910,258 / 4015 admissions = £4,212	*Kerr, M. et al. (2019). The cost of diabetic foot ulcers and amputations to the National Health Service in England. Diabetic Medicine.*
A&E visit and admission	A&E attendance - investigation with subsequent treatment, leading to admission	*£262*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). HE 6.1*

Average annual cost to treat diabetes	Direct medical cost for treating diabetes as well as other medical costs, in terms of treating complications related to diabetes and other medical conditions. These may not be associated with or caused by diabetes, but their extent can be exacerbated by it.	*£4,271*	£3973-£4568 (uplifted numbers) taking the average of the two, *[£3,233-£3,717 2011/12 numbers]*	*Kanavos.P, Van den Aardweg.S and Schurer.W (2012), Diabetes expenditure, burden of disease and management in 5 Eu countries, London, LSE Health, London School of Economics pg6.*
% rate pre-diabetes progresses to full diabetes		*25%*	5% to 10% per annum – so 25%+ within five years	*https://www.diabetes.co.uk/pre-diabetes.html - . Also at Tabák, A., Herder, C., Rathmann, W., Brunner, E. and Kivimäki, M., 2012. Prediabetes: a high-risk state for diabetes development. The Lancet, 379(9833), pp.2279-2290. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3891203/*
Pay rates for agency staff	Per hour	*£8.50*		*Skillsforcare.org.uk. 2019/20. Pay rates. [online] Available at: <https://www.skillsforcare.org.uk/adult-social-care-workforce-data/Workforce-intelligence/publications/Topics/Pay-rates.aspx> [Accessed 5 May 2021].*
The average cost of a UTI hospital admission is		*£1,331*		*NICE: National Institute for Health and Care Excellence.- Reducing incidence of Urinary Tract Infections by promoting hydration in care homes. Available at: https://www.nice.org.uk/sharedlearning/reducing-incidence-of-urinary-tract-infections-by-promoting-hydration-in-care-homes#results*
GP contact - cost per hour of patient contact, out-of-surgery activity (clinics, home visits)	Per hour	*£279*		*Markus, F., Cox, J., Morris, D. and Greenhalgh, R. (2015). Manchester Unit Cost Database v20 (Greater Manchester and Birmingham City Council). HE 20.1*

Appendix 4: Research Participants

Project Sponsor

NHS England & NHS Improvement	Paul Vaughan RN MSc, *Deputy Director – Primary Care Nursing & NextGen Nurse* Karen Storey RN, MSc, QN, *Primary Care Nursing Lead*

General Practices (workshop and SSFI participants)

Cuckoo Lane Practice, London	Julie Belton MSc BSc NP dip, RN, RM, *Strategic and Operational Director*
Elm Lodge Surgery, London	Cathy Thomas, *Lead General Practice Nurse* Claire Goldie RGN DN Cert, *Specialist Elderly Care Nurse* Edward Drake, *Practice Manager* Rachel Abrams RGN, *Practice Nurse*
Parchmore Medical Centre, London	Agnelo Fernandes MBE, BSc (Hons), AKC MBBS DRCOG DCCH FRCGP, *GP Senior Partner* Jo Yanzu BSc (Hons) RGN Dip Diabetes, BSc Acute Critical Care, *Lead Practice Nurse*
Bromley by Bow Health, London	Linda Aldous, *Director of Nursing and Partner, Governing Body Member, Maternity and Early Years Clinical Lead, NHS Tower Hamlets CCG* Lola Soloye, *Senior Practice Nurse* Natalie Brown, *Practice Nurse*
Family Medical Centre, Nottingham	Elizabeth Pain, *Practice Manager* Leah Hennessy, *Practice Nurse* Naresh Sood FRCGP DRCOG DCh, *GP Partner*
Tudor House Medical Practice, Nottingham	Jonathan Lloyd, *GP Partner* Nichola Pearce Dip BSc, *Nurse Practitioner* Patricia Gibbons, *Practice Manager*
Rivergreen Medical Centre, Nottingham	Sarah Braun, *Senior Practice Nurse*
Locum, Nottinghamshire	Fiona Angyal DipNur, BSc, PgCert, RN, ANP, NMP, *Advanced Nurse Practitioner*
Combe Down Surgery, Bath	Andrew Smith BSc MBBS MRCGP DCH DRCOG, *GP Partner* Becky Wych RGN, APN, NMP QN, *Advanced Practice Nurse Partner*
Beacon Medical Group, Plympton	Lynda Carter RGN BSc (Health Studies), *Nurse Manager and Lead Research Nurse*
The Adam Practice, Poole	Clare Mechen BSc, QN, *Nurse Manager*
Manston Surgery, Leeds	Ruth Colbeck RGN BSc (Hons) *Specialist Practitioner - General Practice Nursing, NMP, Lead Practice Nurse*

Windsor House Group Practice, Luton	Debbie Gumbley RN, MSc *Advanced Nurse Practitioner Primary Care*
Lea Vale Medical Practice, Luton	Jeannie Szumski, *Nurse Partner*
Leeds Community Healthcare Trust, Leeds	Gil Ramsden RGN, *Professional Lead for General Practice Nursing*
Westfield Medical Centre, Leeds	Karen Rodger
Crondall New Surgery, Farnham	Andrea Butler, PG Dip Adult Nursing, PG Dip Public Health, *Practice Sister Place Based Nurse for Slough. Frimley CCG* Rachel Jarrett-Kerr, BSc, PG Dip, *Practice Sister, Nursing Lead for the Frimley CCG*
Voyager Family Health, Farnborough	Alison Selby, *Nurse Practitioner – GPN Lead for Windsor, Ascot and Maidenhead – Frimley CCG* Ruth Briggs

Additional interviewees

Andrew Lamb, *Senior GPFV Workforce & Training Manager, Norfolk & Waveney CCG*
Xolani Viki RMN, BSc, MSc, *Transformation & Quality Improvement Manager, NHS England and NHS Improvement*
Beverley Bostock, RGN MSc MA QN, *Education Facilitator, Devon Training Hub, Advanced Nurse Practitioner, Mann Cottage Surgery, Editor in Chief, Practice Nurse Journal*
Cathy McMahon, Public *Health Development and Commissioning Manager, Bath & NE Somerset*
Claire Cuthbertson, *Senior Clinical Manager, Nursing & Quality Team, NHS England and NHS Improvement*
Claire Carmichael RGN, *Practice Nurse, Gudgeheath Lane Surgery, Romsey*
Claire Dyke, *Training Hub Manager, Norfolk & Waveney CCG*
Clare Simpson, *NAPC*
Dave Kirby BSc MBChB (Hons) MRCGP PGCE, *Medical Lead for Extended Access, Leeds GP Confederation*
Diane Treadwell, *Basildon & Brentwood CCG*
Donna Loose, BSc. (Hons) Nurse, *Practice Nurse, Birchwood Surgery; GPN Development Lead, Norfolk & Waveney STP*
Gabby Irwin, BSc. (Hons) *Head of Nursing & Workforce, NHS England and NHS Improvement*
Georgina Craig - ELC Works
Jag Mundra, *Analyst, NAPC*
Jim Barwick, RGN, *Chief Executive Leeds GP Confederation*
Lesley Royle-Prior, *Chief Nurse, Bolton GP Federation*
Marc Atkin BM FRCP MD, *Consultant Diabetes & Endocrinology, Royal United Hospital*
Mo Fletcher, RGN, BSc (Hons), PG Cert, *Advanced Nurse Practitioner, Birchwood Practice*
Naomi Smith RN (Child & Adult) SCPHN, Nurse Teacher, BA(Hons), *PGCE, ILM Coach, Primary and Community Care Nurse Workforce Lead, working across the Thames Valley, Health Education England*
Philippa Stupple RN, *Programme Director for GP Nursing, Health Education England*
Sarah O'Donnell, *Lead General Practice Nurse, Rooley Lane Medical Centre, Bradford*
Vanessa Anthony *Final Year Adult Nursing Student, University of Greenwich, GPNSNN Ambassador, BAME GPN Ambassador, RCN Student Committee London Representative*
Zoe Foster, BSc (Hons), RN Dip Diabetes, *Diabetes Specialist Nurse Poole Central Primary Care Network*

Project Steering Group

Paul Vaughan RN MSc, *Deputy Director – Primary Care Nursing & NextGen Nurse, NHS England & NHS Improvement*
Karen Storey RN, MSc, QN, *Primary Care Nursing Lead, NHS England & NHS Improvement*
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