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*VIEWPOINT*

**General Practice – a key route for distribution of naloxone in the community.  
Experience, interest and training needs in Ireland**

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Heroin use continues to drive opioid-related overdoses and mortality globally (Degenhardt & Hall, 2012). Not-as-prescribed use of prescription opioids increases the number of victims of this epidemic (Logan, Liu, Paulozzi, Zhang, & Jones, 2013). Naloxone has been shown to reduce mortality in overdose among people who use heroin and other opioids; however, its administration in a number of countries, including Ireland, is limited to paramedics and health professionals (Bury, 2015), despite proven effectiveness of overdose education and naloxone distribution (OEND) programmes by trained lay-people worldwide (McAuley, Aucott, & Matheson, 2015). The effectiveness of these programmes has been demonstrated around outcomes such as knowledge, skills, attitudes and reduced overdose deaths (Coffin & Sullivan, 2013), and involved groups including social workers and needle-exchange staff as well as family and friends of people who use opioids (Walley et al., 2013). While recent systematic reviews have demonstrated the efficacy and feasibility of training diverse groups in OEND (Behar, Santos, Wheeler, Rowe, & Coffin, 2015), the potential and capacity of general practice (GP), to contribute in this area have not been fully characterised (Nielsen & Van Hout, 2016). A naloxone demonstration project is underway in Ireland at the moment and aims to reduce Ireland's high number of opioid-related deaths (Department of Health, 2015). The demonstration project is implemented through community drug services and pharmacies but does not involve routine GP care. In Ireland, GPs have extensive contact with opioid users and their families, in particular through providing opioid agonist therapy (OAT)/methadone to around one-third of all those in structured programmes of care (Farrell & Barry, 2010). General Practitioners may therefore be in an ideal position to

distribute naloxone and provide education supports. Although the role of the GP in the provision of addiction-related care has been demonstrated, and knowledge of it examined, GPs' interest and training needs in overdose prevention and management have yet to be established (Matheson, Porteous, van Teijlingen, & Bond, 2010). It is also unclear how doctors in specialist training for a career in GP perceive their roles and preparation in this area; the attitudes and values established during specialist training have the potential to determine career-long approaches to vulnerable patient groups.

We therefore administered a questionnaire to examine experience, interest and training needs for naloxone distribution among delegates attending the annual Network of GP Trainees (NGPT) Conference that took place in Kilkenny, Ireland in October 2015. Ireland has approximately 640 doctors in specialist training for GP at any time (Mansfield, Collins, O'Riordan, & Ryan, 2015). In this way, we reached around 20% of all GP trainees in the country and almost 25% of all those in the 3rd and 4th years of training of the four year programme (years one and two are spent in hospital posts, years three and four are spent in training general practices). The questionnaire included a training needs assessment (TNA) that has been used to inform addiction medicine curricula elsewhere (Pinxten, Jokubonis, Mazaliaukiene, Achmad, & De Jong, 2013).

We achieved a response rate of 61.8% (136/220) among conference delegates. The majority of respondents were female (76.6%) and under 30 years old (57.8%), with a greater proportion of those in their third and fourth year (31.3% and 30.5% respectively) than first or second (13.3% and 25.0% respectively). Overall, 88/128 (68.2%) were currently based in a designated training general practice, under the supervision of an accredited trainer. Of those based in GP, 26.7% reported that the

practice had no patients using illicit opioids, and 53.3% reported that they had fewer than 10 patients using illicit opioids. Only 16 respondents (12.6%) reported that they work in a general practice that prescribes OAT/ methadone, and only 14 (10.9%) had completed the training course required to prescribe methadone in GP (Table 1).

Most trainees (62.9%, 83/132) had used naloxone to treat an opioid overdose, in all but two cases in a hospital setting. A majority (63.6%) were in favour of wider naloxone availability, and most (57.7%) expressed interest in taking part in such a project (58 of 75 in favour). Those in favour of wider naloxone distribution reported higher competence in maintaining treatment of people with substance use disorders (mean 2.62 vs. 2.27,  $p<0.05$ ). Scores of TNA domains (assessment, starting treatment, maintaining treatment) ranged from 2.5 to 2.8 out of 5 (1=not proficient, 5=fully proficient), suggesting limited confidence in managing these clinical tasks. Most trainees (92.3%, 108/117) considered addiction medicine competencies of medium or high priority for their Continued Professional Development.

General Practice trainees supported the wider availability of naloxone in the community and demonstrated willingness to be involved in its distribution. Although almost two-thirds had administered naloxone to a patient in an overdose, only 12.6% of their training practices were involved in opioid agonist treatment. At a time when opiate overdose is a leading cause of death in Ireland, it is important that GP training prepares future GPs for the continuum of care needed by people with opioid use disorders. Our data suggest that trainees have real experience of the problem at an early phase of their careers, and are conscious of the needs of people with opioid use disorders and the potential of GP to meet these needs, but receive little structured preparation for this role.

Although many doctors in training obtain first-hand experience of people who use drugs during their early years of practice, the prevailing negative attitudes within the medical profession may deter them from further engagement in addiction-related care,. Concordantly, those trainees in favour of wider naloxone distribution reported higher competence in maintaining treatment of people with substance use disorder (Pinxten et al., 2013). This supports the sense that professional competence fosters eagerness to innovate.

Our study should be interpreted with caution due to its sampling limitations. Nevertheless, this may be the sample most likely to champion overdose prevention and the wider distribution of naloxone through GP.

Respondents reported some concerns about injection risks associated with the wider availability of naloxone. A programme of education should demystify the intramuscular route of naloxone administration (Matheson et al., 2014). That said, the perceived risk of needle-stick injuries has been reported by physicians and paramedics elsewhere; the needle-less, intranasal formulation of naloxone now becoming available could enhance the capacity for naloxone distribution through GP, given its proven safety, cost-effectiveness and zero abuse potential.

A key finding of this study is the very limited exposure of GP trainees to substance misuse roles during their training in GP. In Ireland, more patients with opiate dependency die from opiate overdose each year than all those who die in road accidents. The extent of this crisis is not reflected by the preparation currently offered to future GPs in their training. Re-evaluation of the role of GP postgraduate training as part of OEND must now become a priority.

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**TABLE 1. Demographics, practice profile, experience and interest in naloxone distribution of the trainee sample (N=136)**

		N	%
<b>Trainee profile</b>			
Gender (n=128)			
	Male	30	23.4
	Female	98	76.6
Age (n=128)			
	<30 years	74	57.8
	31-40 years	51	39.8
	41-50 years	3	2.3
Current year of postgraduate training in GP (n=128)			
	1 <sup>st</sup>	17	13.3
	2 <sup>nd</sup>	32	25.0
	3 <sup>rd</sup>	39	30.5
	4 <sup>th</sup>	40	31.3
ICGP Substance Misuse Management Course completion (n=129)			
	Yes – Level 1	14	10.9
	None	115	89.2
<b>Practice profile</b>			
Province of practice (n=128)			
	Leinster	80	62.5
	Munster	31	24.2
	Connaught	12	9.4
	Ulster	5	3.9
Current training setting (n=129)			
	Hospital	39	30.2
	GP - urban	36	27.9
	GP - rural	33	25.6
	GP - mixed	19	14.7
	Other	2	1.6
<b>Experience with Naloxone</b>			
Stationed in a methadone prescribing GP practice (n=127)			
	Yes	16	12.6
	No	67	52.8
	Don't know	4	3.2
	Not applicable (hospital post)	40	31.5
N of patients using illicit opiates in the practice (n=118)			
	0	24	20.3
	<10	48	40.7
	10-30	9	7.6
	>30	9	7.6

	Not applicable (hospital post)	28	23.7
Occurrence of overdose in practice	Yes	10	8.5
	Survived?	7	70
Ever used naloxone to treat overdose (n=132)	Yes	83	62.9
	No	49	37.1
Setting (n=82):	General practice or hospice	2	2.4
	Hospital	80	97.6
Number of administrations (n=81)	1	34	42.0
	2	18	22.2
	3	8	9.9
	4	5	6.2
	>4	16	19.8
Ever prescribed take-home naloxone (n=132)	Yes	9	6.8
	No	123	93.2
Preferred route for naloxone administration, ranked from first (1=high) to last (4=low)	Intranasal (Mean, SD)	1.9	1.2
	Injectable single-dose (Mean)	2.2	0.8
	Injectable multi-dose (Mean)	2.5	0.9
<b>Wider availability of Naloxone</b>			
In favour of Injectable Naloxone Demonstration Project		84	63.6
Interested in participating		71	57.7
Need for wider availability of naloxone		84	62.7
Perceived risks – mean score (1 low risk – 5 high risk)			
Higher illicit drug use (Mean)		2.2	1.0
Overdoses with naloxone (Mean)		2.6	1.1
Needle-stick injuries to patients (Mean)		3.0	1.0
Needle-stick injuries to rescuers (Mean)		3.4	1.0
Blood-borne virus transmission (Mean)		2.9	1.0
Police involvement (Mean)		2.4	1.0
No risks (N, %)		7	5.2
Needs assessment of addiction medicine competencies (mean, SD)†		2.69	1.0
† 1=not proficient to 5=fully proficient			