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Treatment for erectile dysfunction among older men in Northern Ireland

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ABSTRACT

Background

Erectile dysfunction is common among older men; however, diagnosis and treatment compared to reported prevalence is low. We aim to identify the degree to which older men are offered treatment for the condition and determine the level of unmet need within Northern Ireland (NI).

Methodology

Analysis of data collected using a cross-sectional survey was conducted for men aged ≥ 60 years with data weighted to the NI population by age and deprivation. Respondents answered questions on sociodemographic factors, health-related characteristics, ability to function sexually, level of sexual interest and activity, and any treatment offered to improve erections in the last 3 years. Results are presented as proportions reporting treatment receipt, with differences by respondent characteristics assessed using chi-square tests and multivariable logistic regression.

Results

Among 2,597 respondents, 46.5% reported erectile dysfunction. One quarter (25.8%) recalled being offered either medication, devices or specialised services to improve erections. The offer of treatment was associated with younger age, being separated or divorced, higher number of long-term conditions, and greater interest in sex. Of men reporting erectile dysfunction and offered medication, 28.8% found them helpful and currently use them.

Conclusions

As a result of not being offered treatment or not finding treatment useful, 93% of men reporting erectile dysfunction have no help with the condition. This is a likely consequence of treatment availability through the NHS in NI, but also suggests that healthcare professionals need to engage more proactively with older men, discussing sexual health routinely and following up those treated for the condition.

What's known

Erectile dysfunction (ED) is common among older men and is associated with poor general health and well-being. However, despite treatments for ED being available, diagnosis and treatment of the condition is low compared to its reported prevalence.

What's new

Almost half of men aged 60 and over report moderate-to-severe ED, yet 93% of men reporting ED have no help with it as a result of not being offered treatment or not finding treatment helpful. Consequently, there is a need to address the lack of offered assistance for the condition and to provide additional follow up to those not finding treatment helpful.

1. INTRODUCTION

Erectile dysfunction (ED) is common among older men and increases with advancing age.¹⁻³ In addition to the significant emotional and relationship difficulties^{4,5} that these problems cause, ED is a recognised indicator of cardiovascular disease,⁶ and is associated with hypertension, diabetes and depression.⁷ Those with poorer general health are also more likely to report lower levels of sexual activity and higher levels of sexual problems.^{8,9}

Despite these issues, diagnosis and treatment of ED compared to its reported prevalence by men in epidemiological studies is low.¹⁰⁻¹² While this is partly because of men not seeking help for a variety of reasons, such as embarrassment or believing the condition was not severe or a normal part of ageing,¹³ there is also evidence indicating that even when men discuss ED with a health professional many do not receive treatment or use medication.¹² With treatment rates consequently low, one solution is for health professionals to initiate discussion on sexual health with patients when they attend medical facilities for other reasons.¹² However, this is not common practice with less than 4% of men indicating that they have been asked by a doctor about possible sexual difficulties in a routine visit.¹³ Despite this evidence, no detailed UK studies have investigated the degree to which older men in the general population, regardless of whether they have reported ED, are being offered help with their sexual health.

In this study we investigate the frequency of offers of medication, devices and specialist services via the NHS to improve erections among men aged over 60 in Northern Ireland (NI), a devolved nation of the UK. We consider all men within the

general population (excluding those with prostate cancer) and investigate a range of sociodemographic and health-related characteristics, in addition to self-reported sexual activity levels and level of interest in sex. Consequently, we aim to identify whether treatment is being offered to men in need of help and determine the level of unmet need within NI.

2. METHODOLOGY

2.1: Data collection

The data utilised were originally collected as part of the Life After Prostate Cancer Diagnosis¹⁴ (LAPCD) project for the purpose of acting as a general population baseline. In this survey, 10,000 men from NI, with no history of prostate cancer and aged over 40, were randomly selected from the NI General Practice Register by the Business Service Organisation (BSO). The sample was stratified by age based upon the age distribution of prostate cancer survivors (alive 1-3 years after diagnosis), while the NI Cancer Registry checked that men with a previous prostate cancer diagnosis were excluded.

Rigorous procedures, documented in detail by Downing et al¹⁴ were put in place to ensure respondent confidentiality. In brief, BSO dispatched questionnaires by post in September and October 2016, with a unique reference number (URN) on the form. Responses were returned to an external survey provider (Picker Institute Europe) who entered the data associated with the URN. Geographic information such as Health Trust, deprivation quintile derived from the Super Output Area level NI multiple deprivation measure¹⁵ and urban/rural indicator assigned using the NI statistical classification and delineation of settlements,¹⁶ was provided by BSO and linked via URN. An anonymised database was then prepared and made available for analysis.

2.2: Questions

The survey was adapted from the *LAPCD* survey of prostate cancer survivors and was tested for acceptability, content and clarity by a focus group of older men, contacted

through a local charity. Questions included information on marital status, long-term conditions (e.g. heart condition, diabetes) and height and weight which were then used to determine body mass index (BMI). General health was evaluated using the EQ-5D self-assessed health score which ranges from 0 (worst health you can imagine) to 100 (best health you can imagine).¹⁷

Responses to questions from the 26-item Expanded Prostate Cancer Composite (EPIC-26)¹⁸ were used to determine whether men experienced ED or overall sexual dysfunction, with "Very poor to none" and "Poor" ability to have an erection in the past four weeks constituting ED (q9a, supplementary file 1) and "No problem" with sexual function in the past four weeks (q13, supplementary file 1) constituting no problem with sexual function. Two additional sexual questions from the EORTC QLQ-PR25¹⁹ were included to determine the extent of interest in sex and the extent of sexual activity (q15-16, supplementary file 1). Three questions were included specifically on whether men had used one or more of three services to improve erections in the past 3 years: medications (e.g. tablets, penis injections, gels), devices (e.g. vacuum pump, penile prosthesis), and specialised services (e.g. counselling, psychosexual clinics). The respondent had seven response options: "I was not offered this", "I was offered this but did not want it", "I was offered this but have not tried it", "I was offered this and tried it but it was not helpful", "I was offered this and it helped, but I am not using it now", "I was offered this, it helps and I use it sometimes" and "I was offered this, it helps and I use it often" (q17-19, supplementary file 1).

2.3: Statistical analysis

The sample was designed to match the age structure of prostate cancer survivors, thus only 12.1% of the sample was aged 40-59. This is considerably lower than the NI

general population, where 59.6% of men aged 40 and over are aged 40-59.²⁰ In order to increase the representativeness of the results men aged 40-59 were thus excluded and data were weighted by age and deprivation to that of the 2011 NI Census of Population.²⁰

Missing values to individual questions were excluded from the analysis, with responses to individual questions thus reported as proportions of the men who responded to that question. Chi-square tests were used to compare proportions, with the Bonferroni correction applied to compensate for multiple comparisons.

Multivariable binary logistic regression was used to model whether or not offers for services had been made for all men, those currently reporting ED and those currently reporting no problems with sexual function. Respondents' age, Health Trust of residence, area based deprivation, urban/rural status, marital status, number of long-term conditions, general health, body mass index (BMI), extent of interest in sex, extent of sexual activity, and reporting ED (for all men only) were investigated as independent variables. A backwards stepwise approach was used with results presented as adjusted odds ratios with 95% confidence intervals.

Analysis was conducted using SPSS v22 (IBM Corp, 2013, NY USA).

3. RESULTS

A total of 2,597 men aged 60 and over responded to the survey, a response rate of 30.9% in that age group. Key characteristics of survey participants are shown in Table 1. The mean age of respondents was 70.4 years, with 53.3% of men aged 60-69 and 75.2% married. Of respondents 22.0% of men were resident in the least deprived areas compared to 17.8% in the most deprived areas, while 64.3% of respondents were resident in urban areas. The mean self-assessed health score was 77.2 with 22.2% of men scoring under 70, while 20.8% of men reported three or more long-term conditions and 20.5% were classified as obese according to their BMI.

Among men aged 60 and over 46.5% reported ED, with this proportion increasing by age (34.6% for 60-69 year olds vs. 81.0% for 80+ year olds, $p < 0.001$). Prevalence of ED was also greater among widowed men, those with a higher number of long-term conditions, men classified as obese and those with poorer general health (all $p < 0.001$). Conversely 42.1% of men aged 60 and over reported no problems with sexual function (Table 1).

3.1 Offer of treatment to improve erections

Among all men aged 60 and over in the general population 18.0% recalled (either opportunistically or in response to a request) being offered medications to improve erections in the past 3 years, 2.9% being offered devices or aids, and 3.1% being offered specialised services. One in five (19.1%) men was offered at least one of these services. Specifically among men reporting ED, 24.8% reported being offered medications, 4.4% were offered devices or aids and 3.6% were offered specialised services, with 25.8% being offered at least one of these. Of those men currently

reporting no problems with sexual function, 7.7% recalled being offered one of these services in the past 3 years (Table 2).

For all respondents, medications to improve sexual function were more commonly offered to those aged 60-69 and 70-79 compared to those aged 80 and over ($p<0.001$); however there was no significant relationship to age for the offer of devices or specialised services to improve sexual function. Single men were less likely to be offered services, with help more commonly offered to those separated/divorced ($p<0.001$). Men with greater numbers of long-term conditions were more likely to report an offer of all three services (medications: $p<0.001$, devices: $p=0.005$, specialised services: $p=0.008$). Poorer general health ($p<0.001$) and higher deprivation ($p=0.003$) were significantly associated with the offer of devices, while higher BMI was significantly associated with the offer of medication ($p<0.001$). Neither Health Trust nor urban/rural indicator of area of residence were related to the offer of services (Table 2).

Among the subgroup currently reporting ED ($n=1,128$), the offer of services decreased with increasing age ($p<0.001$), with those who are single and widowed less likely than divorced/separated men to be offered medications ($p<0.001$). This pattern was also evident for men reporting no problems with sexual function ($p=0.004$). There were no other significant associations with socio-demographic factors for men either reporting ED or no problems with sexual function (table 2).

Among all men aged 60 and over in the general population and those specifically reporting ED, medications were more commonly offered to those very interested in sex ($p=0.002$ and $p<0.001$ respectively), while devices ($p=0.002$) and specialised services ($p<0.001$) were more commonly offered to men in the general population who

indicated that they were not interested in sex. However, among those currently reporting ED interest in sex was not a significant factor in the offer of devices or specialised services. Greater reported levels of sexual activity were associated with the offer of services among those reporting ED ($p<0.001$); however, extent of sexual activity had no significant relationship to the offer of services to improve sexual function overall or for men reporting no problems with sexual function (Table 3).

In multivariable analysis the strongest predictor of the offer of services in order to improve erections over the past 3 years to all responders aged 60 and over was reporting of ED in the survey. Men who were aged 80 and over ($p<0.001$) or were single (compared to married) ($p=0.011$) were less likely to be offered services, while those separated/divorced (compared to married) ($p=0.009$), with one or more long-term conditions ($p=0.002$), classified as overweight ($p=0.037$) and reporting greater interest in sex ($p<0.001$) were more likely to be offered help. Similar patterns were evident for men currently reporting ED, with the exception that BMI was not a significant predictor of the offer of services. Similarly age, marital status, number of long-term conditions and BMI, but not extent of interest in sex, were associated with the offer of services for men currently reporting no problems with sexual function (Table 4).

3.2 Effectiveness of treatment to improve erections

The proportion of all men who reported being offered treatments for ED and are currently using them because they were helpful was 36.4% for medication, 8.7% for devices, and 12.5% for specialised services. A further 15.8% of men found medications useful but were not currently using them, with similar proportions finding devices (11.6%) and specialised services helpful (15.3%) without current use. High

proportions of men offered devices (59.4%) or specialised services (61.1%) did not want or have not tried them (Figure 1).

Among the group of men currently reporting ED and offered medications in the past 3 years 28.8% reported that they were helpful and currently used (7.1% of all men reporting ED regardless of whether they had been offered help); however, 31.8% indicated that they had tried them but not found them useful. Among men currently reporting no problems with sexual function who had been offered medications in the past 3 years 46.0% reported that they were helpful and currently used, while only 3.2% indicated that they had tried them but not found them useful (Figure 2).

4. DISCUSSION

This large population based survey has examined offers of treatment for ED among older men for the first time in NI. We found in keeping with studies in UK² and USA⁹ that almost half of men aged 60 and over report moderate-to-severe ED. Despite the high prevalence of ED, and the relationship between ED and other diseases,⁴⁻⁹ only one in five of these men reported being offered treatment to improve erections over the past 3 years. This proportion decreases with increasing age, but increases with extent of interest in sex reported and number of long-term conditions, the latter suggesting greater level of discussion with service providers regarding sexual issues when there is regular service contact.

This finding is supported by previous studies that have focused on treatment rates of ED compared to its reported prevalence. Observational studies in the USA indicate that significantly fewer men receive ED diagnosis and treatment than the proportion of men who experience it.¹⁰ Despite being a common condition, the proportion of men who seek help for ED from a doctor ranges from 22-26%,^{13,21} or 35% from a health professional in general.¹¹ This proportion increases with severity, yet still less than half of men with severe ED seek professional help for the condition.¹¹

A range of reasons contribute to men not receiving, or being offered treatment for ED. One of the primary contributors in NI is restrictions on the availability of prescription medication for this condition via the NHS. Unlike in England, Wales and Scotland, sildenafil, tadalafil and vardenafil cannot be prescribed by a primary care (general) practitioner (GP) unless the patients had other medical conditions or treatment such as diabetes or prostatectomy,²² instead only a specialist can prescribe these drugs

putting greater onus on the men suffering from this condition to seek assistance. While the availability of Viagra via a pharmacist without prescription has recently become an option in NI and may allow additional men to get help, this is without the benefit of professional medical advice or discussion about potential causes of the problem.

However older men often find asking for help with their sex life challenging because of issues including embarrassment and shame.^{23,24} They can believe that problems with sexual function are normal given their age and be unaware of its relationship with other health conditions.^{13,21} There are also barriers on the health service side. Only 4% of men report being asked by a doctor about sexual problems during a routine visit, despite over one third of men believing that they should.¹³ GPs report time pressures, lack of training, concerns over use of appropriate language, gender and ethnic background differences as reasons for lack of engagement with patients on these issues.^{25,26} However, other reasons such as ageism and being uncomfortable talking about sex are also known barriers for healthcare professionals.^{27,28}

4.1: Service implications

Overcoming these barriers is not a simple task, but is potentially worthwhile as ED is not only a health condition in of itself but can also be a symptom of cardiac disease⁶ as well as having an association with diabetes,⁷ and depression⁴ while men experiencing poorer general health are less likely to be sexually active and more likely to report sexual problems.^{8,9} New ways of breaking down the barriers surrounding discussions of this condition, such as online information,²⁹ can help in increasing clinical diagnosis of ED. There are also educational and awareness-raising priorities for healthcare professionals (including GPs, who are, in NI, most likely to be the primary source of advice about sexual difficulties); while patients over 60 typically have

several morbidities,³⁰ it is important to consider sexual function amongst the other reasons these patients may consult a doctor.

It is essential to identify solutions which are effective and yet do not put extra burden on already stretched primary care services.³¹ Approaches might include routine use of a simple sexual health instrument that facilitates the provision of some basic support and signposting onwards to appropriate resources. Recognising the growing need for sexual care within an ageing population, and mindful of limited resources and the sensitivity of the subject area, it may be necessary to develop online self-management programmes where men/couples would be empowered to manage their own sexual issues with appropriate support from health professionals where necessary.

Common co-morbidities such as depression and diabetes are strongly associated with sexual health problems in elderly people.^{32,33} Incorporation of sexual health screening into existing management protocols for these common conditions should thus be encouraged. Such screening for common problems in primary care elderly populations is entirely feasible³⁴ - issues relating to sexuality could readily be incorporated into the growing number of geriatric screening instruments already available.

Healthcare professionals need training to provide them with the knowledge and skills to engage with patients regarding sexual health.³⁵ Such training should challenge attitudes to sex among healthcare professionals and illustrate how these influence their clinical behavior, as well as highlighting the importance of taking the lead in discussions with men on sexual issues. GPs should approach the topic with patients routinely, normalising the issue, treating it like any other healthcare challenge. This will give the patient the message that sexual health is an important issue and needs to be addressed. Through time, the stigma will be reduced.

If an increase in diagnosis resulted from any additional initiatives, this would likely lead to increased referrals for sexual difficulties, and additional services may need to be made available to address any unmet need. Five Health Trusts currently exist in NI, yet in a survey in which four of these Trusts responded, only two offered an ED clinic, two counselling and one a psychosexual clinic.³⁶ This is slightly lower than in other parts of the UK; however, not all Clinical Commissioning Groups (CCGs)/Health Boards in England, Wales and Scotland offer specialised treatment for erectile and other forms of sexual dysfunction,³⁶ although GPs in each CCG/Health Board will be able to provide help in many circumstances.

4.2: Treatment effectiveness

Worryingly many men in receipt of treatments to improve erections do not find these treatments helpful or are unwilling to use them. This reflects findings regarding the use of penile rehabilitation programmes following prostate cancer where evidence shows that most men stop using ED treatments within 2 years.^{37,38} More research in this area is warranted to determine why many men do not find these services helpful or are unwilling to use them. With ongoing advances in pharmacological treatment options, it is unfortunate that around 93% of men who report ED are either not offered services to improve sexual function or are offered them but do not use them. Of those men who do not report sexual functioning problems, almost half of those receiving treatment found them helpful suggesting that there are definite benefits to be had.

4.3 Study limitations

This study uses data originally collected to compare prevalence of sexual dysfunction (and other conditions) in the general population with that of prostate cancer survivors. Consequently, men with prostate cancer were excluded at the data collection phase,

which may result in an underestimation in the prevalence of ED in the general population. In addition, ED and sexual dysfunction in general are identified through self-assessment and may not represent clinically recognised definitions of the conditions.

The survey response rate of 30% is less than optimal and may result in responder bias. However, the response rate is better than many other health surveys featuring personal sexual function questions,^{12,13,21} while compared to health surveys without sexual questions which feature face-to-face interviews and higher response rates,^{39,40} the results for health-related quality of life (measured using the EQ-5D-5L) and BMI are broadly comparable. In addition the questions on being offered treatment over the last 3 years may be subject to recall bias as respondents may not remember whether or not such offers had been made, particularly if they were not experiencing sexual function difficulties.

Finally, this study is cross sectional in nature, thus causal relationships between men reporting treatment offers and any sexual problems experienced cannot be inferred. For example, men currently reporting ED may have had the condition for some time and thus be more likely to be offered treatment to improve sexual function over the last 3 years, but conversely men reporting good ability to function sexually may do so as a result of using services after being offered them.

4.4 Conclusions

Almost half of men aged 60 and over report moderate-to-severe ED, but only one quarter of these men were offered services to improve their condition, while only 7% of men who report ED take medication because they find it helpful. A major contributor to high level of unmet need is likely to be the restrictions placed upon GPs in NI with

regards the type of men that they can prescribe help for. While this particular situation does not exist in other parts of the UK, other more general barriers to receipt of treatment include men themselves not seeking assistance. With ED a precursor or warning sign for cardiac disease and sexual health being associated with general well-being, more needs to be done to encourage men to seek help for the condition. Health professionals should thus be routinely discussing sexual issues with older men that they treat for other conditions in an effort to address the unmet need for help with this condition, as the onus, particularly in NI, is currently on men to seek help for themselves.

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Disclosures

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Author contributions

A Glaser and A Gavin are the principal investigators with the remaining authors' coinvestigators. D Donnelly conducted the statistical analysis. A Glaser, A Gavin, A Downing and T Kearney contributed to the design and management of the study. All authors contributed to interpreting the results and drafting the manuscript.

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Research ethics

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Table 1: Respondent characteristics and proportion reporting erectile dysfunction or no problems with sexual function

	Number (%) of respondents	Proportion reporting erectile dysfunction	Proportion reporting no problems with sexual function
All respondents	2,597 (100%)	46.5%	42.1%
Age group		p<0.001 ^S	p<0.001 ^S
60-69	1,385 (53.3%)	34.6%	45.7%
70-79	830 (32.0%)	53.2%	37.8%
80+	382 (14.7%)	81.0%	37.1%
Health Trust		p=0.658	p<0.001 ^S
Belfast	500 (19.2%)	46.2%	36.8%
Northern	671 (25.8%)	48.9%	42.7%
South-Eastern	544 (20.9%)	44.3%	50.1%
Southern	442 (17.0%)	46.6%	41.9%
Western	441 (17.0%)	46.0%	37.7%
Deprivation indicator		p=0.010	p<0.001 ^S
Least deprived	571 (22.0%)	42.1%	48.8%
Quintile 2	519 (20.0%)	43.8%	43.3%
Quintile 3	527 (20.3%)	45.5%	43.2%
Quintile 4	519 (20.0%)	50.9%	39.1%
Most deprived	461 (17.8%)	51.2%	34.4%
Urban/rural indicator		p=0.377	p=0.208
Urban	1,669 (64.3%)	47.2%	41.2%
Rural	928 (35.7%)	45.3%	43.8%
Marital status*		p<0.001 ^S	p=0.024
Married	1,860 (75.2%)	45.2%	41.5%
Separated/Divorced	218 (8.8%)	44.4%	36.9%
Widowed	225 (9.1%)	60.6%	46.5%
Single	171 (6.9%)	42.0%	51.5%
Number of long-term conditions		p<0.001 ^S	p<0.001 ^S
No conditions	747 (28.7%)	29.8%	55.2%
1-2 conditions	1,311 (50.5%)	46.0%	41.2%

3 or more conditions	540 (20.8%)	71.4%	25.9%
Body Mass Index (BMI)		p<0.001 ^S	p<0.001 ^S
Under & healthy weight (0-25)	717 (30.3%)	42.0%	46.6%
Overweight (25-30)	1,164 (49.2%)	44.0%	43.0%
Obese (30+)	486 (20.5%)	56.7%	32.8%
Self-assessed health score		p<0.001 ^S	p<0.001 ^S
90 and over (better health)	974 (38.4%)	30.6%	55.1%
80 - 89.9	598 (23.5%)	43.7%	43.0%
70 - 79.9	404 (15.9%)	56.0%	36.4%
Under 70 (poorer health)	563 (22.2%)	69.8%	22.9%

Notes:

Data are weighted to the NI population by age and deprivation.

Breakdown by self-reported erectile/sexual dysfunction excludes respondents who did not answer that question.

p-value is the result of chi-square test for variation in the proportion reporting erectile/sexual dysfunction for that variable. "S" denotes variation is significant at a 95% significance level after Bonferonni correction for multiple comparisons

** Includes civil partnership equivalents.*

Table 2: Proportion of men aged 60 and over offered treatment to aid or improve erections by demographic and health-related characteristics

	Proportion of men aged 60 and over who had been offered service to improve erections				Proportion of men aged 60 and over currently reporting erectile dysfunction who had been offered service to improve erections				Proportion of men aged 60 and over currently reporting no problems with sexual function who had been offered service to improve erections			
	Medications (n=2,331)	Devices or aids (n=2,312)	Specialised services (n=2,307)	Any service (n=2,324)	Medications (n=1,059)	Devices or aids (n=1,053)	Specialised services (n=1,044)	Any service (n=1,054)	Medications (n=921)	Devices or aids (n=918)	Specialised services (n=917)	Any service (n=918)
All respondents	18.0%	2.9%	3.1%	19.1%	24.8%	4.4%	3.6%	25.8%	6.9%	1.1%	1.5%	7.7%
Age group	p<0.001 ^S	p=0.084	p=0.173	p<0.001 ^S	p<0.001 ^S	p=0.394	p=0.446	p<0.001 ^S	p=0.013	p=0.462	p=0.118	p=0.010
60-69	19.1%	2.3%	2.5%	19.7%	31.2%	3.9%	3.8%	31.9%	7.3%	1.1%	0.9%	7.4%
70-79	19.9%	3.5%	3.7%	21.5%	27.0%	5.4%	4.2%	28.3%	8.7%	1.5%	2.8%	10.6%
80+	8.3%	4.2%	3.9%	10.0%	8.9%	3.5%	2.5%	9.7%	0.0%	0.0%	1.5%	1.5%
Health Trust	p=0.746	p=0.114	p=0.978	p=0.702	p=0.928	p=0.234	p=0.908	p=0.909	p=0.390	p=0.337	p=0.054	p=0.262
Belfast	17.7%	3.4%	3.3%	18.5%	26.2%	5.5%	4.4%	26.8%	4.2%	0.0%	0.0%	4.3%
Northern	17.4%	2.4%	3.2%	18.8%	23.1%	2.9%	3.1%	23.9%	8.6%	1.6%	1.1%	9.3%
South Eastern	16.6%	2.4%	2.9%	17.4%	24.8%	4.7%	4.5%	25.7%	5.2%	0.5%	1.5%	6.3%
Southern	19.6%	4.8%	2.8%	20.6%	24.5%	6.5%	2.8%	26.2%	8.6%	2.2%	1.1%	8.8%
Western	19.2%	2.0%	3.3%	20.5%	26.4%	2.8%	3.4%	27.6%	8.0%	1.3%	4.1%	10.1%
Deprivation indicator	p=0.416	p=0.003 ^S	p=0.071	p=0.292	p=0.542	p=0.026	p=0.243	p=0.531	p=0.886	p=0.154	p=0.687	p=0.865
Least deprived	15.9%	1.9%	2.8%	16.7%	25.3%	4.1%	4.2%	25.9%	5.9%	0.4%	1.1%	6.6%
Quintile 2	18.7%	3.3%	3.0%	19.2%	24.5%	3.3%	2.7%	24.7%	6.7%	2.2%	1.8%	7.4%
Quintile 3	18.7%	3.5%	2.6%	19.8%	26.5%	6.7%	3.1%	28.0%	7.1%	2.2%	2.2%	8.0%
Quintile 4	16.6%	1.0%	2.1%	18.0%	21.0%	1.1%	2.4%	22.2%	7.0%	0.7%	0.5%	7.6%
Most deprived	20.3%	5.3%	5.4%	22.1%	27.3%	6.8%	5.9%	28.7%	8.5%	0.0%	2.0%	10.0%
Urban/rural indicator	p=0.037	p=0.523	p=0.216	p=0.059	p=0.030	p=0.293	p=0.124	p=0.051	p=0.769	p=0.138	p=0.684	p=0.563
Urban	19.2%	3.1%	3.4%	20.2%	27.0%	4.9%	4.3%	27.8%	6.7%	0.7%	1.3%	7.3%
Rural	15.8%	2.6%	2.5%	17.0%	20.9%	3.4%	2.5%	22.3%	7.2%	1.8%	1.7%	8.4%
Marital status*	p<0.001 ^S	p=0.149	p=0.551	p<0.001 ^S	p<0.001 ^S	p=0.108	p=0.771	p<0.001 ^S	p=0.004 ^S	p=0.476	p=0.390	p=0.009
Married	18.1%	2.9%	3.3%	19.1%	25.8%	4.2%	4.0%	26.8%	6.5%	1.0%	1.6%	7.4%
Separated/Divorced	27.6%	4.7%	3.6%	28.7%	37.6%	8.4%	4.7%	39.2%	15.9%	2.9%	2.8%	15.9%
Widowed	13.4%	2.9%	1.9%	14.4%	12.8%	3.1%	2.4%	14.3%	9.9%	1.4%	0.0%	10.2%
Single	6.7%	0.8%	1.5%	7.5%	11.3%	0.0%	1.6%	11.5%	0.0%	0.0%	0.0%	0.0%

Number of long-term conditions	p<0.001 ^S	p=0.005 ^S	p=0.008	p<0.001 ^S	p=0.052	p=0.391	p=0.507	p=0.030	p=0.272	p=0.711	p=0.540	p=0.375
No conditions	11.5%	1.4%	1.3%	11.9%	18.3%	3.6%	2.5%	18.4%	5.5%	0.8%	1.2%	6.2%
1-2 conditions	19.0%	3.1%	3.7%	20.4%	25.4%	3.8%	3.5%	26.8%	7.4%	1.3%	1.9%	8.4%
3 or more conditions	24.2%	4.7%	4.1%	25.6%	27.6%	5.7%	4.6%	28.5%	9.4%	1.6%	0.8%	9.6%
Body Mass Index (BMI)	p=0.001 ^S	p=0.045	p=0.087	p=0.001 ^S	p=0.319	p=0.378	p=0.433	p=0.386	p=0.020	p=0.347	p=0.892	p=0.047
Under & healthy weight (0-25)	13.7%	1.4%	1.8%	14.5%	22.4%	2.8%	2.4%	23.4%	3.9%	0.4%	1.2%	4.8%
Overweight (25-30)	20.0%	3.1%	3.2%	20.8%	27.5%	4.8%	4.3%	28.2%	8.4%	1.5%	1.4%	8.8%
Obese (30+)	21.1%	3.7%	3.9%	23.0%	25.8%	4.6%	4.1%	27.6%	10.1%	1.6%	1.3%	10.9%
Self-assessed health score	p=0.124	p<0.001 ^S	p=0.032	p=0.056	p=0.968	p=0.007	p=0.029	p=0.964	p=0.143	p=0.931	p=0.412	p=0.182
90 and over (better health)	16.2%	2.2%	2.3%	17.3%	25.9%	3.6%	1.4%	26.4%	6.6%	1.2%	2.0%	7.9%
80 - 89.9	16.7%	1.2%	2.2%	16.9%	24.2%	0.9%	2.3%	24.5%	6.3%	0.9%	0.9%	6.7%
70 - 79.9	19.8%	3.1%	3.5%	21.0%	24.3%	4.5%	5.5%	26.0%	11.7%	1.6%	1.5%	11.8%
Under 70 (poorer health)	20.7%	5.5%	4.9%	22.3%	24.9%	6.7%	5.2%	26.2%	4.4%	0.7%	0.0%	4.4%

Notes:

Data are weighted to the NI population by age and deprivation.

Breakdown by self-reported erectile/sexual dysfunction excludes respondents who did not answer that question.

p-value is the result of chi-square test for variation in the proportion reporting offer of services for that variable. "S" denotes variation is significant at a 95% significance level after Bonferonni correction for multiple comparisons

** Includes civil partnership equivalents.*

Table 3: Proportion of men aged 60 and over offered treatment to aid or improve erections by extent of interest in sex and sexual activity (EORTC-PR25)

	Proportion of men aged 60 and over who had been offered service to improve erections				Proportion of men aged 60 and over currently reporting erectile dysfunction who had been offered service to improve erections				Proportion of men aged 60 and over currently reporting no problems with sexual function who had been offered service to improve erections			
	Medications (n=2,331)	Devices or aids (n=2,312)	Specialised services (n=2,307)	Any service (n=2,324)	Medications (n=1,059)	Devices or aids (n=1,053)	Specialised services (n=1,044)	Any service (n=1,054)	Medications (n=921)	Devices or aids (n=918)	Specialised services (n=917)	Any service (n=918)
All respondents	18.0%	2.9%	3.1%	19.1%	24.8%	4.4%	3.6%	25.8%	6.9%	1.1%	1.5%	7.7%
Extent of interest in sex	p=0.002 ^S	p=0.002 ^S	p<0.001 ^S	p=0.008 ^S	p<0.001 ^S	p=0.027	p=0.186	p<0.001 ^S	p=0.110	p=0.482	p=0.005	p=0.485
Not at all	15.1%	5.3%	6.4%	17.7%	16.9%	5.5%	5.2%	18.2%	3.1%	1.7%	4.0%	5.9%
A little	15.5%	2.0%	2.1%	16.1%	21.0%	2.3%	2.6%	21.8%	6.9%	<5	0.0%	7.0%
Quite a bit/ very much	21.0%	2.5%	2.3%	21.6%	41.0%	5.8%	3.3%	42.0%	7.9%	1.3%	1.5%	8.6%
Extent of sexual activity	p=0.981	p=0.796	p=0.090	p=0.928	p<0.001 ^S	p=0.060	p=0.018 ^S	p<0.001 ^S	p=0.161	p=0.655	p=0.084	p=0.397
Not at all	18.1%	3.0%	3.8%	19.5%	21.2%	3.5%	3.8%	22.2%	4.2%	1.2%	2.7%	6.2%
A little	18.4%	2.5%	2.0%	18.9%	27.5%	3.5%	2.2%	27.9%	7.3%	0.7%	<5	7.4%
Quite a bit/ very much	18.3%	2.5%	3.2%	19.1%	43.5%	8.4%	9.0%	45.8%	8.6%	1.5%	1.6%	9.2%

Notes:

Data are weighted to the NI population by age and deprivation.

Breakdown by self-reported erectile/sexual dysfunction excludes respondents who did not answer that question.

p-value is the result of chi-square test for variation in the proportion reporting offer of services for that variable. "S" denotes variation is significant at a 95% significance level after Bonferonni correction for multiple comparisons

"<5" refers to less than 5 respondents. Exact figure is suppressed to ensure respondent confidentiality. Significance tests are however conducted using the actual number of responses.

* Includes civil partnership equivalents.

Table 4: Odds ratios for offer of either medications, devices or specialised services to aid or improve erections

	All men aged 60 and over			Men aged 60 and over currently reporting erectile dysfunction			Men aged 60 and over currently reporting no problems with sexual function		
	Odds ratio	95% confidence interval	p-value	Odds ratio	95% confidence interval	p-value	Odds ratio	95% confidence interval	p-value
Age group									
60-69	1.00			1.00			1.00		
70-79	1.08	(0.83,1.39)	p=0.580	0.97	(0.70,1.34)	p=0.853	1.30	(0.74,2.27)	p=0.360
80+	0.40	(0.25,0.65)	p<0.001	0.28	(0.16,0.47)	p<0.001	0.23	(0.04,1.31)	p=0.098
Marital status*									
Married	1.00			1.00			1.00		
Separated/Divorced	1.62	(1.13,2.33)	p=0.009	1.53	(0.95,2.47)	p=0.080	2.44	(1.19,4.97)	p=0.014
Widowed	0.79	(0.49,1.28)	p=0.343	0.71	(0.39,1.28)	p=0.253	1.58	(0.64,3.94)	p=0.323
Single	0.40	(0.20,0.81)	p=0.011	0.37	(0.16,0.89)	p=0.026	No respondents		
Number of long-term conditions									
No conditions	1.00			1.00			1.00		
1-2 conditions	1.65	(1.20,2.27)	p=0.002	1.60	(1.02,2.50)	p=0.039	1.70	(0.91,3.16)	p=0.096
3+ conditions	1.75	(1.20,2.55)	p=0.004	1.72	(1.07,2.77)	p=0.026	2.35	(1.00,5.52)	p=0.050
Body Mass Index (BMI)									
Under & healthy weight (0-25)	1.00			Not significant			1.00		
Overweight (25-30)	1.36	(1.02,1.81)	p=0.037				1.92	(0.99,3.73)	p=0.054
Obese (30+)	1.27	(0.90,1.79)	p=0.171				2.28	(1.02,5.08)	p=0.044
Extent of interest in sex									
Not at all	1.00			1.00			Not significant		
A little	1.12	(0.78,1.60)	p=0.532	1.13	(0.78,1.65)	p=0.518			
Quite a bit/Very much	2.15	(1.49,3.10)	p<0.001	2.67	(1.79,3.97)	p<0.001			
Erectile dysfunction									
No	1.00			-	-	-	-	-	-
Yes	3.26	(2.47,4.29)	p<0.001	-	-	-	-	-	-

Notes:

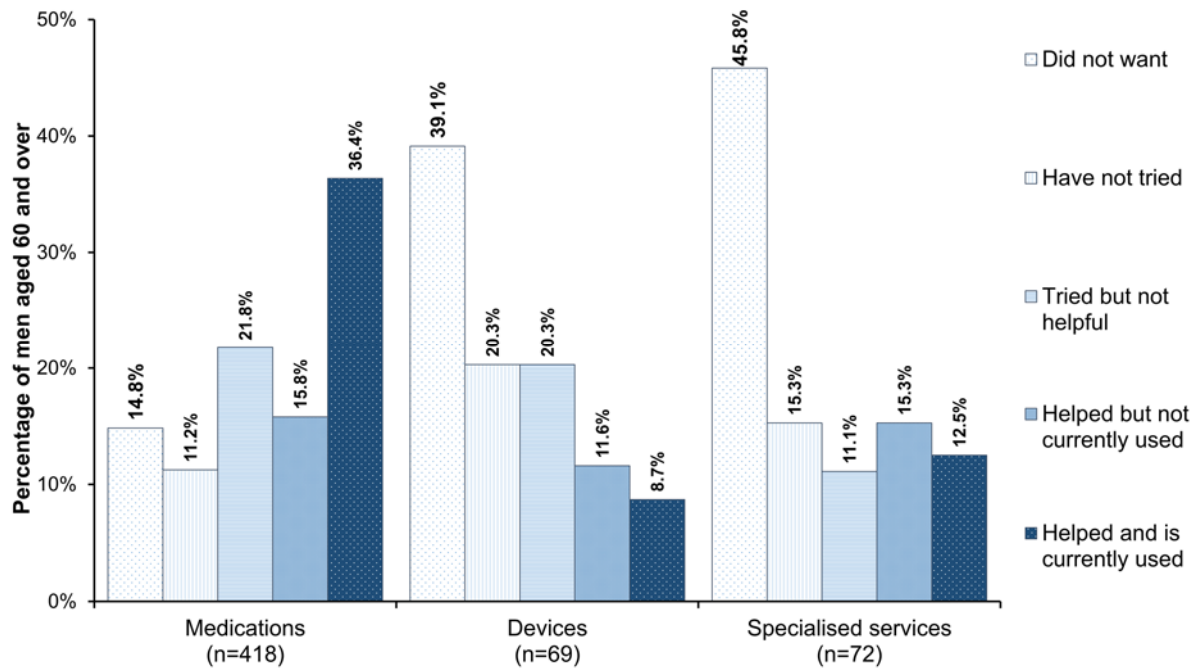
Data are weighted to the NI population by age and deprivation.

Results adjusted for other significant variables in table.

Variables which were tested but did not significantly contribute to any model include: Health Trust, Deprivation quintile, Urban/Rural indicator, General health, Extent of sexual activity. Erectile dysfunction only included as a possible covariate for all men.

** Includes civil partnership equivalents.*

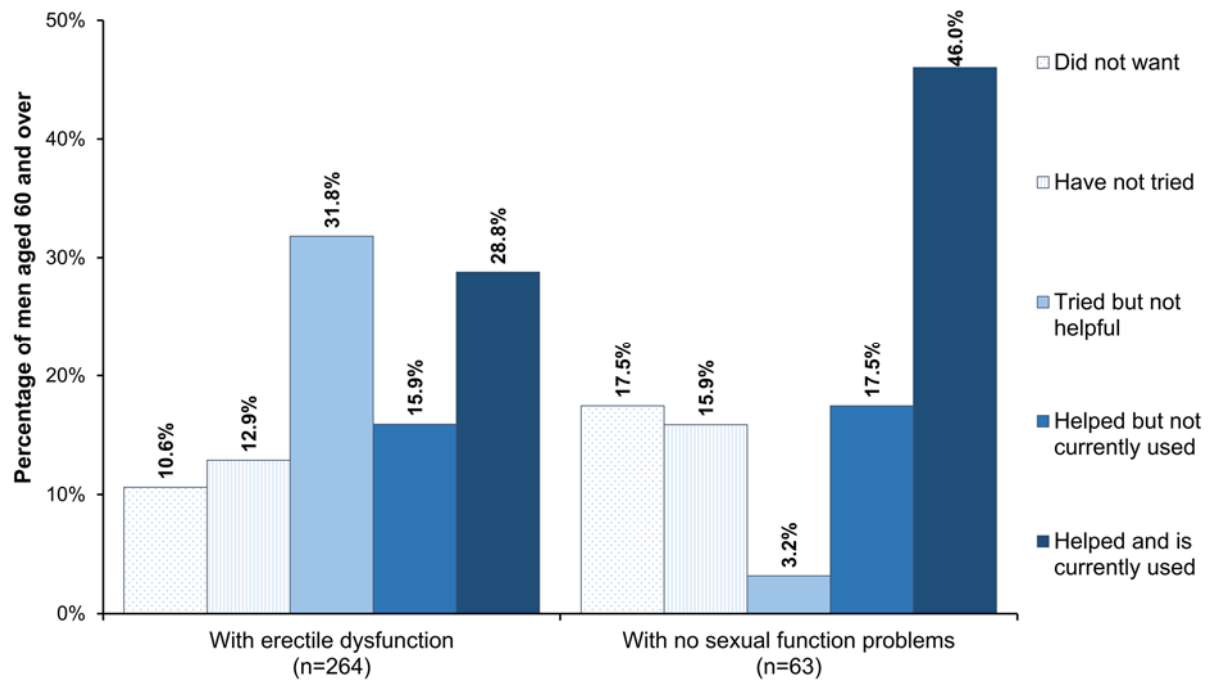
Figure 1: Men aged 60 and over offered treatment to aid or improve erections over the last three years



Notes:

Data are weighted to the NI population by age and deprivation.

Figure 2: Men currently reporting erectile dysfunction and no problems with sexual function offered medication to aid or improve erections over the last three years



Notes:

Data are weighted to the NI population by age and deprivation.