Health professionals’ views of the first national GP payment scheme for structured type 2 diabetes care in Ireland: a qualitative study [version 1; peer review: awaiting peer review]

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Abstract

Background: Payment schemes are widely used to improve chronic disease management in general practice. Although stakeholder views of such schemes could provide valuable learning regarding aspects that work and those which are more difficult to implement, there is a paucity of such data. We explored health professionals’ views of the implementation of the first national general practice payment scheme for type 2 diabetes (T2DM) care in Ireland, the ‘cycle of care’.

Methods: Qualitative data were drawn from a multiple case study evaluating the implementation of a National Clinical Programme for Diabetes, collected from April 2016 to June 2017. Interview and focus group transcripts from participants involved in providing diabetes management in general practice and who referenced the cycle of care were eligible for inclusion in the current analysis. Data were analysed using reflective thematic analysis.

Results: We analysed data from 28 participants comprising general practitioners (GPs) (n=8), practice nurses (n=9) and diabetes nurse specialists (DNS) (n=11). Participants perceived the cycle of care as “not adequate, but...a good start” to improve T2DM care in general practice in Ireland. Perceived benefits were greater financial viability for T2DM management in general practice, fostering a more proactive approach to T2DM care, delivery of T2DM care closer to patients’ homes, and increased use of other community diabetes services e.g., DNS and podiatry. Participants identified the limited resource for practice nurse time, inflexibility to provide care based on patient need and issues with data submission as drawbacks of the cycle of care.

Conclusions: The cycle of care was viewed as a positive first step to increase and improve T2DM care delivered in general practice in Ireland.
Ireland. The implementation issues identified in this study should be considered in the design of future payment schemes targeting chronic disease management in general practice.

**Keywords**
Pay-for-performance; Diabetes Mellitus, Type 2; primary health care; Implementation
Introduction
The number of people with type 2 diabetes (T2DM) is growing worldwide. In Ireland, the prevalence of doctor diagnosed diabetes among adults increased from 2.2% to 5.2% between 1998 and 2015. Diabetes and its associated comorbidities and complications place a significant financial burden on health systems. In response, most developed countries have reoriented care from episodic management in the acute setting to regular structured management in primary care, ultimately placing greater responsibility for T2DM management on general practice.

Payment schemes targeting general practice have been widely used to promote regular structured chronic disease management, including T2DM management. These payment schemes have included adaptations of traditional healthcare payment schemes; salary, capitation and fee-for-service. Others, such as pay-for-coordination, pay-for-performance and bundled payment, are specifically designed to stimulate quality improvement and integrated care for chronic disease management.

Most schemes are designed according to a pay-for-performance structure that typically bases payment on the achievement of verifiable agreed targets. Studies examining the effectiveness of pay-for-performance schemes in improving the quality of T2DM care in general practice have consistently reported improvements in the recording of recommended care processes and/or certain outcomes (namely cholesterol and blood pressure). Their impact on HbA1c levels, diabetes-related hospitalisations and mortality is mixed and may depend on whether or not incentivisation is linked to outcome achievement. In the UK observed improvements in T2DM processes and outcomes attributed to pay-for-performance schemes were not sustained over time and adversely affected other aspects of T2DM care.

Understanding experiences of implementation may help explain issues relating to the sustainability and unintended consequences of pay-for-performance schemes and in turn help inform the design of future general practice targeted chronic disease management payment schemes. For instance, Saunders and colleagues explored general practitioners’ (GP) experiences of implementing a T2DM pay-for-performance scheme in general practice in Australia. GP perceived barriers to delivering the scheme included the lack of practice nurses to administer care processes, limited access to community diabetes support services and working in paper-based GP practices. Enabling factors included access to training to support implementation, access to practice nurses, having a practice champion driving implementation, establishing a systematic approach to delivering T2DM care, and working in a computerised GP practice. Other authors also identified some of these factors (i.e., access to relevant technical and educational support), as well as other important aspects to consider when designing T2DM pay-for-payment schemes: the burden of data collection, development of accurate quality measures and unintended consequences.

In 2015, the first national payment scheme for T2DM care in general practice, the diabetes cycle of care (cycle of care), was introduced in Ireland. Prior to this, most GP practices in Ireland provided opportunistic T2DM care, though structured or shared diabetes care was available in some regions through diabetes schemes. The cycle of care required GP practices to establish a register and recall system of eligible patients and provide specific processes of care during two structured review visits per year, occurring at least four months apart. Eligible patients were those with T2DM who qualified for free GP care in Ireland i.e., those aged 70 years and older and those under 70 years old with limited financial means. Approximately 70% of people with T2DM aged ≥50 years were eligible. Around the same time the cycle of care was introduced in Ireland, the diabetes nurses specialist (DNS) service was expanded as part of broader reforms in T2DM management under the National Clinical Programme for Diabetes (NCPD), resulting in increased access to the service for GP practices. Since 2020, the cycle of care is being phased out and replaced by the Chronic Disease Management Programme. It is intended that, by 2023, the Chronic Disease Management Programme will be implemented in its entirety i.e., available to all adults with a diagnosis of a chronic disease included in the scheme and who qualify for free GP care, and everyone receiving the cycle of care will be transitioned to it. Similarities and differences between the cycle of care and the Chronic Disease Management Programme are outlined in extended data file .

The aim of the current study was to explore health professionals’ experiences of implementing the cycle of care in general practice.

Methods
Setting
This study was carried out as part of an evaluation of the NCPD. The NCPD was established in Ireland in 2010 to standardise and improve care for people with diabetes. By resourcing the management of people with uncomplicated T2DM in general practice, the cycle of care facilitated part of the model of integrated care for diabetes introduced by the NCPD.

Due to the absence of a GP register in Ireland, the exact proportion of GP practices enrolled in the cycle of care is not known.

Participants and sampling
Data were drawn from a multiple case study designed to evaluate the implementation of the NCPD. Cases were administrative regions within the Irish health service, and health professionals in hospital and primary care settings from each case were interviewed. For the current analysis, transcripts from health professionals specifically involved in primary care diabetes management (GPs, practice nurses and community diabetes nurse specialists (DNS)) and who referenced the cycle of care were included. As evaluating the role of the DNS was a specific objective of the NCPD evaluation, DNS were overrepresented in the study compared to GPs and practice nurses.
Data collection
Interviews and focus groups were conducted by two health services researchers (FR and KON) with no experience of working within the health service. Data were collected from April 2016 to June 2017, approximately 6 months after the introduction of the cycle of care. Topic guides included questions about the impact of the cycle of care on participants’ role, on their patients and on T2DM care in general, and perceived strengths and limitations associated with it (extended data files 2 and 3)\(^1\). The topic guides were piloted with one GP, one practice nurse and two DNS. Questions relating to the cycle of care did not change after piloting.

Data analysis
Qualitative software NVivo (version 11) was used for data management. NMG used the search function in NVivo to identify all references to the cycle of care from eligible participant transcripts and collated these data in NVivo for analysis (n=28 participants). We adopted an inductive approach to analysis, following the iterative phases of reflexive thematic analysis. This approach facilitated description of participants’ experiences of implementing the cycle of care, without imposing any pre-existing, theoretically informed codes\(^6,7\). During familiarisation, the data were read carefully to identify and code meaningful units of text relevant to the research question (NMG). The codes and data excerpts were collated and reviewed to develop themes (NMG). Themes were then refined through discussion (NMG, FR and SMH) and with reference to the data. Anonymised participant quotations presented in the analysis to illustrate qualitative findings maintain the language of participants to preserve meaning and context.

The Standards for Reporting Qualitative Research (SRQR) statement informed reporting of the manuscript\(^8,9\).

Ethical considerations
Ethical approval was obtained from the Clinical Research Ethics Committee for the Cork Teaching Hospitals (CREC) for the original study, including reuse of the original study data for the current study.

Results
In total, 20 interview transcripts of GPs (n=8), practice nurses (n=9) and community DNS (n=3) and two focus group transcripts (each with 4 community DNS) were included in the analysis. GP practice enrolment in diabetes schemes and access to a community DNS service varied among GP and practice nurse participants prior to the introduction of the cycle of care (Table 1).

The overarching theme reflecting health professionals’ view of the cycle of care was encapsulated by the phrase “not adequate, but...a good start” (GP #2). We developed eight subthemes relating to the perceived positive and negative aspects and unintended consequences of the cycle of care (Figure 1).

Improved financial viability for T2DM care in GP practices
Most participants perceived the cycle of care payment positively in terms of its impact on T2DM care. Participants believed it encouraged GP practices to start providing structured T2DM management for the first time because it was more financially viable to do so in general practice. For instance, one DNS explained that prior to the cycle of care, “financially it didn’t make sense for [GP practices] to be looking after chronic disease such as diabetes” (DNS #9), unless GP practices were part of structured diabetes schemes with dedicated resourcing. For GP practices providing T2DM care without specific resources from structured diabetes schemes, the cycle of care was an overdue "fundamental support" (GP #1) as costs to provide T2DM care (e.g., hiring extra nurses), were previously paid for by the GP practice. With the removal or reduction of a financial barrier, participants believed that T2DM management was financially viable for more GP practices.

Moving from reactive to proactive T2DM care
For GP practices providing opportunistic care, the register and recall system and structured review visits required within the cycle of care facilitated a more organised approach to T2DM management.

Table 1. Diabetes care and resources available to GP and practice nurse participants prior to the introduction of the cycle of care.

<table>
<thead>
<tr>
<th></th>
<th>GP N (%)</th>
<th>Practice nurse N (%)</th>
<th>Total N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled in a diabetes scheme</td>
<td>2 (25.0)</td>
<td>3 (33.0)</td>
<td>5 (29.4)</td>
</tr>
<tr>
<td>Receiving a financial resource as part of scheme</td>
<td>1 (12.5)</td>
<td>1 (11.1)</td>
<td>2 (11.7)</td>
</tr>
<tr>
<td>Community DNS access as part of scheme</td>
<td>2 (25.0)</td>
<td>3 (33.3)</td>
<td>5 (29.4)</td>
</tr>
<tr>
<td>Not enrolled in a diabetes scheme</td>
<td>6 (75.0)</td>
<td>6 (66.6)</td>
<td>12 (70.5)</td>
</tr>
<tr>
<td>Community DNS access</td>
<td>3 (37.5)</td>
<td>6 (66.6)</td>
<td>9 (52.9)</td>
</tr>
</tbody>
</table>

GP = General practitioner
DNS = Diabetes nurse specialist
The register and recall system encouraged GP practices to schedule and remind patients to attend diabetes appointments. Participants believed the register and recall system increased the number of patients attending appointments and reduced the likelihood that patients would “fall through the cracks” (GP #3). In this way, GP practices could identify and track patients with different levels of need;

“they’ll [GPs and practice nurses] start to see who the patients are, and what’s going on with them... who can we maintain here and who can we refer on” (DNS #11)

“it [foot screening and monofilament testing] is probably something that started because of the diabetes cycle of care, yes. It would be picked up ad-hoc in general practice by us GPs if patients came in complaining of symptoms suggestive of neuropathy, and then we’d go, ‘Oh yeah, okay.' So it wasn't being done as a screening” (GP #5)
Taken together, the register and recall system and structured visit form were thought to lead to improved patient outcomes.

Increased demand for other diabetes services
Participants perceived increased demand for the DNS service, for retinal screening and for podiatry services as a result of the cycle of care.

Practice nurses working in GP practices providing structured T2DM care for the first time, through the cycle of care, reported drawing on the DNS service to support them to establish the registration and recall processes within the GP practice and to review patients that were more complex. DNS viewed the increased service demand as a positive consequence of the cycle of care, as it enabled them to fulfil their role supporting practice nurses in T2DM management. However, some DNS expressed concern about the potential inappropriate use of their service. Specifically, some DNS did not want to complete routine cycle of care review visits alongside practice nurses as they felt review of people with uncomplicated T2DM was not the best use of their specialist input.

Care closer to home; a positive change for (most) patients
Another perceived benefit of the cycle of care was the proximity of care for eligible patients. Participants felt most patients would prefer to receive T2DM care at their GP practice, given this would be more convenient than attending the hospital, especially for older persons or those living in rural areas. Participants felt that the greater focus on T2DM by GP practices encouraged patients to better prioritise, and engage with, their T2DM care;

“I think they [patients] are coming around to the idea that they need to be seen and the need to look after themselves and the fact that we put time into them, to look after them and that we’ve an interest in them” (Practice nurse #7)

However, some DNS participants encountered patients who were sceptical about switching to GP care. For instance, one DNS suggested that certain patients may perceive the two visits in general practice as a “hassle” (DNS #1), particularly if they have been accustomed to fewer diabetes review visits in the past.

Structured review visits; demanding to deliver without more resources
All participants highlighted the significant workload for GP practices associated with maintaining the register and completing review visits. Completing the cycle of care review visit protocol as intended was “time-consuming” (Practice nurses #2, #7, GP #5, DNS #10) with protected practice nurse time, and even more challenging without this. For instance, in two GP practices with 150 and 200 patients registered for the cycle of care, respectively, the workload was described as almost being a full-time job for one practice nurse.

Practice nurses used workarounds to manage the additional workload, for example, adding more hours to the time allocated for diabetic clinics, and splitting up the protocol, completing it during an extra visit. Two GP practices had hired an additional practice nurse to assist with chronic disease management, particularly the cycle of care.

Ultimately participants felt “it’s [cycle of care] not adequately funded for the GP…all resources cost” (GP #4).

Two visits; too rigid to adequately meet patients’ needs
Some participants, particularly those already providing structured T2DM care, expressed concern about the rigidity of the two review visits specified and remunerated as part of the cycle of care. Because these visits had to occur six months apart, they did not provide enough contact to meet the needs of certain patients e.g., those starting on insulin, requiring medication changes or with poorly controlled T2DM. As a result, GP practices provided more diabetes interactions than set out in the cycle of care, for which they were not remunerated. Participants working in GP practices who had previously provided T2DM care according to need i.e., seeing some people more than twice annually and others just once, expressed frustration having to review well-controlled patients who they would otherwise have not prioritised.

One way participants suggested addressing the rigidity of the cycle of care was to strike a balance between remuneration for processes and outcomes of care. For instance, one GP suggested “some kind of a step-up contract” (GP #2) to resource the GP to provide more than two structured diabetes review visits where appropriate e.g., for poorly controlled diabetes and for insulin initiation. A DNS expressed concern about the financing model, stating,

“I think we need to know exactly what level of control, yes, how are people being managed, so I think we need some quality outcomes really rather than just knowing that the patients were seen” (DNS #9)

Eligibility criteria; creating inequity in access to care
Participants who discussed the eligibility criteria considered it to be a fundamental limitation of the cycle of care, asserting that all T2DM patients, regardless of age or financial means, should be eligible. Participants expressed concern that those who are ineligible for the cycle of care could be at higher risk for missing care and subsequently developing complications. Due to time constraints and the remuneration associated with the cycle of care, GP practices prioritised cycle of care visits, particularly in practices without protected nurse time. For instance, one practice nurse noted “Our private [non-eligible patient] care would be worse because, just from time constraints, I haven’t had the time to...make sure that they’ve all had visits” (Practice nurse #3). It was felt that such patients may prefer to keep receiving their diabetes care in hospital settings where they do not have to pay.

Absence of IT systems to return data to receive remuneration
Many participants mentioned returning the associated data as a challenge to implementing the cycle of care. Data return was a criterion for GP practice reimbursement but at the time of data collection there was no system in place to facilitate the return of the cycle of care data. This meant that one
year into the rollout of the scheme GP practices were experiencing delays returning data and some had not received reimbursement for cycle of care visits. Participants who discussed this issue attributed the delays to the General Data Protection Regulation and concerns about patient consent. GP and practice nurse participants were concerned about the significant time burden associated with entering data once the data return issues were resolved and one DNS estimated half of the GP practices she attended had not started calling people for review visits due to the perceived data return issues. The time burden of data return was particularly troubling for one nurse working in a non-computerised practice.

Discussion
Using data collected to evaluate the implementation of a NCPD, we explored health professionals’ experiences of implementing the first national general practice targeted payment scheme for T2DM care in Ireland, the cycle of care. Overall, health professionals considered the cycle of care “a good start” to increase and improve structured T2DM care in general practice but “not adequate” to meet the needs of all people with T2DM receiving care in general practice. The findings from our study reflect important implementation outcomes associated with the scheme. These related to the acceptability (satisfaction with aspects of the cycle of care), appropriateness (perceived fit of the scheme to remunerate GP practices for provision standardised structured T2DM care in general practice), and feasibility of the scheme (the extent to which the cycle of care can be successfully used in general practice)²⁹. Participants were satisfied with the register and recall system aspect of the cycle of care and considered providing T2DM care in patients’ localities, as facilitated by the cycle of care, as an appropriate way to reduce travel and the associated burden for people with T2DM. Although not a component of the cycle of care, access to the DNS service appeared to have a positive impact on the successful implementation of the scheme, particularly at its outset. There were mixed views about the acceptability of the amount of financial reimbursement attached to the scheme. Aspects of the cycle of care which limited its acceptability, appropriateness and feasibility were the practice nurse workload associated with it, the inflexibility of the scheme to provide visits on a basis of patient need, the eligibility criteria, and the delays with data return.

Implications
The findings have three important implications relevant for the implementation of GP payment schemes for chronic disease management in Ireland and other health systems. First, some implementation issues identified in this study, such as practice nurse workload and inflexibility to provide care on the basis of need, may be addressed through incorporating protected practice nurse time into future schemes. While the new Chronic Disease Management Programme resources practice nurse time³⁰, the level of resourcing should be sufficient to ensure that non-incentivised care is not diminished³⁰.

Secondly, our findings point to the potential implications of the cycle of care eligibility criteria. In the current study, health professionals were concerned that those not eligible for the cycle of care could continue to receive T2DM care in secondary care settings to avoid paying for care in general practice, or would continue to receive opportunistic care in general practice. These perceived consequences, alongside evidence of adverse effects of GP payment schemes on non-incentivised activities³¹,³²,³³, underscore the need to assess the impact of the new Chronic Disease Management Programme among those eligible and ineligible for it³⁴.

A final implication relates to staff training needs and demand for specialist services. Training in elements of pay-for-performance schemes, particularly on IT systems and payment mechanisms, have previously been identified as an important modifiable factor in the roll out of payment schemes³⁵. Although not formally part of the cycle of care, the DNS played a key role in supporting its implementation by providing education and support for practices to establish structured T2DM care visits. In addition, the cycle of care created more demand for the DNS and other community diabetes services through identifying more patients in need of the services. As such, the nature and level of support required to implement the Chronic Disease Management Programme within GP practices in Ireland, and the potential knock-on effect on ancillary services, need to be considered.

Strengths and limitations
This study provides a detailed account of the cycle of care, the first national GP practice payment scheme for T2DM care in Ireland. A strength of the study was the sampling strategy, which included participants across different diabetes care organisational contexts prior to cycle of care adoption³⁶. This facilitated an understanding of which aspects of the scheme work, in what context, and for whom.

However, we did not capture the views of all relevant stakeholders, such as people with T2DM or staff working in GP practices who had not adopted the scheme. Exploring the experiences of people with T2DM could provide additional insight into how the cycle of care does or does not work from their perspective. Although one GP in our sample was unaware of the cycle of care and therefore had not signed up to it, participants were not purposively sampled on this criterion. A study specifically designed to explore the implementation of the cycle of care, rather than diabetes reform in general, would have sampled participants according to more specific criteria and principles and thus have facilitated more in-depth exploration of the topic³⁶. Future research should seek to understand factors influencing non- adoption of incentive schemes.

Conclusion
The cycle of care was viewed as a positive first step to increase and improve T2DM care delivered in general practice settings in Ireland. Some aspects identified in this study should be
considered in the design of future payment schemes targeting T2DM or chronic disease care in general practice to improve implementation. Specifically, future schemes should support the required level of staff input. Staff and health systems should be prepared for implementation through training and access to support services and suitable IT systems. Finally, data generated through such schemes should be monitored for unintended consequences, particularly relating to non-incentivised activities.

Data availability
Underlying data
Interview and focus group transcripts used in this analysis are unavailable in a data repository as participant consent was only obtained for data analysis by members of the research team. The data can be accessed upon reasonable request from Professor Patricia M Kearney (patricia.earney@ucc.ie).

Extended data

This project contains the following extended data:
- 13460-V1-5-Extended_data_file_1.docx (overview of the cycle of care and chronic disease management programme)
- 13460-V1-5-Extended_data_file_2.docx (Topic guide for GP and practice nurse interviews)
- 13460-V1-5-Extended_data_file_3.docx (Topic guide for diabetes nurse specialist interviews)
- 13460-V1-5-Extended_data_file_4.docx (Completed SRQR checklist)

Reporting guidelines

Data are available under the terms of the Creative Commons Zero “No rights reserved” data waiver (CC0 1.0 Public domain dedication).

References