

# Overview of Activity Data from Clinical Nurse Specialist (CNSp) Diabetes Integrated Care Group

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**ESPRIT**  
Evidence to Support Prevention  
Implementation & Translation



**DIABETES**

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## Abbreviations

CHO	Community Healthcare Organisation
CNS	Clinical Nurse Specialist
ESPRIT	Evidence to Support Prevention Implementation and Translation
HSE	Health Service Executive
ICGP	Irish College of General Practitioners
IDNMSA	Irish Diabetes Nurse and Midwife Specialist Association
KPI	Key Performance Indicator
MOC	National Model of Integrated Care
NCPD	National Clinical Programme for Diabetes
PCNN	Primary Care Diabetes Nurse Network
Q	Quarter
T1DM	Type 1 Diabetes Mellitus
T2DM	Type 2 Diabetes Mellitus
WTE	Whole Time Equivalent

## Executive Summary

### The aims of this report are:

1. To describe the activity of CNSp in terms of GP practice visits, patient episodes of care, patient and professional education sessions delivered, integration of care, and service capacity.
2. To identify the challenges associated with CNSp activity data collection and reporting.
3. To identify optimal indicators to capture the activity as part of the CNSp role
4. To provide a benchmark against which future CNSp activity can be compared.

### Summary of 2017 Activity Data

- Data collected quarterly between January – December 2017

### Key Findings

- **100%** response rate from available CNSp's in each quarter
- **2408 GP practice visits** were carried out during the 12-month period. A median of 23 practice visits made per WTE per quarter.
- **11,619 patient episodes** were reported during the 12-month period
- **7737 complicated and 3402 uncomplicated** type 2 diabetes patient episodes were reported for the year
- At the end of 2017 **58%** of CNSp reported being **at capacity** (i.e. they could not visit new GP practices)
- **425 Type 1 diabetes (T1DM)** patient episodes
- **12%** was the median percentage of **DNA** appointments per WTE during the 12-month period
- **240 healthcare professional education** group sessions delivered
- **226 structured patient education** group sessions delivered
- **1584 patient care episodes** were discussed with a member of the MDT within secondary care

## **Recommendations**

### **1. An electronic collection tool**

Presently, activity data is collected manually by CNSp. The collation and analysis of data also currently requires resources to support the preparation of reports, and feedback to CNSp and HSE on an annual basis. There is a need for appropriate ICT infrastructure to capture data electronically. This will also enable the collection of KPI outcome measures to ascertain the impact of the CNSp role. An electronic collection tool is central to the sustainability and future development of this process.

### **2. Continue to develop and refine indicators**

Continual review of process and activity indicators is important to ensure they are relevant, reflect the work of CNSp and the data collection process has minimal impact on CNSp activity.

### **3. Appointment of Professional Development Nurse - Integrated Care Chronic Disease**

There is a requirement for introduction of a professional development role to act in a leadership capacity. To drive best practise in integrated care, support the professional development and help standardise all aspects of integrated nursing care.

## Introduction

Diabetes care in Ireland has historically been delivered in an unstructured and sometimes opportunistic manner with a lack of integration between primary and secondary care.<sup>(1-5)</sup> In some areas care is primarily hospital-led; in others, care is delivered in general practice but on an ad-hoc or opportunistic basis. With the increasing prevalence of diabetes mellitus<sup>(6, 7)</sup> there needs to be a greater focus on community-based management. The National Clinical Programme for Diabetes (NCPD) was established by the Health Service Executive (HSE) in 2010 to standardise and improve diabetes care delivery through reorganisation of existing services and introduction of new services and supports for people with diabetes. This resulted in a national model of integrated diabetes care (MOC) which outlines where patients should be cared for according to the complexity of their condition. Patients with uncomplicated Type 2 (T2DM) are managed in primary care, patients with complicated T2DM are managed between primary and secondary care, and patients with Type 1 Diabetes (T1DM) are managed in secondary care<sup>(8)</sup> This model of care is still in the early stages of implementation, and, as yet, is not fully embedded in the health system.

A new role, Integrated Care Diabetes Clinical Nurse Specialist (CNSp), has been created to support the delivery of the new model. New CNSp work in accordance with MOC, which aligns with the recently published document, A practical guide to integrated type 2 diabetes care.<sup>(9)</sup> As well as In addition to having core CNS responsibilities, the CNSp provide specialist support to primary and secondary care, review patients referred to them by the GP or Practice Nurse and provide training and support to Practice Nurses and GPs in the set up and delivery of integrated diabetes care<sup>(10)</sup> CNSp also deliver structured patient education, educational programmes in conjunction with local nursing education units, and multidisciplinary master classes/Diabetes Conferences . They carry out research and audit and, use audit data to influence integrated care delivery at practice level. The new CNSp role is innovative in that CNSp spend approximately 80% of their working time in primary care and 20% in secondary care. This split was created to enable CNSp to support the integration of patient care between primary and secondary care settings. CNSp facilitate fast track of patients from the community into the hospital, engage in case discussion with the multidisciplinary team (MDT) in secondary care, support the delivery of outpatient clinics, and, where feasible, identify patients suitable for integrated management.<sup>(11)</sup>

Provision of structured CNSp support to facilitate primary care management of diabetes is a model of care in existence for a number of years as part of the HSE Midland Diabetes Structured Care

Programme. This programme was established in 1997/1998 and underpins the model of care developed by the NCPD. The programme has served as an example of how improvements in the quality of care can be achieved and sustained through primary care-led management with structured multidisciplinary support.<sup>(12)</sup> As part of the programme Community CNSp Diabetes support management of patients with complicated diabetes; attendance to this service has also increased over time.<sup>(12)</sup> Other diabetes primary care initiatives have also developed nationally in response to deficiencies in access to specialist resources<sup>(5, 13, 14)</sup> and to improve the quality and organisation of care at a local level. They include models of shared care with local clinical guidelines and support from a Community Diabetes CNSp to facilitate communication between these practices and the hospital.<sup>(15)</sup>

There are currently 34 (WTE 32.46) CNSp posts allocated by the HSE across nine Community Healthcare Organisations (CHO) in Ireland; 30 (WTE 28.46) posts are currently filled. Variation in how diabetes care is delivered across the country, together with the existence of these primary care initiatives meant that new CNSp were introduced into a range of contexts; some into areas with a tradition of hospital-led diabetes care where GP care was more variable; others linked to existing primary care initiatives. At the time when new CNSp were introduced, it was envisioned that a chronic disease contract, remunerating GPs for delivery of diabetes care, would be in place. However, in 2013 the Irish College of General Practitioners (ICGP) disengaged with the Clinical Care Programmes<sup>(16)</sup>, and the new MOC was not officially released.<sup>(17)</sup> The Diabetes Cycle of Care initiative has since been introduced, an initiative which remunerates GPs for care of patients with T2DM (two structured visits of per year) who hold a general medical services (GMS) card.<sup>(18)</sup> Some CNSp have experienced initial challenges in establishing their service including difficulty engaging with GPs.<sup>(10)</sup> However, they have been innovative in setting up and driving the delivery of their service; approaching GPs, building relationships, and clarifying their role with managers and other health care professionals.<sup>(19)</sup>

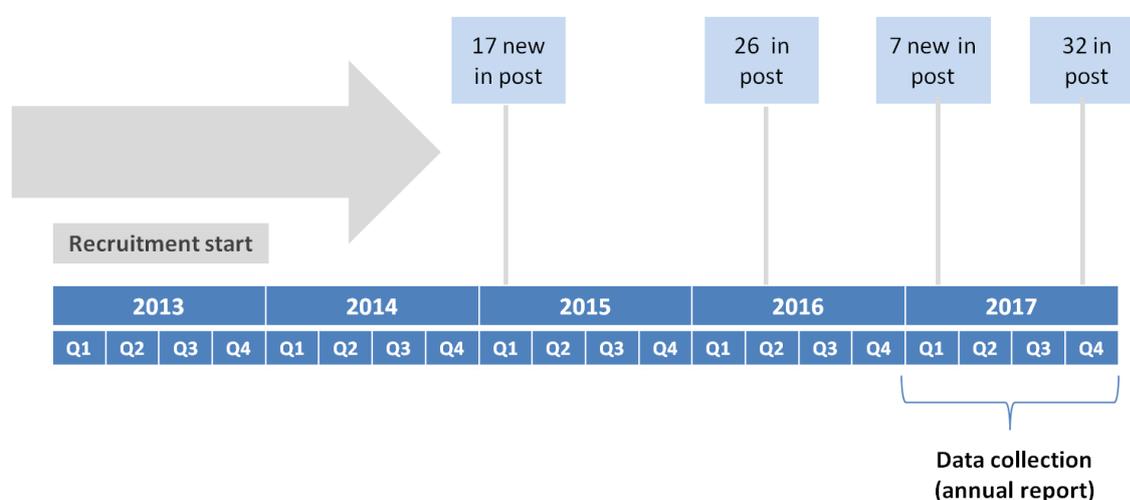
As part of ongoing efforts to monitor and improve the delivery of integrated care within the NCPD, CNSp collect activity data on a quarterly basis each year (i.e. at 3 monthly intervals). This data captures activity during the 80% WTE spent in the community. This data is returned to the NCPD Programme Manager at each data collection period and is presented for the first time in the current report. The data presented form part of an ongoing audit and feedback cycle with CNSp in Ireland to develop and improve the process of CNSp activity data collection and to inform future service delivery. Through their part in ongoing analysis of the data, feedback, and engagement with CNSp

and the NCPD Programme Manager, members of ESPRIT (Evidence to Support Prevention Implementation and Translation) research group have been involved in the process of developing and improving CNSp activity indicators

## Methods

### Data Collection

Data from CNSp in post who were available to return data in 2017 were analysed<sup>1</sup>. Data were collected over four quarters, representing the 12-month period from January to December 2017 (Fig. 1). Data submitted by CNSp to the Programme Manager at the end of each quarter were entered into Microsoft Excel following a template agreed by ESPRIT and the NCPD.



**Figure 1:** Timeline of CNSp recruitment by quarter 2017

### Activity Indicator Development

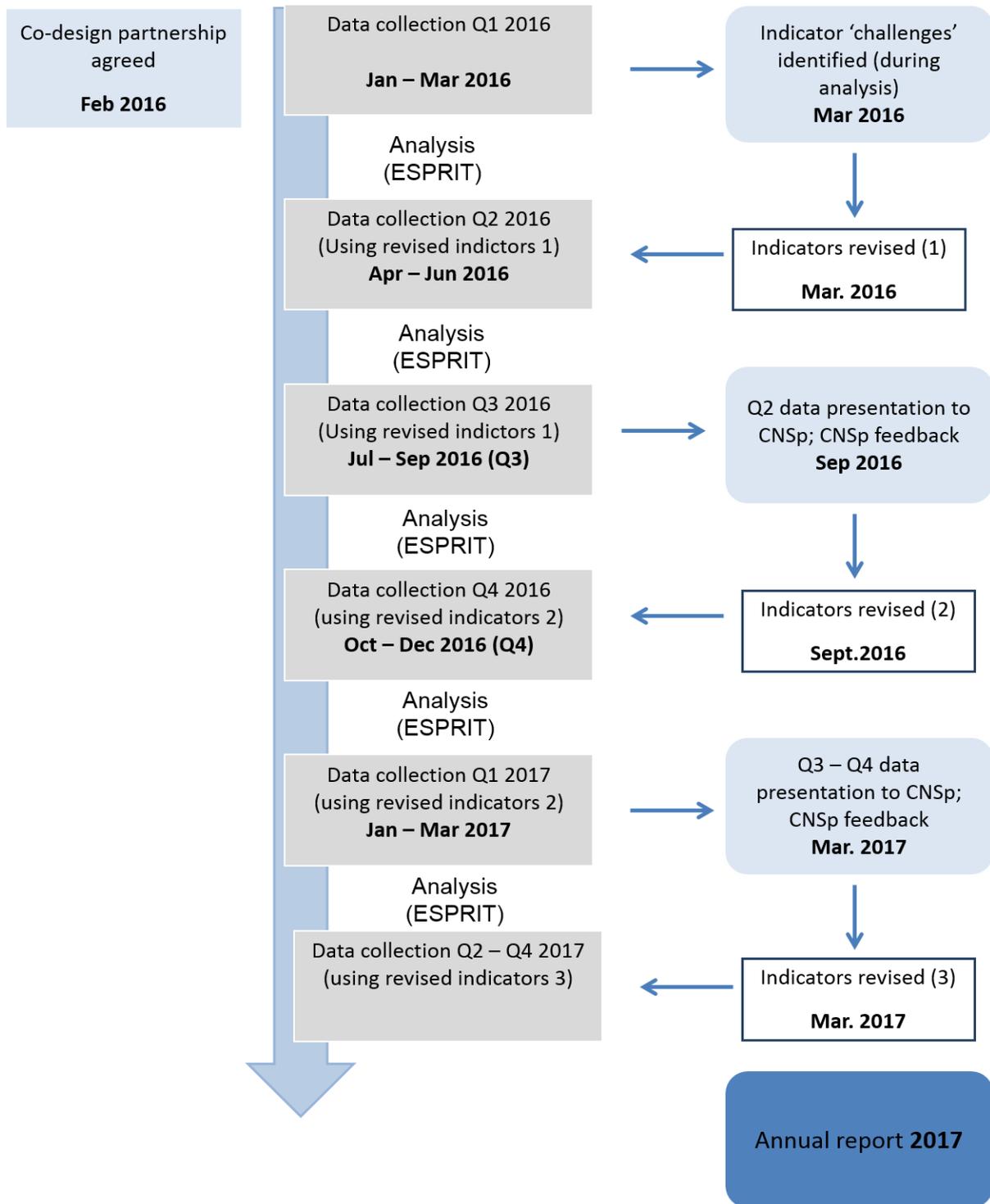
The activity indicators in this report have been developed to routinely record service-level processes of care. These indicators broadly align with those outlined in the SCAPE ('Specialist Clinical and Advanced Practitioner Evaluation') study.<sup>(6)</sup> The activity indicators were developed using an audit and feedback process (Fig. 2), informed by co-design principles of equal partnership between organisational stakeholders, service providers and researchers.<sup>(7)</sup>

The development and collection of activity indicators was a 'ground up' process initiated in 2016 and driven by CNSp who are part of the Primary Care Diabetes Nurse Network (PCDNN). ESPRIT began working with the NCPD and the PCDNN to improve the process of collecting data on the work of the

CNSp. Findings of a Cochrane review of 140 randomised trials of audit and feedback to improve professional practice indicate that audit and feedback can lead to small but important improvements in professional practice. It was most effective when baseline performance was low, when feedback was (a) delivered more than once, (b) written and verbal, and (c) included explicit targets and an action plan <sup>(20)</sup>. As the CNSp is a new service it was hoped that an audit and feedback process would lend itself to the refinement of more concise and useful CNSp activity indicators.

In March 2016 ESPRIT advised on the nature of activity indicators being collected and ways to improve how they were collected. In April 2016, data collection using the activity indicators presented in this report began. To date, as part of the audit and feedback process, there have been two feedback sessions (September 2016 and March 2017) whereby ESPRIT presented collated activity data to representatives of the NCPD and CNSp. Feedback sessions were facilitated by the PCDNN as part of national meetings where CNSp and the NCPD discussed activity indicators presented and the data collection process.

CNSp collected data on GP practice, patient, education and integrated care activities (see Table 1). Specifically, the number of GP practices attended (whether new or existing), GP practice visits, patient contacts (whether new [1<sup>st</sup> time], return [second or subsequent visit], complicated type 2, uncomplicated type 2 or type 1), missed appointments, patient and professional education sessions conducted, patient cases discussed with the multidisciplinary team (MDT) and if the CNSp service was at capacity (i.e. whether or not they were not in a position to visit new GP practices). The number of patient cases discussed with a member of the multidisciplinary team was recorded as an indicator of service integration.



**Figure 2:** Timeline of the audit and feedback process

**Table 1:** Names and definitions of CNSp activity indicators used during data collection

Name	Definition
Practices attended	<p>(A) Total number of GP practices attended by one WTE per quarter, excluding first time visits</p> <p>(B) Total number of new GP practices engaged with one WTE per quarter. This refers to GP practices attended 'once-off' to either run a clinic or set up procedures</p>
Practice visits	Total number of visits made by the CNSp to any one GP practice (either new or existing practices) in each quarter. This number comprises all visits including return visits to run clinics and visits for initial step-up etc.
Service capacity	A service was considered to have had reached capacity if the CNSp could not engage with any new practices in the next quarter
Patient Episodes	<p>(A) Number of return patient episodes: Total number of patient episodes this quarter where the patient is review or returning (i.e. not a new patient)</p> <p>(B) Number of new patient episodes: Total number of patient episodes this quarter where the patient is seen for the first time (new patients/first time visits)</p> <p>(C) Number of uncomplicated T2DM: Total number of patient episodes this quarter where the patient meets criteria for uncomplicated T2DM status outlined by the National Clinical Programme Diabetes</p> <p>(D) Number of complicated T2DM: Total number of patient episodes this quarter where the patient meets criteria for complicated T2DM outlined by the National Clinical Programme Diabetes</p> <p>(E) Number of T1DM: Total number of patient episodes this quarter where patient has T1DM</p>
Phone Consultations	Total number of patient consultations conducted by phone in the quarter
DNA	Did not attend. The number of patients who did not attend appointments in each quarter. Includes patients who cancelled at short notice such that their appointment could not be re-used for someone else
Patients discussed with MDT/HCP	Total number of patients discussed with a member of the multidisciplinary team and/or a health care professional in secondary care (including podiatrist, CNS, endocrinologist). This can include

Education sessions	<p>telephone discussions, email or in-person communication</p> <p>(A) Number of patient group education<sup>2</sup> sessions: Number of patient group education sessions run per WTE per quarter. Excludes one to one education with patients</p> <p>(B) Number of health care professional group education sessions: Number of formal, pre-arranged health care professional group education sessions run per quarter. Excludes one to one or ad hoc, opportunistic education with health care professionals</p>
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## Analysis

Data were collated and analysed by the ESPRIT research team using Microsoft Excel. To compare activity across regions, all indicators are reported by CHO. To standardise activity across CHOs and to allow for meaningful comparison across regions, activity is presented per 1 whole time equivalent (WTE). Results are presented as the mean activity per WTE per year but where appropriate, they are reported as the mean activity per WTE per quarter. Results across CHOs are presented as medians due to the non-normal distribution of the data. As CNSp may attend the same group of practices each quarter, practice level activity is presented as the mean number per quarter, rather than per year

For each indicator the mean WTE of CNSp who returned data for that indicator was used for standardisation. Mean WTE for each indicator was calculated by adding together the WTE for CNSp who returned data on that indicator (e.g. number of visits to GP practices) and dividing this by the number of data collection periods ( $n = 4$ ). This controlled for differences in activity data returns by CNSp from one quarter to another. For each indicator we report the mean number of CNSp who returned data. This provides an indication of variables less well reported by CNSp.

To calculate the **mean activity level per year** (i.e. overall average per WTE), the totals for that indicator for each quarter were added together and the result divided by the WTE of the mean number CNSp who returned data for that indicator.

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<sup>2</sup>Planned structured educational intervention with a group of patients

To calculate the **mean activity level per quarter**, the total activity for that indicator for each quarter was added and the result divided by the number of quarters ( $n = 4$ ). The result was then divided by the WTE of the mean number of CNSp who returned data for the indicator.

A difference was noted between the total number of patient episodes recorded depending on how it was calculated; as the sum of new and return patient episodes, and as sum of total complicated T2DM, uncomplicated T2DM and T1DM patient episodes. As the reporting of new and return episodes was more complete across individual CNSp, this was deemed by the analyst to be a more reliable figure of the total number of patient episodes and was used for analysis where appropriate.

DNA data is reported per WTE and as a percentage of the total number of patient referrals (new patient episodes, return patient episodes, DNA appointments) for the 12-month period.

Practice and patient activity was examined according to CNSp capacity as reported in Q4 2017.

### **Confidentiality**

Excel documents submitted by CNSp are stored electronically by the Programme Manager and by ESPRIT researchers on a secure UCC server and are password protected. Only the ESPRIT researchers named on this report have access to the data. This report forms part of a large programme of research evaluating the implementation of the NCPD, for which ethical approval has been granted by CREC (Clinical Research Ethics Committee of the Cork Teaching Hospitals).

### **Quality Control**

Excel documents submitted each quarter were checked by ESPRIT and any anomalies or discrepancies in the data were brought to the attention of the Programme Manager and the CNS lead, who addressed these queries and verified data with the individuals in question.

## Results

Data were returned by 29<sup>3</sup> of 30 (28.46 WTE) CNSp posts. These 29 posts represent 27.46 WTE.<sup>4</sup> Two CNSp were on long term leave for all or part of the year. The number of CNSp who returned data varied from quarter to quarter as new posts were recruited. Therefore available WTE to return data ranged from 25.46-26.46 (Table 2). Results are based on the number of CNSp who reported data for individual activity indicators.

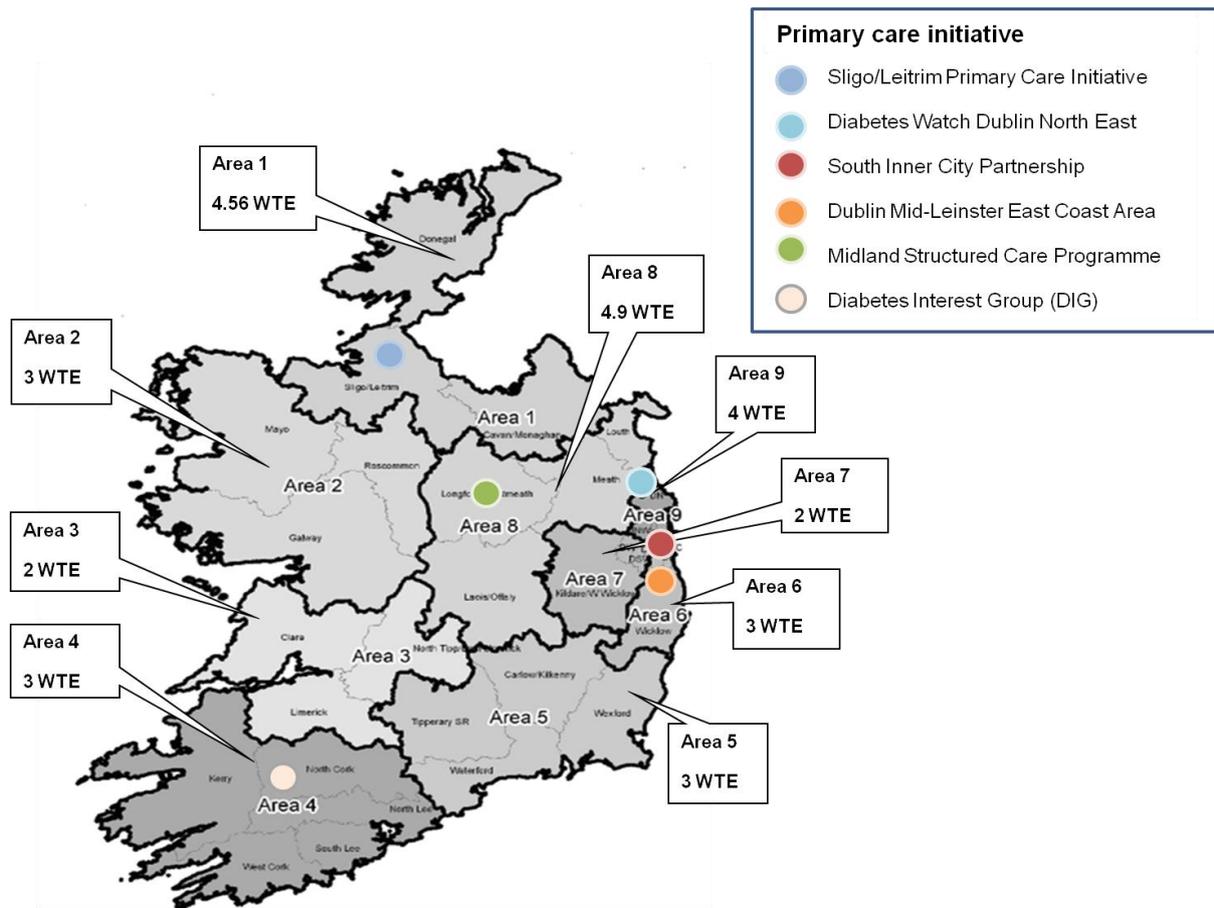
**Table 2** Available WTE to return data by quarter

CHO	Available WTE			
	Q1	Q2	Q3	Q4
1	3.56	3.56	4.56	4.56
2	3	3	3	3
3	1	1	1	1
4	3	3	3	3
5	3	3	3	3
6	3	3	3	2
7	1	2	2	2
8	3.9	2.9	2.9	2.9
9	4	4	4	4
<b>Total</b>	<b>25.46</b>	<b>25.46</b>	<b>26.46</b>	<b>25.46</b>

Figure 3 shows diabetes primary care initiatives established pre 2010. It also outlines the numbers of CNSp Diabetes Integrated care per CHO area.

Table 3 highlights variation in the number of WTE CNSp across CHOs. It also shows the recommended versus the allocated CNSp per CHO.

<sup>3</sup>31 CNSp fill these posts; there are two job-sharing posts in CHO 9; 32 CNSp were in post but 31 were available to return data



**Figure 3** Primary care initiatives pre 2010 and CNSp in post across 9 Community Healthcare Organisation (CHO) areas 2017

**Table 3** Breakdown of allocated CNSp (n = 34), CNSp in post (n = 32) and WTE available per CHO Area\*

CHO	Population	Counties covered	Recommended CNSp Diabetes Integrated Care WTE <sup>1</sup>	No. of posts allocated	In post	WTE breakdown	No. posts returned data
1	389,048	Donegal, Sligo, Leitrim, Cavan, Monaghan	7.8	5	5	1, 1, 1, 1, 0.56	5
2	445,356	Mayo, Galway, Roscommon,	9	3	3	1, 1,1	3
3	379,327	Clare, Limerick, North Tipperary	7.6	3	2 <sup>¶</sup>	1,1	1
4	664,533	Cork, Kerry	13	3	3	1, 1, 1	3
5	497,578	South Tipperary, Waterford, Kilkenny, Carlow, Wexford	10	3	3	1, 1, 1	3
6	364,464	Wicklow	7	3	3	1, 1,1	3
7	674,071	Dublin South Central/Dublin West and Kildare/ West Wicklow	13.5	4	2 <sup>¶</sup>	1, 1	2
8	592,388	Louth, Meath, Westmeath, Laois, Offaly, Longford	12	6	5	1, 1, 0.6, 0.8, 0.5	5
9	581,486	Dublin	11.6	4	4	1, 1, 0.5, 0.5, 0.5,0.5 <sup>**</sup>	4
<b>Total</b>				<b>34</b>	<b>30</b>	<b>28.46</b>	<b>29</b>

\*WTE = Whole Time Equivalent, CHO = Community Healthcare Organisation

<sup>1</sup>Recommended staffing – 1 WTE per community care network (1 per 50,000 population)

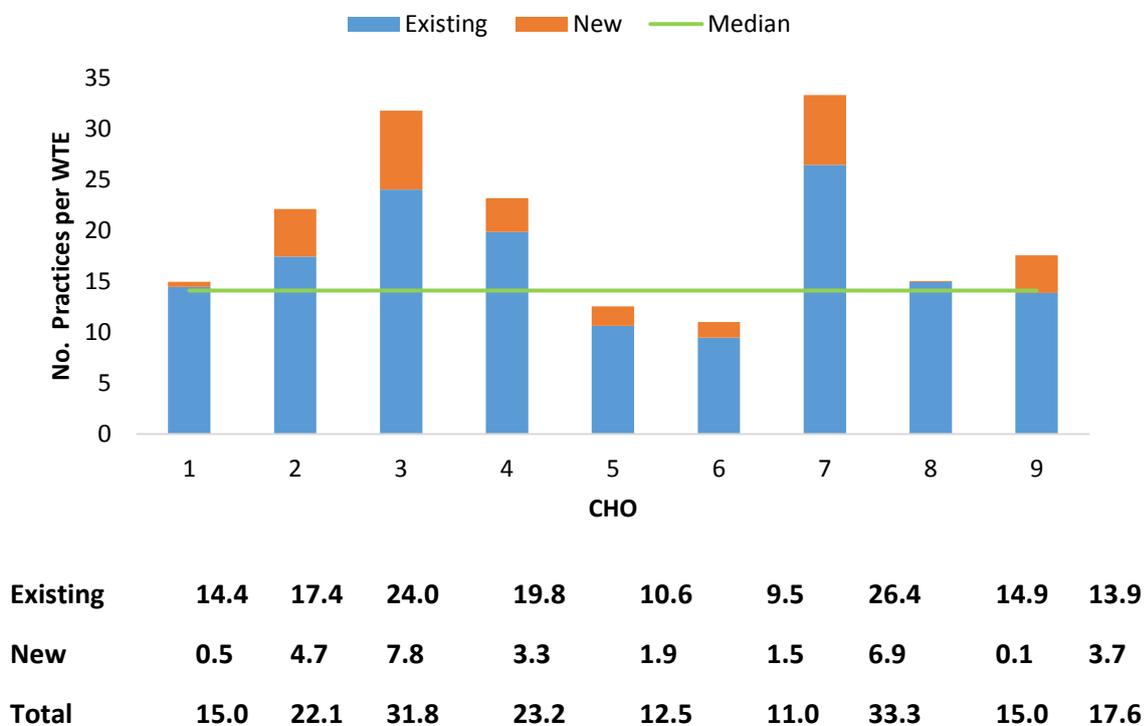
<sup>¶</sup>1 post unfilled in CHO 3; 2 posts unfilled in CHO 7

<sup>\*\*</sup>Two job-sharing (0.5 WTE) posts

## Practice Level Activity

### Practices attended

The number of practices attended across CHOs per WTE during the 12 month-period was 181.<sup>5</sup> The average number of practices attended for all CNSp per quarter was 462. Most (85%,  $n = 393$ ) of practices visited per quarter for all CNSp were already engaged with the CNSp service and 15% ( $n = 68$ ) were new practices. The median number of practices visited per quarter per WTE was 18 and ranged from 11 to 33 across CHOs. Figure 4 displays the average number of practices attended per WTE in each CHO. The total number of practices attended in a given CHO area (per WTE, per quarter) is the combined total of the number of new and existing practices attended per WTE in that quarter.

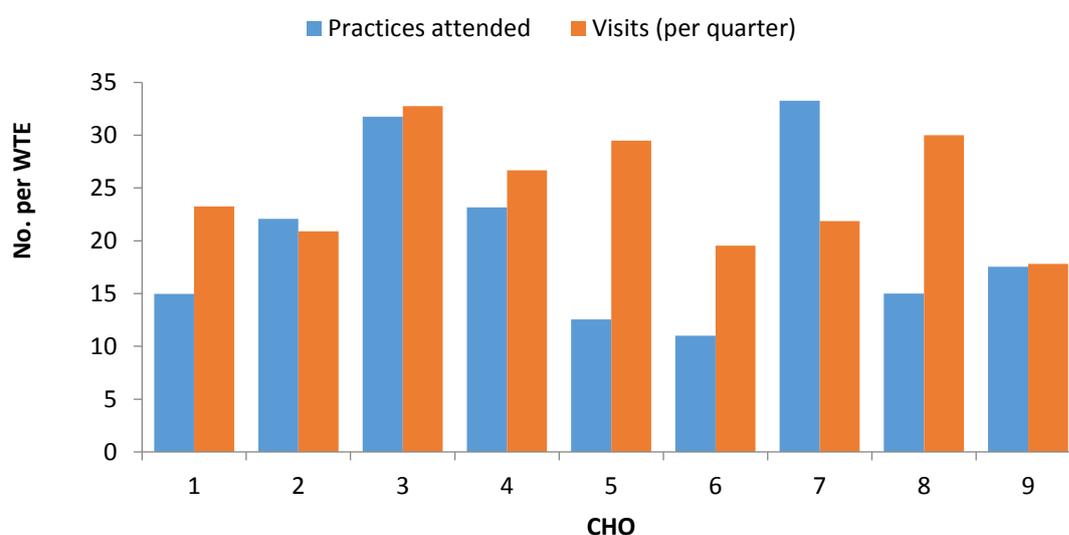


**Figure 4:** Practices attended per WTE by CHO (per quarter)

<sup>5</sup> On average over 2017, 29 CNSp (25.09 WTE) returned data on return practices; 29 CNSp (25.71 WTE) returned data on new practices

## Visits to GP Practices

The total number of visits made to GP practices was 2408 for the 12-month period.<sup>6</sup> The mean number of visits made to GP practices per WTE during the 12-month period was 99. There was a median of 23 visits made per WTE per quarter and this ranged from 18 to 33 visits. The number of practices attended and the number of visits to GP practices (per WTE, per quarter) are presented by CHO in Figure 5.



<b>Attended</b>	<b>15.0</b>	<b>22.1</b>	<b>31.8</b>	<b>23.2</b>	<b>12.5</b>	<b>11.0</b>	<b>33.3</b>	<b>15.0</b>	<b>17.6</b>
<b>Visits</b>	<b>23.3</b>	<b>20.9</b>	<b>32.8</b>	<b>26.7</b>	<b>29.5</b>	<b>19.5</b>	<b>21.9</b>	<b>30.0</b>	<b>17.8</b>

**Figure 5:** Number of visits to GP practices and number of GP practices attended by CHO (per WTE per quarter)

Figure 5 shows variation across CHOs in the ratio of GP practices attended to the total number of visits made to GP practices by 1 WTE, per quarter. The average number of visits made to each GP practice attended per WTE per quarter ranged from 1 to 2.

<sup>6</sup> On average, 29 CNSp (25.21 WTE) returned data on the number of visits

## Patient-Level Activity

### Patient episodes

#### Episodes by occurrence

The total number of patient episodes reported in 2017 was 11,619.<sup>7</sup> Figure 5 shows new and return patient episodes per WTE per year by CHO. There was a median of 385 episodes per WTE during this period which ranged from 273 to 625 episodes (Figure 6).



**Figure 6:** New and return patient episodes per WTE by CHO (annual)

#### Episodes by Diabetes status

The total number of uncomplicated T2DM, complicated T2DM and T1DM episodes was 11,564.<sup>8</sup> Complicated episodes accounted for most episodes (67%,  $n = 7737$ ). Uncomplicated T2DM patient episodes (29%,  $n = 3402$ ) and T1DM episodes (4%,  $n = 425$ ) were less frequently seen by CNSp during

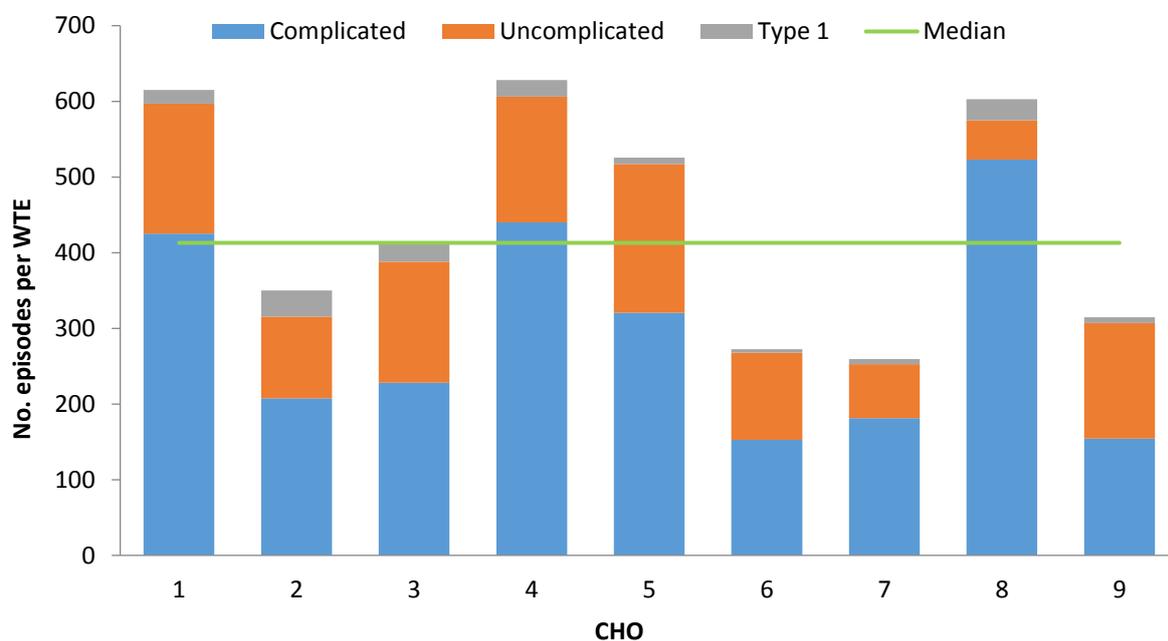
<sup>7</sup> On average, 29 CNSp (25.21 WTE) returned data on new and return patients

<sup>8</sup> On average, 29 CNSp (25.21 WTE) returned data for T2DM patients; 28 CNSp (23.01 WTE) returned data on T1DM patients

the 12-month time-period.

The breakdown of complicated T2DM, uncomplicated T2DM and T1DM patients seen per WTE per CHO during the 12-month period is shown in Figure 7. The median number of complicated T2DM, uncomplicated T2DM and T1DM patient episodes seen per WTE, per year was 413. The number of total patient episodes seen per WTE per year ranged from 259 to 628. Per WTE per year, the number of complicated T2DM patient episodes seen across CHO areas ranged from 153 to 523.

Uncomplicated T2DM patient episodes ranged from 52 to 196 and T1DM patient episodes ranged from 4 to 34 (Figure 7).



<b>Complicated</b>	<b>425.1</b>	<b>207.3</b>	<b>228.0</b>	<b>440.0</b>	<b>320.7</b>	<b>152.7</b>	<b>181.1</b>	<b>523.2</b>	<b>154.1</b>
<b>Uncomplicated</b>	<b>171.9</b>	<b>108.3</b>	<b>160.0</b>	<b>166.2</b>	<b>196.4</b>	<b>115.3</b>	<b>71.4</b>	<b>51.7</b>	<b>153.1</b>
<b>Type 1</b>	<b>18.1</b>	<b>34.3</b>	<b>25.0</b>	<b>21.8</b>	<b>8.4</b>	<b>4.4</b>	<b>6.9</b>	<b>27.9</b>	<b>7.4</b>

**Figure 7:** Complicated T2DM, Uncomplicated T2DM and T1DM Patient Episodes per WTE by CHO (annual)

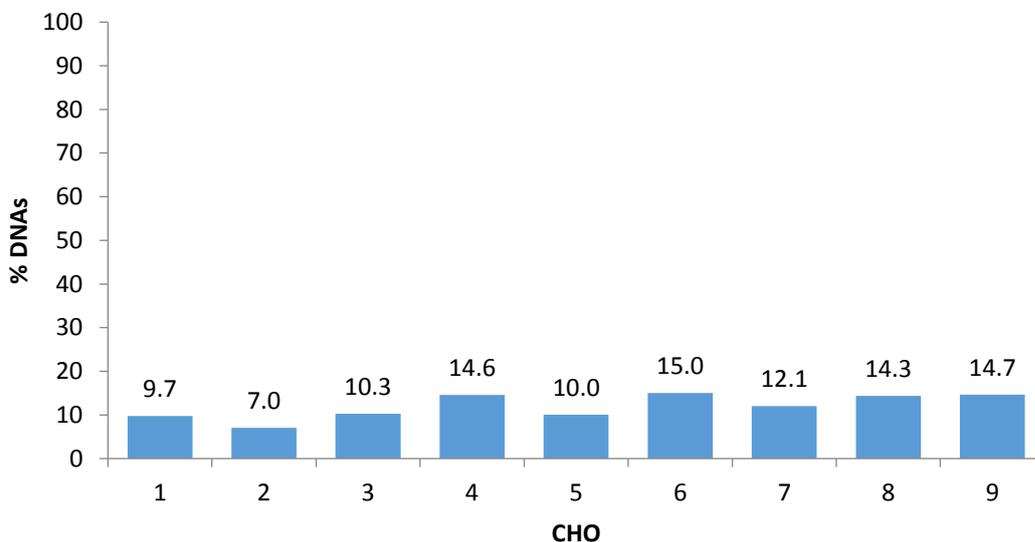
**DNA**

Of the total number of patient referrals during the 12-month period ( $n = 13,215$ ), 12% ( $n = 1596$ ) were DNA appointments (Figure 8).<sup>9</sup> The number of DNA appointments and total referrals for each CHO are shown in Table 5.

**Table 4 : DNA appointments by CHO (annual)**

	CHO									
	1	2	3	4	5	6	7	8	9	Total
<b>DNA</b>	282	78	44	291	160	133	74	330	204	1596
<b>Total*</b>	2897	1112	429	1992	1597	884	614	2301	1389	13215

\*Total referrals calculated based on the sum of new, return patient episodes and DNAs



**Figure 8:** Percentage of DNAs of total referrals by CHO

### Integrated Care

During the 12-month period, a median of 53 patient episodes per WTE were discussed over the 12-month period.<sup>10</sup> This ranged from 25 to 114 patient episodes across CHOs (Table 5). The number of patient episodes discussed with the MDT per CHO is shown in Table 6.

<sup>9</sup> On average, 28 CNSp (24.71 WTE) returned data on DNAs

<sup>10</sup> On average, 28 CNSp (24.89 WTE) returned data on patients discussed with the MDT

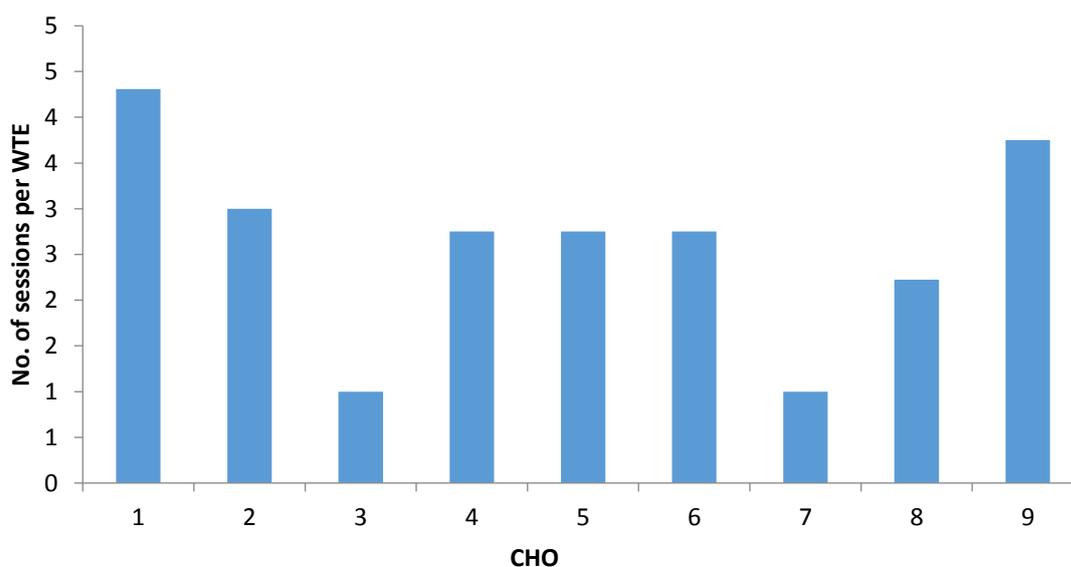
**Table 5:** Total patient discussed with MDT per WTE by CHO (annual)

	CHO								
	1	2	3	4	5	6	7	8	9
<b>Discussed</b>	<b>114.39</b>	<b>65.09</b>	<b>25.00</b>	<b>70.55</b>	<b>49.82</b>	<b>52.73</b>	<b>66.86</b>	<b>46.10</b>	<b>40.77</b>

## Education

### Patient education

The total number of education sessions delivered was 226 in 2017, a median of 9 sessions per WTE, ranging from 5 to 18 (Figure 10).<sup>11</sup>



**Figure 10:** Number of patient education sessions per WTE by CHO

### Professional education

The total number of professional education sessions delivered was 240.<sup>12</sup> The number of professional education sessions delivered per WTE ranged from 5 to 17 with a median of 8 sessions per WTE across CHOs (Fig. 11).

<sup>11</sup> On average, 27 CNSp (23.54 WTE) returned data on patient education

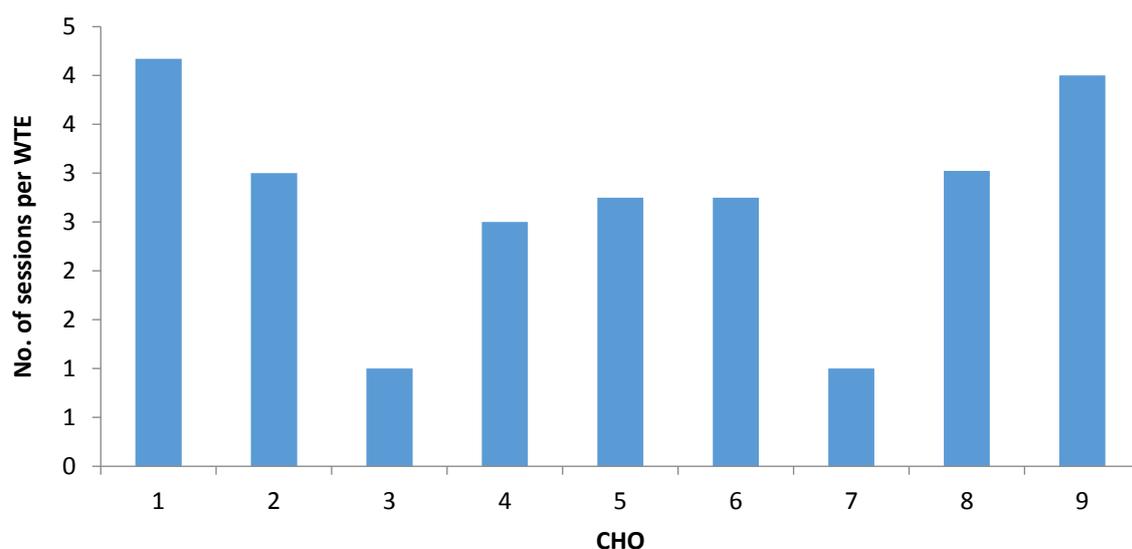


Figure 9: Number of professional education sessions per WTE by CHO

### Service capacity

The majority of CNSp (n = 18, 58%) reported they were at capacity in the last quarter of 2017. Table 6 shows the activity according to capacity.

Table 6: Activity according to CNSp capacity in Q4 of 2017

	At capacity (n = 18)	Not at capacity (n = 13)
<b>Practice data</b>		
Average WTE per Quarter	14.96	10.75
Total practice visits (per annum)	1616	792
Mean (range) visits (per annum)	24 (0 - 48)	17 (0 - 40)
Average visits (per Q)	404	198
Visits per WTE (per annum)	108	74
Number of practices attended (average* per quarter)	288	174
Number of practices attended per WTE (average per quarter)	19	17

<sup>12</sup> On average, 28 CNSp (24.20 WTE) returned data on professional education

<b>Visit per practice (per quarter)</b>	1.4	1.1
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<b>Patient data</b>		
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<b>Total patients (new + return) per annum</b>	8240	3379
<b>Mean patients per annum</b>	121	69
<b>Total patients per annum per WTE</b>	551	314
<b>Total complicated per annum</b>	5645	1842
<b>Complicated per annum per WTE</b>	377	171
<b>% complicated total referrals</b>	69%	61%
<b>Mean % complicated</b>	69%	52%
<b>Total uncomplicated per annum</b>	2248	1154
<b>Uncomplicated per annum per WTE</b>	150	104
<b>% uncomplicated total referrals</b>	28%	34%
<b>Mean % uncomplicated</b>	28%	37%

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## Discussion

This report describes the activity of CNSp recruited to support the delivery of integrated diabetes care, the first of an innovative type of specialist role introduced to support the integration of chronic disease management in Ireland. Data collected by CNSp is essential to understand the value of this new role and provide a benchmark against which future CNSp activity data can be compared. Data were collected during 2017 on a range of practice and patient level process indicators. These data illustrate the volume of work carried out by the CNSp as they navigate challenges inherent in the introduction of new care models as part of health service reorganisation. Moreover, the report indicates the feasibility of collecting data. The completeness of the data reflects the engagement by CNSp with respect to the collection process. CNSp as part of the PCDNN were instrumental in initiating the process and have on-going involvement in the refinement of indicators.

### **Practice and patient activity**

Several factors could explain the variation in activity: the number of CNSp assigned to a region and consequently the demand on individual CNSp service, different models of delivery (e.g. some CNSp are based in Primary Health Centres and receive referrals rather than travelling to individual practices), the location of referring GPs and time spent travelling to clinics, un-documented time spent organising and delivering patient and professional education sessions, and local arrangements regarding diabetes care delivery.

Regional variation in the delivery of diabetes care is inherent in the Irish health service <sup>(2, 3)</sup> and may influence the implementation of new interventions such as the MOC or new roles such as CNSp.<sup>(21)</sup> The history of diabetes management in an individual CHO, whether delivered in an organised way in primary care, or hospital-led, may influence the activity of individual CNSp. CNSp who work in regions where primary care initiatives existed pre 2010 and there is a history of diabetes management in primary care may already have established relationships with GP practices in these areas. CNSp in CHOs without existing initiatives may have spent more time setting up their service in the area and building engagement at the practice level.

CNSp largely manage complicated patients, as intended by the national MOC. Differences in the ratio of uncomplicated to complicated patients per WTE may reflect the stage of service development to a GP practice. CNSp, when setting up their service with a practice, will work with GP's and Practice Nurse(s) initially to see uncomplicated patients to build experience and confidence

at the practice level.<sup>(11)</sup> As structured diabetes care becomes more established, CNSp will review more complicated patients.<sup>(17)</sup>

### **Service Capacity**

Most CNSp (n = 18, 58%) indicated they were working at capacity at the end of 2017 and could not take on any more practices. Service capacity should be continually reviewed. However, recording of this indicator needs to be improved. There is currently no agreement on the number of GPs that CNSp should be attending, and no agreed definition of what is considered 'at capacity'.

### **Integrated Care**

The level of integration across CHO areas was captured by the number of patients discussed with the MDT and was similar across CHOs with some exceptions. Several factors could influence the number of patients discussed: the complexity of the patient cohort, access to support services, MDT organisation, and the CNSp relationship with members of the MDT. Further discussion with CNSp is needed to develop a better understanding of the drivers of service integration across CHOs. This may also contribute to the refinement of this indicator.

### **Phone Consultations**

Data collection on the number of phone consultations was tried but has been difficult to collect accurately. As such, data from this indicator has not been reported in the current report. Future collection of this indicator may be facilitated by an electronic data capture system.

### **Education**

The number of CNSp who returned data on education was lower than other indicators. It is possible that activity for this indicator could be under-represented; some CNSp may have left this section blank where they did not conduct a session that quarter. Continuing to review this indicator and feed back to CNSp will enable this issue to be addressed. If occasionally education sessions are not delivered within a quarter, it may be more appropriate to collect education data less frequently, for example, annually.

## Conclusion

The data represented in this report captures the volume of work performed by CNSp to support the delivery of the integrated MOC for diabetes, highlighting both the value of the role and the need for further resourcing of CNSp posts.

In order to ensure the collection of activity data continues to be both a useful and sustainable process, there needs to be the collection of KPI outcome indicators which best capture the impact of the CNSp role. To facilitate ongoing and improved data collection it is vital that an electronic collection tool is put in place. These then can be reliably used to inform future service delivery. The innovative CNSp service introduced as part of the Integrated Care Programmes is still relatively new, variations exist nationally as demonstrated by the data. Strategies to support the implementation of new nursing roles have included designating an individual (e.g. local nurse administrator) to oversee the process and facilitate systems entry<sup>(22, 23)</sup>, and engaging professionals who may 'champion' the role within the organisation.<sup>(22, 24)</sup> To assist in providing a solution to this variation and standardising all aspects of integrated nursing care for diabetes there is a requirement for a professional development nursing role. This leadership is also vital to drive best practise in integrated care and support the professional development of the CNS Integrated care. This role is in line with the recommendations made in the Department of Health Consultation Document Developing a Community Nursing and Midwifery Response to an Integrated Model of Care (2017).<sup>(25)</sup>

As the first of new CNSp posts to support the integration of chronic disease management in Ireland, the process of data collection and review carried out by Diabetes CNSp provides an invaluable record of the contribution of the role and a learning experience for other Integrated Models of Care. It illustrates some of the challenges of defining and capturing routine activity. Regional differences in care delivery are not unique to diabetes services. As such, variation in activity reported by CNSp may be relevant to understanding and supporting the implementation of future CNSp posts introduced to support the integration of chronic disease. It is hoped that the collaboration between the NCPD, PCDNN and ESPRIT will support the future development of the data collection process.

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