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**Title: Implementing Prudent Healthcare in the NHS in Wales; what are the Barriers
and Enablers for Clinicians?**

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Running Title - Implementing Prudent Healthcare in the Welsh NHS

Key Words: Qualitative; Behaviour; Clinicians' views; Quality improvement

Abstract

Rationale: Prudent Healthcare is a strategy adopted by the Welsh Government in response to the challenge of improving healthcare during times of austerity and when needs and demand are rising. Four principles underlie Prudent Healthcare: to achieve health and wellbeing through co production; care for those with the greatest health needs first; do only what is needed; and reduce inappropriate variation. For Prudent Healthcare to be implemented in Wales, it is necessary for health professionals to adopt these principles in practice.

Objective: This paper reports a qualitative evaluation of clinicians' awareness, experiences and views about Prudent Healthcare, identifying barriers and enablers to implementation from the clinician's perspective.

Methods: Semi structured interviews (n=28) and five focus groups (with 23 participants) were undertaken with a diverse range of health professionals working in primary and secondary care. Analysis was underpinned by the COM-B model which provides a framework to understand behaviour change in context using three domains, Capability, Opportunity and Motivation.

Results: Clinicians reported the importance and challenges of accessing and sharing information and evidence to inform practice (Capability). Reduced staffing levels and service availability were highlighted as possible barriers to Prudent Healthcare implementation while multidisciplinary working and reorganisation of staff roles and services were considered enablers (Opportunity). Finally, although the principles of Prudent Healthcare were broadly welcomed (Motivation), a lack of awareness of the initiative and the management of patient expectations presented barriers.

Conclusion: While there was a positive response and widespread support for the principles of Prudent Healthcare by clinicians, increasing awareness of the initiative and improvement to

systems to enable information sharing and the monitoring of patient outcomes could improve the consistency of implementation.

Introduction

Demand and need for healthcare are increasing globally, primarily due to population ageing, increased prevalence of chronic and complex health conditions and growing patient expectations ⁽¹⁾. Across the UK, an ageing population and a growth of multiple and complex conditions has resulted in an increase in demand on the National Health Services (NHS).

The challenge is to balance increasing demand with reduced expenditure as the age of austerity requires more to be achieved through better use of resources. As a result, fundamental change is required in the way that health services are delivered ⁽²⁾. Concerns have also been raised about a growing culture of overuse of medical investigations and wide variation in the use of certain treatments across the UK ⁽³⁻⁵⁾.

Within the UK and globally, these challenges have been addressed by the introduction of initiatives which focus on providing services more efficiently and effectively. Choosing Wisely, developed in the US and Canada and adopted internationally, aims to align clinicians' practice with best practice, encouraging the identification and elimination of interventions that are not supported by evidence, are of low value and may not be necessary ⁽⁶⁾. Choosing Wisely was created in part to challenge the idea that more is better, encouraging patients to consider the necessity of proposed treatments ⁽⁴⁾. In Scotland, *Realistic Medicine* is an approach which aims to deliver 'safe effective person centred care', in which all clinicians have been empowered to change the design and delivery of care with service users ⁽²⁾.

Since devolution in 1999, Wales has engaged in a series of policies which have created divergence in the way that health and social care services are both commissioned and delivered in comparison with England ⁽⁷⁾. Like many countries, Wales has a growing elderly population

with complex needs and these co-morbidities can result in increasing poly-pharmacy, with 5.8% of the population receiving 10 or more medicines in 2010 ⁽⁸⁾. In addition, it is estimated that 45,000 people in Wales live with dementia and conditions such as obesity, diabetes, coronary heart disease and cancer have increased in prevalence ⁽⁹⁾. The need to develop a coherent, cohesive and transparent vision and strategy for health and care in Wales was recognised, resulting in Prudent Healthcare ⁽¹⁰⁾.

Prudent Healthcare

Underpinning the shift towards the Prudent Healthcare initiative in Wales was the desire to ensure that Healthcare aligns with the needs of the patient and avoids wasteful care that does not benefit the patient. The aim of Prudent Healthcare is to ensure that treatment always adds value, contributes to improved outcomes and is sustainable, in part by reshaping health services and rebalancing the relationship between individuals and health professionals ⁽¹¹⁾. Prudent Healthcare is underpinned by four key principles that any service or individual providing a service in Wales should:

- Achieve health and wellbeing with the public, patients and professionals as equal partners through co-production.
- Care for those with the greatest health needs first, making the most effective use of all skills and resources.
- Do only what is needed, no more, no less and do no harm.
- Reduce inappropriate variation, using evidence-based practices consistently and transparently.

The development of the four principles which underpin Prudent Healthcare was designed to address specific concerns related to current healthcare provision. In terms of co-production, the scientific literature is consistent in claiming that co-production of care facilitates increased health outcomes, enhanced patient satisfaction, better service innovation and cost savings ⁽¹²⁾. Additionally, it is estimated that approximately 20% of all work done by the health service has no effect on outcomes ⁽¹³⁾ while 10% of all healthcare interventions are associated with some

harm⁽¹⁴⁾. Finally, the way that health services are commissioned funnels people into existing pathways regardless of the level of need, resulting in over-treatment or less effective treatment⁽¹⁵⁾. Prudent Healthcare aims to address these challenges by focusing upon managing demand, engaging citizen participation and co-production, increasing efficacy of care and ensuring fewer inappropriate interventions are used⁽¹⁾.

Feedback from clinicians in Wales has suggested that empowering professionals to follow the Prudent Healthcare principles will be central to making it a reality⁽¹¹⁾. However, health professionals routinely receive information aimed at influencing their behaviour but the extent to which recommendations are implemented vary⁽¹⁶⁾. Gaps exist between what is recommended and what health professionals do, and it is acknowledged that attempts to change the behaviour of health professionals may be impeded by a variety of different barriers or factors⁽¹⁷⁾.

Within Wales, while there has been investment in encouraging and supporting primary and secondary care services to formally adopt the principles of Prudent Healthcare, no assessment of clinicians' perspectives on Prudent Healthcare has been undertaken. This aim of the research reported here is to advance our understanding of clinicians' awareness, experiences and views about Prudent Healthcare and to identify barriers and enablers to the implementation of the Prudent Healthcare principles among the clinical community in Wales.

Methods

Semi-structured interviews and focus groups were undertaken with a range of healthcare professionals working in the NHS across Wales. The objective was to collect data from doctors, nurses and allied health professionals employed in primary and secondary care and working in a range of specialities, grades and geographical locations.

Participants

To achieve a varied sample of clinicians, we devised a sampling strategy to recruit participants from different geographical areas and within varying clinical professions across Wales. Clinicians were recruited via contacts within Health Boards, research networks, professional registers, and through professional contacts and recommendations until a diverse sample of clinicians had been achieved from across Wales ⁽¹⁸⁾. Written, informed consent was obtained from each participant immediately before the interview or focus group. Participants were provided with an information sheet outlining the aim and underlying principles of Prudent Healthcare. Interviews and focus groups were audio-recorded with permission. Participants were offered a payment of up to £90 per hour, either in the form of vouchers if they participated in their own time or sent to their department or clinic to reimburse their time.

Data Collection

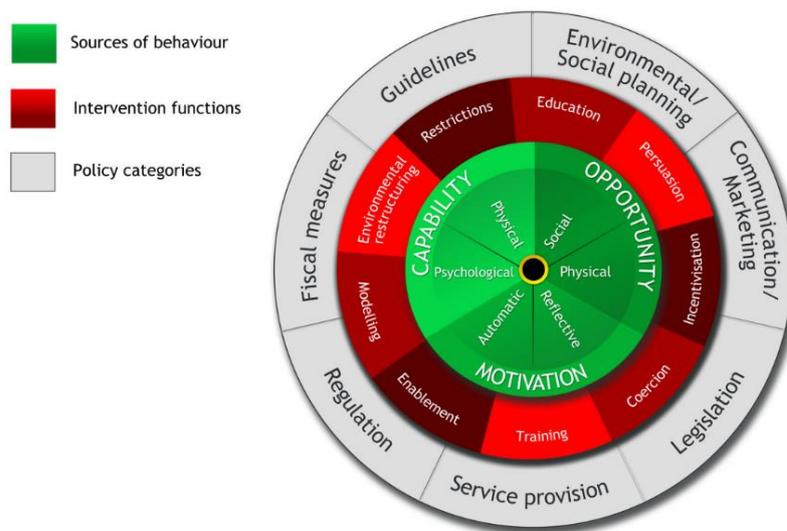
The semi-structured interview schedule focussed on awareness of Prudent Healthcare; perceptions of advantages and disadvantages; the clinicians' role; their perceptions of the public and patients' attitudes and views about how Prudent Healthcare could best be promoted. Within the focus groups, these areas were further developed, and the focus was on: perceptions of the main principles; examples in practice; barriers and enablers to implementation and ideas for the development of an intervention to support and promote Prudent Healthcare within clinical settings. Data collection took place between May 2016 and February 2017 with data analysis undertaken simultaneously. Data collection continued until the research team was satisfied that no new themes emerged. Recordings of interviews and focus groups were transcribed verbatim.

Analysis

Analysis was underpinned by the Behaviour Change Wheel (Figure 1) which is a guide to designing and evaluating behaviour change interventions and policies ⁽¹⁹⁾. The Behaviour

Change Wheel includes three interrelated layers, the first uses the COM-B model to help identify sources of behaviour that may be selected for intervention targets; the second layer provides direction to help identify intervention options and the outer layer identifies policy options that can be employed to help deliver the intervention functions selected ⁽²⁰⁾.

Figure 1: The Behaviour Change Wheel ⁽²¹⁾



The COM-B Model ⁽²¹⁾ proposes that at the core there are three components that are essential to behaviour: Capability, Opportunity, and Motivation. The model hypothesises that interaction between these three components influences the performance of behaviour and hence can provide an explanation for why a recommended behaviour is not enacted ⁽²²⁾. Capability refers to the ability to engage in the thoughts or physical processes necessary for the behaviour and includes both psychological and physical capability. Opportunity refers to factors in the environment or social setting that influence behaviour and includes social and physical opportunity. Finally, Motivation refers to beliefs, emotions and impulses that are not always consciously recognised but often direct behaviour and encompass reflective and automatic motivation ⁽¹⁹⁾.

Data were analysed using a framework approach, which involves a systematic process of sifting, charting and sorting material according to key issues and themes ⁽²³⁾. Underpinned by the COM-B Model, the thematic framework was systematically applied to the data in its textual form and using NVIVO, all data were annotated. Analysis was undertaken by SA and DHH.

Results

Twenty-eight participants were recruited for semi-structured interviews (Table 1). Participants were recruited from Health Boards across Wales and interviews were undertaken within healthcare settings, university premises or participants' homes.

Table 1: Interview Participants (n=28)

GPs (primary care doctors)	Pharmacists	Nurses	Hospital Doctors	Midwives	Allied Health Professionals
6	3	6	5	3	5

Five focus groups were conducted with a further 23 participants in total (Table 2). Participants were recruited from Health Boards across Wales and focus groups were undertaken within healthcare settings, university premises or by conference call.

Table 2: Focus Group Participants (n=23)

GPs (two focus groups)	Primary Care Nurses	Allied Health Professionals	Secondary Care Clinicians
6	5	6	6

Key themes focused on identifying barriers and enablers to the implementation of Prudent Healthcare within primary and secondary care in Wales or, aligning practice in accordance with those principles. Underpinned by the COM-B model, themes fall within the domains of Capability, Opportunity and Motivation (Table 3).

Table 3: Key Themes

Capability	Opportunity	Motivation
<ul style="list-style-type: none"> • Sharing and accessing information and evidence • Outcomes • Costs 	<ul style="list-style-type: none"> • Staffing and Organisation • Availability of Services 	<ul style="list-style-type: none"> • Awareness & Resistance • Patient Expectations

Data excerpts are presented with attribution to staff group and method of data collection.

Capability

The most significant theme within the domain of Capability was knowledge and access to information, found to be both a barrier and enabler of adherence to Prudent Healthcare. Abilities to access and share information and evidence in terms of treatment pathways and drug costs were felt to underpin effective practice, supported by monitoring patient outcomes.

Sharing and Accessing Information and Evidence

A key tenet of the Prudent Healthcare initiative is the use of evidence-based practice and within primary care and it was reported that the opportunity to share information and evidence with colleagues provided the opportunity to inform practice. However, opportunities to share information between GP surgeries were not readily available. Consequently, if one surgery had successfully introduced innovative practice, there were limited opportunities to share this with other clinicians: *“You might hear it second hand or just through colleagues, but I’m not aware of any formal avenues where that’s shared”* (Nurse, Primary Care, Focus Group).

In terms of interventions, evidence was not always available: *“I think physio...nothing we do is very evidenced, and the trials, ethically, are very hard to do” (Allied Health Professional, Secondary Care, Interview)*. However, it was acknowledged that treatment decisions had to be made, despite the lack of available evidence: *“Can you ask me if everything I do in clinic has a good evidence base? No, but then if that was the way medicine worked, we’d do very little” (Doctor, Secondary Care, Interview)*.

Additionally, it was felt that sharing information with patients was essential to facilitate co-production, a key principle of Prudent Healthcare: *“So giving them, for example, access to their records, their blood results, their ability to titrate their therapies according to response with appropriate self-care” (Allied Health Profession, Secondary Care, Interview)*. It was said that patients who were better informed might make more conservative treatment decisions: *“Instead of trying to persuade them not to have the scan it’s actually pointing out the advantages and disadvantages” (Nurse, Primary Care, Interview)*.

Outcomes

Participants reported that a further barrier to evidence-based practice was a lack of monitoring of long-term term outcomes: *“I think one of the problems we have is a lot of time we’ve no idea if what we do does any good because we’re not good at following outcomes...and outcomes are important to patients” (Doctor, Secondary Care, Interview)*. It was suggested that if long-term outcomes were monitored and fed back to departments, this would provide evidence of where interventions were successful: *“We need to provide evidence of where we’re doing well, where we’re not doing so well” (Allied Health Professional, Secondary Care, Interview)*.

Costs

A significant proportion of health care spending is on medication and a number of clinicians reported the success of the introduction of software such as ‘Prudent Prescribing’⁽²⁴⁾ which identifies the most cost-effective options for prescriptions as well as providing evidence regarding effectiveness. Where this system was not in place, clinicians noted that it was difficult to make cost-effective decisions in terms of prescribing: *“I often don’t know when I write a prescription how much the drug I’m writing costs, because no one gives me that information” (Doctor, Secondary Care, Interview).*

Within secondary care, this lack of awareness on the part of clinicians regarding the cost of drugs and procedures was felt to be due to a disconnect between those who managed finances and those at the front line of care: *“I think there is a fundamental problem that there is one group of people that deal with finance, and a group of people that work on the front line and there’s not enough interaction between the two” (Doctor, Secondary Care, Interview).*

Opportunity

Within the domain of Opportunity, barriers and enablers related to staffing levels and role allocation as well as the availability of services within primary and secondary care.

Staffing and Organisation

In terms of the physical environment, staffing levels were found to be a barrier. Participants raised the difficulties of recruiting staff, particularly in primary care: *“I know friends that are having a GP recruitment crisis...there are pockets of Wales that can’t recruit GPs at all” (Doctor, Primary Care, Interview).* It was felt that these staff shortages would have implications for patient care since shorter appointment times and a lack of continuity would limit opportunities for co-production: *“There’s often very little time to discuss other things ...it would build up that patient-doctor relationship over time” (Doctor, Primary Care, Interview).*

Time pressures were also evident in secondary care, including emergency departments where it was felt that staff organisation was inefficient: *“If you go to any A & E there is a waiting list at least 3 hours, it’s not because doctors are not seeing patients, it’s just because every patient you have to spend at least an hour, from seeing the patient, requesting the test, taking the blood tests yourself, sending the blood test to the biochemist, calling the biochemist to inform them, ‘I’m sending this blood test’, chasing the blood test results, all these things should have been done by someone else, it doesn’t require the skill of a doctor”* (Doctor, Secondary Care, Interview)

However, examples were provided of more prudent organisation of staff roles within primary care and the utilisation of other professionals: *“They had a pharmacist employed here several days a week and that I can just see workload wise, that it’s made a massive difference”* (Doctor, Primary Care, Interview). Also, within secondary care, the development of multi-disciplinary teams was felt to provide more effective, patient centred care, allowing patients to have access to a range of health professionals: *“We’re quite fortunate that our multi-disciplinary team is patient centred and it’s on the front line, so patients have direct access to a huge range of professions”* (Allied Health Professional, Secondary Care, Interview).

Availability of Services

Within secondary care, the availability of services was recognised as both a barrier and an enabler for the implementation of Prudent Healthcare. It was highlighted that diagnostic services were not available on the weekend and that this could delay discharge from hospital: *“A simple test...ultra sound scan are not available on Saturday or Sunday...so they’re blocking the bed for over the weekend whilst they’re waiting for a simple test”* (Doctor, Secondary Care, Interview). It was also felt that a lack of availability of social care places within the community

could prevent hospital discharge: *“A lot of elderly patients are waiting in hospital...there’s nowhere to go” (Doctor, Secondary Care, Interview)*

However, there was evidence that in some areas, services had been reorganised prudently, which has resulted in benefits to patients. Third sector organisations were also reported to have had a role in supporting patients: *“I’ve seen people who’ve been coming for years then somebody suggests that they go to a women’s centre or something like that...and you don’t see them again because they’re not on anti-depressants and they’re getting on with their lives, they’re doing courses, getting back into education” (Doctor, Primary Care, Interview).*

Motivation

A key theme to emerge within the domain of Motivation was the clinicians’ level of awareness of the Prudent Healthcare initiative, and the potential barriers to implementation associated with managing patients’ expectations.

Awareness & Resistance

Of the clinicians interviewed, five of 12 primary care clinicians and four of 16 secondary care clinicians were unaware of the Prudent Healthcare initiative. However, generally, once the term was explained, there was a positive response to the concept of Prudent Healthcare and the perception that the aim was to improve patient care: *“To me it means making the best use of resources, but with getting the best outcomes for the patients” (Nurse, Primary Care, Interview).* In addition, the greater focus on prevention was welcomed: *“I think one of the main aims of Prudent Healthcare, which is a good thing, is a greater focus on prevention” (Allied Health Professional, Secondary Care, Interview).*

Many clinicians felt that their practice already aligned with the principles of Prudent Healthcare and as such did not interpret the Prudent Healthcare principles as warranting any particular

changes to their practice: *“I think the principles behind it as you already discussed are good, and I would like to think that many of us are already incorporating these principles to some extent or another in our daily practice”* (Allied Health Professional, Primary Care, Interview).

Clinicians also gave examples of the way that Prudent Healthcare principles have been included within practice *“When I first started as a GP, we’d refer loads more people for knee replacements. Whereas now we have a chat about what’s the best thing for you. So, I think we’ve been doing this anyway, but it’s just got a new name”* (Doctor, Primary Care, Interview).

However, it was also felt that clinicians may be resistant to implementing the Prudent Healthcare principles. Reasons cited included that they may feel that they are too busy to implement initiatives or be reluctant to change established working practices: *“I think the barrier for healthcare professionals is that change is scary...you really need that back up from higher up management to be given the time, the resource and the permission to do something a bit different”* (Allied Health Professional, Secondary Care, Focus Group).

Patient Expectations

While clinicians overall supported the Prudent Healthcare initiative, they identified barriers to implementing the principles in terms of interactions with patients. It was felt that there would be some difficulty in adhering to ‘care for those with the greatest health need first’: *“That really is hard, because everyone thinks their need is the greatest”* (Allied Health Profession, Secondary Care, Interview). Also, they said that managing patient expectations, particularly in regard to requests for referrals to secondary care and for certain medications, such as antibiotics, was sometimes difficult: *“Sometimes we actually refer patients to the hospital, not because we think they need to be seen, but because otherwise they’re not going to be happy”* (Doctor, Primary Care, Interview).

As well as complying with the expectations of patients, fears were expressed about missing a serious illness. Underpinning this behaviour in part, was a fear of litigation: *“I think some people would be worried if they didn’t give the patient what they wanted would lay them open for a letter from a solicitor”* (Doctor, Primary Care, Interview).

Discussion

Summary

This paper assesses clinicians’ views of Prudent Healthcare and identifies and explores barriers and enablers to implementation within the context of healthcare provision. Within the domain of Capability, the opportunity to share evidence-based practice and the availability of information to underpin efficient prescribing were noted as enablers. However, a lack of monitoring of patient outcomes and a lack of evidence to inform practice were noted as barriers, while sharing information with patients was considered an important facilitator of co-production.

Within the domain of Opportunity, staff shortages were acknowledged to impact on patient care and a lack of diagnostic services at weekends in secondary care was noted as a barrier, as was a lack of capacity within the community. However, multi-disciplinary working within secondary care resulted in a patient-centred approach and within primary care, and innovative organisation and role re-allocation were acknowledged to improve service to patients.

Within the Motivation domain, while there was a lack of awareness about Prudent Healthcare, there was general support for the Prudent Healthcare principles. Many clinicians felt that their existing practice aligned with the principles of Prudent Healthcare while some felt that resistance may be due to time pressures, fear of litigation or difficulties in managing patient expectations.

Strengths and Limitations

One of the strengths of the COM-B model is that it facilitates the understanding of behaviour in context and has been applied successfully to analyse behaviours in a number of health settings, including audiology ⁽²⁵⁾, medical adherence ⁽²²⁾ and IT-enabled health coaching for mothers ⁽²⁰⁾. A further strength is that it provides the basis for developing an intervention to support and promote the selected behaviour, since the identification of behavioural barriers and enablers provide a theoretically based approach for intervention development ^(19,20,22).

Within this project, while clinicians recruited to the study worked within Health Boards across Wales, including rural and urban areas and covering varying specialities and grades, there was a lack of representation from junior doctors and some specialist services such as psychiatry. Also, the clinicians who were recruited tended to be from more senior positions and as such, may have alternative experiences and views of Prudent Healthcare.

Comparison with other literature

Prudent Healthcare along with other initiatives such as Choosing Wisely acknowledges the need to address the overuse of medical interventions. The literature notes that doctors order unnecessary interventions for a multitude of reasons, including fear of litigation, to appear to be doing something, to try to demonstrate thoroughness and because of how they were taught ⁽²⁶⁾. There is also evidence that patients and clinicians typically overestimate the benefits of treatments and underestimate their harms ⁽²⁷⁾.

In our research, clinicians noted that it was often difficult to reduce the level of interventions due to patient expectations, reflecting other literature which notes that that 53% of clinicians surveyed said they would order a hypothetical test if a patient insisted, even if they knew it to be unnecessary ⁽²⁸⁾. However, the authors note that this could be mitigated by evidence-based recommendations around unnecessary care that could be discussed with patients ⁽²⁸⁾ and that

evidence to underpin decision making in terms of reducing treatment was important ⁽²⁹⁾. It is also suggested that campaigns such as Choosing Wisely have had some success in reducing unnecessary tests ⁽²⁸⁾.

A key finding was the level of awareness of Prudent Healthcare but also the suggestion by some clinicians that the principles of Prudent Healthcare were already included in daily practice. Alongside this, clinicians suggested that there may be resistance to the implementation of Prudent Healthcare, citing various reasons. These findings resonate with other research which finds that changing attitudes is a key challenge for any change programme and that long held commitments on the part of clinicians is a key barrier to attitudinal change ⁽³⁰⁾. Additionally, changing attitudes and behaviours takes effort at all organisations levels, with visible organisational buy-in and support essential ⁽³⁰⁾.

Implications for Policy and Practice

Initiatives such as Prudent Healthcare require behaviour change on the part of clinicians, however it is recognised that for someone to engage in a particular behaviour they must be physically and psychologically able, have the social and physical opportunity and the desire to undertake that behaviour more than competing behaviours⁽²⁵⁾. Theories of behaviour change allow exploration of the behaviour under scrutiny, and enable us to enhance this understanding, firstly by characterising the gap between recommendations and practice, secondly by allowing understanding of the barriers and enablers that affect key behaviours and thirdly by identifying which of those barriers and enablers need to be addressed⁽²⁰⁾. Using this approach allows in-depth exploration and contributes to understanding of what will make such initiatives successful.

The study highlights the need for a more consistent approach across Wales and a need to bring together the work of Health Boards to ensure that Prudent Healthcare is being promoted to clinicians as a means to achieve value and reduce waste in NHS Wales. Implementing multi-disciplinary cross-departmental approaches can ensure more effective and patient-centred use of resources. There is a need for clinicians and Health Boards to be able to share best practice including how to implement Prudent Healthcare through practical examples. Clinicians need to be supported and empowered in making decisions adhering to Prudent Healthcare and there is a need for NHS Wales to collect and monitor feedback from patients, including information on patients' experiences of services and treatments in order to highlight areas for improvement and develop consistency of service delivery across Wales.

Prudent Healthcare is one of a number of initiatives that have emerged globally that aim to address the challenges of providing healthcare to a growing population with increasingly

complex healthcare needs. As such, we anticipate our findings will have wider global relevance to other healthcare systems that are facing similar challenges.

Further Research

Further research could explore practical ways of how interventions that encourage adherence to the principles of Prudent Healthcare by clinicians could be implemented successfully and evaluated.

Conclusion

While it was evident that there was a positive response and widespread support for the principles of Prudent Healthcare by clinicians, a lack of awareness of the initiative suggests the need for a greater understanding of its benefits. More consistency could be facilitated by systems that allow the monitoring of outcomes and highlight areas for improvement.

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Ethical Approval

The study received NHS ethical approval on 2nd December 2015 from Yorkshire and the Humber – Leeds East Research Ethics Committee (ref 15/YH/0545)

Declaration of Conflicting Interests

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