

An evaluation of the range and availability of intensive smoking-cessation services in Ireland

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Abstract

Background A review of smoking cessation (SC) services in Ireland is a necessary step in improving service planning and provision.

Aims To assess the range and availability of intensive SC services in Ireland in 2006.

Methods A survey of SC service providers in Ireland was conducted. Descriptive analysis and simple linear regression analysis were used.

Results Response rate was 86.3% (63/73). All service providers surveyed are employing evidence-based interventions; the most common form of support is individual counselling with initial sessions averaging 40 min and weekly review sessions 20 min in duration. Reaching the recommended target of treating 5.0% of smokers does not seem feasible given the current distribution of resources and there appears to be regional differences in resource allocation.

Conclusions While intensive SC services are available in all four Health Service Executive Areas, it would appear that there is little uniformity or consistency countrywide in the scope and structure of these services.

Keywords Smoking cessation services · Ireland · Census

Introduction

Tobacco is a major preventable cause of death, chronic disability and inequality accounting for some 7,000 deaths per annum in Ireland [1]. Despite being the first country to introduce comprehensive smoke-free workplace legislation and having one of the highest tobacco product prices in the world alongside other strong tobacco control legislation, Ireland still has an adult smoking prevalence of 29% [2].

While measures have been implemented in Ireland to discourage people from starting to smoke, attention must also be paid to smoking cessation (SC) in order to achieve an appreciable reduction in smoking related mortality. Unless a substantial proportion of current smokers quit, there will be no appreciable reduction in the global rate of smoking-related mortality before 2050 [3]. The difficulties of quitting smoking due to nicotine addiction and the benefits of quitting in terms of improved health are well documented [4, 5]. SC at age 60, 50, 40 or 30 can lead to an increase in life expectancy by 3, 6, 9, or 10 years, respectively [6]. In the Irish government's strategy document, "Towards a Tobacco Free Society", a key strategic objective is to significantly increase the number of people who stop smoking each year [7]. SC services are a cost-effective means of achieving this goal [8] and are offered throughout Ireland in community and hospital settings.

While Ireland is currently ranked second in Europe to the United Kingdom for treatment of smokers on the Tobacco Control Scale [9], there is still much to be done to

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support SC among Ireland's smokers. As one part of a comprehensive evaluation of intensive SC services in Ireland, this study summarizes the results of a survey completed by SC service providers in early 2007 reflecting 2006 service provision.

The aims of this study are to determine the range and availability of intensive SC services on offer throughout Ireland, to identify the settings where these services are offered, to determine if the distribution of services is equitable in terms of the hours per week relative to the smoking population when controlling for socio-economic status and to estimate if the service provision by Health Service Executive Area is sufficient to treat 5.0% of the smoking population per year as recommended by the National Institute for Health and Clinical Excellence (NICE) guidelines [10].

Methods

Sample selection

To identify all available SC services and providers, an existing Irish Health Promoting Hospitals Network (IHPHN) database (unpublished) of hospital-based services was updated and expanded. Community services were identified using a snowball method [11]. Additional services were sought by distributing a request for SC service provider contact details through *Health Matters*—a Health Service Executive Newsletter, the Irish Practice Nurses' Association, and the Irish College of General Practitioners. Private health clinics were contacted directly. No service providers were identified in private settings. The resulting project database contained 93 SC service providers.

For the purposes of this study, a SC service is defined as a service that could be based in a healthcare or community setting providing an intervention—either over the phone, in a group or individually—by a specially trained person or team in order to effect a change in a smoker's knowledge and behaviour and to increase the likelihood of a successful quit attempt. Likewise, a SC service provider is a specially trained individual who provides an intervention as part of an organised service as described.

Smoking cessation service providers may be employed full-time in that capacity or as part of a wider health promotion remit. Some services have only one provider, whereas others have a team of providers. Where individual providers within a service see a distinct set of clients, a response was sought from each provider within the service. In cases, where a team of providers see the same clients, a single response was sought from the service coordinator to represent the whole service.

Questionnaire

In the absence of an appropriate validated survey tool, a questionnaire to assess the range and availability of services was developed with collaboration between the Research Institute for a Tobacco Free Society (RIFTFS), the Irish Health Promoting Hospitals Network (IHPHN), the Institute of Public Health in Ireland (IPHI), and the Health Service Executive (HSE). This questionnaire was piloted among a purposive sample of six (6.4%) service providers and subsequently modified.

The questionnaire was sent by email with electronic response where possible ($n = 77$) or alternatively by post ($n = 16$). Two follow-up calls were made; based on these calls, 15 (16.1%) providers were removed from the list of 93 eligible respondents due to extended leave, shared service coverage or discontinuation of service. The remaining 78 providers served as the population for this study.

Quantitative and qualitative data were collected. To determine what services are provided, the questionnaire asked about the range, intensity and frequency of intensive interventions provided to patients (both inpatients and outpatients), the community and staff. Interventions were categorised as individual, telephone and group advice or counselling. For individual and telephone support, providers were asked for the duration of initial sessions and review sessions; for group support, the duration of sessions is typically consistent throughout the course. Where a range was provided by the respondent (e.g. 10–20 min), the midpoint was consistently used for analysis (e.g. 15 min). SC service providers were asked whether and whom they followed up and the frequency with which they confirmed self-reported successful quit attempts using exhaled carbon monoxide (CO) measurements. Providers were asked to indicate the number of hours per week and weeks per year the service was provided, in what county and in which type of setting.

The proportion of services per week by county was compared to the distribution of smokers using raw data from 2006 provided by the Office of Tobacco Control to assess the assumption that an equitable distribution of SC services would see a greater proportion of total services in hours per week corresponding with an increase in proportion of total smokers by county. To assess whether the service in each HSE area is sufficient to treat 5.0% of the smoking population as recommended by the NICE guidelines [10], treatment targets were estimated projecting from census population data and smoking prevalence data. The hours of service per year by HSE area was used to estimate the resources available to each smoker given current service activities if the 5.0% treatment quota was attained. Rates reflecting the hours per year per 10,000 smokers were calculated allowing comparison of service

availability by HSE area. These rates are based on a standard working year of 48 weeks with uncovered leave.

Data analysis

Data were entered with double entry for accuracy and analysed using Statistical Packages for the Social Sciences (SPSS version 15.0) which provided the descriptive data presented.

To assess whether SC services (in terms of hours/week) were evenly distributed across the counties based on the county-specific distribution of smokers, simple linear regression models were employed that were simultaneously adjusted by age, sex and socio-economic status of each of the counties studied. The Quitline service, which is available to all counties equally, and those counties with no other SC services were excluded from the regression analysis. The response variable was the proportion of total service provision by county and the predictor variable was the proportion of total smokers by county. The fitness of the model was assessed using adjusted *R* square. The adjusted model was then used to compare the observed mean hours per week to the predicted mean hours per week to identify if any counties were relatively under-served.

Results

Sample

Of the possible 93 SC service providers canvassed, 78 eligible SC service providers served as the population for this survey and 68 responded to the questionnaire. Of the 68 respondents, 5 (7.4%) identified their main function as managing or coordinating services rather than directly providing services to clients, as such their data was not considered valid for analysis. The overall response rate was 86.3% (63/73). The non-responders (10) were from Dublin North East (2/17; response rate 88.2%), Dublin Mid Leinster (3/19; response rate 84.2%), West (2/23; response rate 91.3%), and South (3/14; response rate 78.6%) and were located in psychiatric care settings (4), a general hospital (1), the community (4) and HSE Health promotion (1) service settings. For eight out of the ten non-responders, the hours per week of service provision, county and setting were attained from Service Managers to improve the accuracy of the service distribution analysis.

Service profile

All respondents have some specific training in SC, have more than 2 years experience and are employing evidence-based interventions. Time dedicated to the provision of SC

services by individual respondents ranges from 1 h per week to 35 h per week.

Nearly all respondents provide individual advice and counselling (62, 98.4%) and telephone support (57, 90.5%) to their client group and just over half provide group advice or counselling (39, 61.9%).

Respondents were asked to indicate the duration of time typically dedicated to initial and review sessions with clients and the frequency of support provided. Initial individual sessions were a mean duration of 40 min (10–90), while individual review sessions were a mean duration of 23 min (5–60). Most respondents provided individual support on a weekly basis (38, 60.3%). Initial telephone sessions ranged from 5 to 40 min with a mean duration of 15 min and review sessions ranged from 3 to 30 min with a mean duration of 6 min. While most respondents reviewed clients by phone on a weekly basis (25, 39.7%), others provided this form of support on a fortnightly (4, 6.3%) or monthly (4, 6.3%) basis, or once only (4, 6.3%). While some providers use telephone support as their main intervention for some clients, many use this form of intervention for ongoing follow up support after a quit date is set; as such, these sessions tend to be shorter in duration and less frequent. Group sessions tend to be longer with a mean duration of 71 min (30–120). Most courses of group intervention involve 6–7 sessions provided on a weekly basis (33, 89.2%).

Client follow-up

SC service providers follow-up clients after their intervention to offer ongoing support and to assess the clients' quit status. The number of respondents who follow up all individuals who have received SC support was 36 (57.1%), while 24 (38.1%) follow up some individuals, specifically those who set quit dates or consent to follow up support, and 3 (4.8%) do not follow up any individuals. Attempts to follow up clients are most often made at 3 months (47, 74.6%) and 1 year (43, 68.3%), followed by 2 weeks (34, 54.0%), 1 month (30, 47.6%) and 6 months (28, 44.4%).

Smoking cessation services in the Northwestern region have a standardized follow-up regime. Respondents from this area follow up each of their clients weekly for the first 4 weeks, fortnightly up to 3 months, then monthly up to 1 year. This standardized follow-up regime is employed by 6 (9.5%) of the respondents.

When follow-up contacts are made in person, SC officers have the opportunity to confirm self-reported quit attempts by measuring exhaled carbon monoxide (CO) using a CO monitor. CO validation was never used by 17 (27.0%) of respondents, while 23 (36.5%) reported using it rarely or sometimes. Similarly, 23 (36.5%) reported using it often or always.

Table 1 Hours per week of SC service by HSE Area and setting

Service setting	Dublin North East (h/week)	Dublin Mid Leinster (h/week)	West (h/week)	South (h/week)	Total by setting (h/week)	Percentage by setting (%)
General hospital	201.0	175.0	221.5	42.0	639.5	63.1
Community centres	113.5	0	12.0	7.0	132.5	13.1
Health Promotion office	0	0	12.5	68.0	80.5	7.9
Health centres	12.0	27.0	17.5	8.0	64.5	6.4
Other Primary care	1.0	12.0	14.5	3.0	30.5	3.0
Care of the elderly	0	0	23.0	2.0	25.0	2.5
GP surgeries	2.0	0	8.0	8.0	18.0	1.8
Pharmacies	7.0	0	0	0	7.0	0.7
Maternity hospital	0	0	7.0	0	7.0	0.7
Psychiatric care	0	2.0	0	2.5	4.5	0.4
Public service centre	0	0	4.0	0	4.0	0.4
Total by HSE area	336.5	216.0	320.0	140.5	1013.0	100.0
Percentage by HSE area (%)	33.2	21.3	31.6	13.9	100.0	

Excludes Quitline, which is available on a national basis

While NICE guidelines suggest that SC services should aim for a 35% 4-week success rate validated by CO monitoring, with success defined as not having smoked in the third and fourth weeks following the quit date [10], currently only 30 (47.6%) respondents follow up with clients at 4 weeks after their quit date and only 12 (40.0%) of these respondents actually report using CO monitoring to validate quit status often or always.

Service setting

Most of the SC services in Ireland are hospital-based; 63.1% of hours dedicated to SC service provision by respondents were in a general hospital setting, while 13.1% of the hours are provided in the community, and 7.9% of service hours are provided from HSE Health Promotion facilities (Table 1).

County-specific service distribution

The distribution of total smokers by county, the observed and predicted services by county and the difference between the observed and predicted service proportions are illustrated in Table 2. Based on adjusted linear regression modelling estimates, Fig. 1 shows that the following counties are relatively underserved in terms of the mean hours per week (observed vs. predicted) according to the distribution of smokers by county: Cork, Clare, Leitrim, Tipperary, Kildare, Kerry, Wexford, Wicklow, Westmeath, Mayo, Kilkenny and Roscommon. In addition, there were no local services identified in Offaly, Laois, Longford and Carlow.

Regional service sufficiency

The proportion of total smokers, proportion of SC services measured in hours per week and treatment targets by Health Service Executive (HSE) Area are presented in Table 3. Crude rates indicating the hours of SC services per year per 10,000 smokers show that the HSE South and HSE Dublin Mid-Leinster are relatively under-served.

The NICE guidelines suggest that SC services should aim to treat at least 5.0% of the estimated population of people who smoke each year [10]. According to this guideline, Irish SC services should aim to treat 39,598 people nationally with 9,050 receiving treatment in HSE Dublin North East, 11,095 receiving treatment in HSE Dublin Mid Leinster, 9,311 receiving treatment in HSE West and 10,142 receiving treatment in HSE South. While no guidelines exist suggesting how much time per smoker is sufficient to foster a successful quit attempt, NICE guidelines suggest that intensive support should be offered to those smokers who would like to quit in weekly sessions for at least the first 4 weeks following a quit attempt. In addition, evidence suggests that the duration of a consultation is positively correlated with success; intense counselling longer than 10 min almost doubles the estimated odds ratio of quitting compared with brief counselling of less than 3 min [12]. While that suggests some 90 min of patient contact time as optimum, time also needs to be made available to manage the logistics of a clinic including venue, appointments, record keeping, reporting, doctors' prescriptions and staff management. As illustrated in Table 3, if the 5.0% treatment target was reached nationally, each smoker would receive 74 min in total. Dublin

Table 2 Proportion of total smokers by county relative to the observed and predicted proportion of total services by county

County	Proportion of total smokers by county (%)	Observed proportion of total h/week of service (%)	Predicted proportion of total h/week of service (%)	Difference between observed and predicted (%)
Dublin	29.9	24.7	24.6	0.1
Louth	2.4	8.9	3.5	5.4
Donegal	3.7	8.1	4.0	4.1
Cork	12.2	7.6	7.8	-0.2
Meath	3.6	7.2	4.2	3.0
Galway	3.5	7.0	4.1	2.9
Sligo	1.3	6.1	1.9	4.2
Cavan	2.6	5.9	4.0	1.9
Monaghan	1.3	5.0	2.8	2.2
Limerick	4.9	4.8	4.2	0.6
Waterford	1.9	3.1	2.2	0.9
Clare	3.8	2.4	4.9	-2.5
Tipperary	3.6	2.0	3.8	-1.8
Kildare	3.4	1.6	4.4	-2.8
Leitrim	0.9	1.4	2.6	-1.2
Kerry	3.3	1.4	3.8	-2.4
Wexford	2.0	0.9	2.9	-2.0
Wicklow	2.9	0.8	3.5	-2.7
Westmeath	1.3	0.4	2.4	-2.0
Mayo	3.0	0.3	3.4	-3.1
Kilkenny	2.0	0.3	2.8	-2.5
Roscommon	1.4	0.1	2.3	-2.2
Offaly ^a	1.7	0.0	-	-
Longford ^a	1.2	0.0	-	-
Carlow ^a	1.2	0.0	-	-
Laois ^a	1.0	0.0	-	-
Total	100.0	100.0	100.0	-

^a Currently have no identified smoking cessation service; as such, they were removed from the regression analysis to prevent bias. Excludes Quitline, which can be accessed nationally

Fig. 1 Observed versus predicted smoking-cessation services across the counties of Ireland

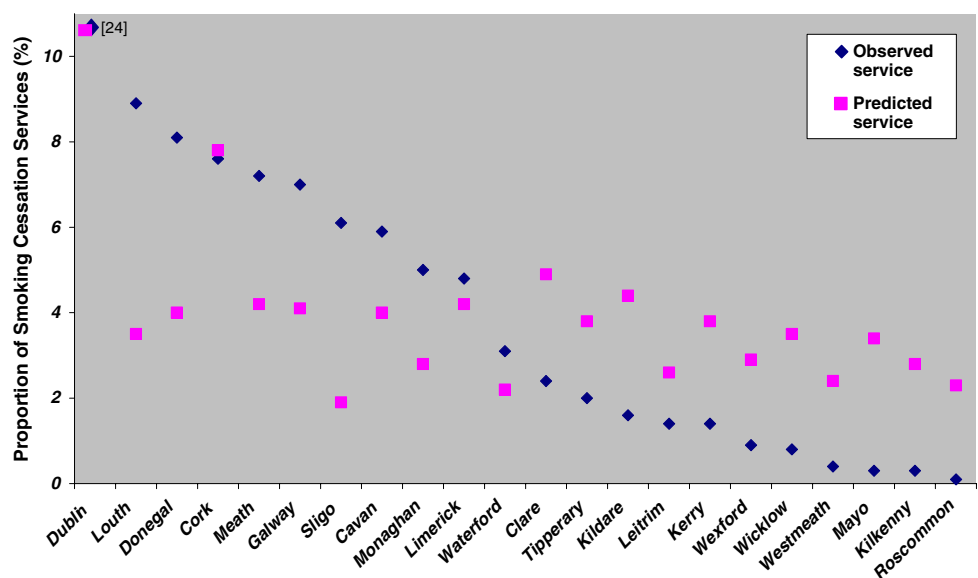


Table 3 Distribution of smokers, distribution of smoking-cessation services and treatment targets by HSE area

HSE Area	Proportion of total smokers aged 15+ (%)	Proportion of total SC services (%)	Number of smokers aged 15+ ^a	Treatment target = 5.0% of smokers/year ^b	Hours/year of service per 10,000 smokers	Min/year/smoker if 5.0% target reached
Dublin North East	22.9	33.2	181,000	9,050.0	892.4	107.1
Dublin Mid Leinster	28.0	21.3	221,904	11,095.2	467.2	56.1
West	23.5	31.6	186,221	9,311.1	824.8	99.0
South	25.6	13.9	202,830	10,141.5	332.5	39.9
National	100.0	100.0	791,955	39,597.8	614.0	73.7

Excludes National Smokers Quitline

^a Projected by multiplying census 2006 population figures for 15 years of age and over by HSE area (available at <http://www.cso.ie/px/pxeirestat/Dialog/Saveshow.asp>) by smoking prevalence data for 12 month period ending December 2007 accessed at http://www.otc.ie/chart.asp?image=Dec07charts/Chart_1.5.jpg

^b NICE Guideline

Mid-Leinster and the South are particularly under-served; if 5.0% of smokers were treated, they would receive only 56 and 40 min, respectively.

Discussion

This is the first study of its kind to attempt a comprehensive survey of SC services in Ireland. The results show much diversity in the scope and structure of SC services across the country. In addition, some services are offered by full time SC service providers; whereas elsewhere SC is one aspect of a wider remit.

While training standards have recently been formulated [13] and best practice guidelines for service provision within one region of Ireland have been developed [14], no comprehensive national best practice guidelines exist for Ireland. It is recommended that national best practice criteria for the provision of SC services with clear management structures at national level would create a common framework for service providers to work within, while enabling objective evaluation and more efficient service planning.

This study suggests that there is no systematic follow up nationally, and monitoring and evaluation is dependant on local practice and resources. To enable the effective monitoring and evaluation of services across the country, unified criteria for defining a successful quit attempt should be agreed and service providers should strive to validate self reported successful quit attempts with carbon monoxide measurements. Local monitoring and evaluation should be undertaken at an organisational or regional level. National monitoring should be facilitated by a single organisation using a minimum set of indices and figures should be reported annually to key stakeholders. At present there is no national structure in place to assist in this process and consequently no collation of local findings that

could assist with an adequate review on the value and effectiveness of current SC services.

While SC services are available in all of the four Health Service Executive areas, the reach of services is insufficient to provide the target 5% of smokers per year an appropriate level of service on a national basis and regional disparities exist with Dublin Mid Leinster and the South particularly under-served. On a local level, there are gaps in the service where counties have minimal or no access to service including: Carlow, Roscommon, Laois, Longford, and Offaly. Smokers wishing to access intensive cessation services in these areas are required to travel or access temporary, short-term services if and when they are available in their area. In line with the NICE guidelines, adequate staffing levels should be achieved to ensure quality SC services that can provide sufficient support to smokers in promoting their quit attempts.

Recommendations

1. Clear management structures at national level should be established for SC services. This management structure could provide clear direction for SC service providers and take responsibility for national monitoring, evaluation and service planning.
2. National practice guidelines for the provision of SC services should be agreed and implemented. These should include unified criteria for defining a successful quit attempt, standardized monitoring and evaluation procedures and an increased emphasis on CO validation of self reported successful quit attempts.
3. Resources should be increased to ensure staffing levels that can adequately reach 5.0% of the smoking population with a sufficient level of service (90 min per smoker) per year in line with the NICE recommendations.

Attention to these findings and recommendations would help the Irish health service to ensure efficient and effective SC services that can adequately respond to the challenge of reducing tobacco use: an important public policy action that will bring about significant health gains.

Strengths and limitations of this study

One of the challenges of conducting a census of this type was the lack of standardisation at the national level in all aspects of the service. Designing a tool to effectively capture information on a diverse service proved challenging; however, through follow-up telephone calls to respondents, non-respondents and managers, the authors feel that accurate information was attained. The availability of services relative to need was assessed assuming that the demand for SC services is constant across counties; the linear regression model does not consider differences in service utilisation.

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