

A CASE FOR THE INTEGRATION OF NALOXONE TRAINING INTO UCD'S BASIC LIFE SUPPORT COURSE FOR MEDICAL STUDENTS

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As opioid overdose deaths worldwide continue to climb, medical students must be prepared to prevent and treat opioid use disorder and overdose. Ireland has the second highest rate of drug-related deaths in the European Union, at 72 cases per million people (15-64 years).¹ New opioids, notably fentanyl derivatives, are playing a small but rising role in European drug markets. Such substances can be particularly potent, with severe and rapid respiratory depression posing a serious threat to individual and public health.¹ The administration of naloxone is standard pharmacological management to reverse opioid overdoses. Naloxone is a pure opioid antagonist that competitively binds at opioid receptor sites, this allows for its use in treatment of life threatening effects of opioid overdose, such as respiratory depression.² This practice, coupled with basic life support (BLS), can save lives.²

Early in their education at University College Dublin (UCD), medical students undergo BLS training involving instruction on cardiopulmonary resuscitation (CPR) and use of an Automated External Defibrillator (AED) with the Irish Heart Foundation. While this program is based on the curriculum of the American Heart Association (AHA) Heartsaver CPR AED course, it differs in that it does not currently include integration on using naloxone within the setting of providing BLS. The Heartsaver and BLS courses offered directly by the AHA were modified in 2015 to involve opioid overdose response training for treatment of patients with known or suspected opioid overdose.³ Similarly, in Ireland, the Pre-Hospital Emergency Care Council (PHECC) 2017 Clinical Practice Guidelines recommend that naloxone training be included as part of BLS skills training at both the community and advanced level.⁴ This additional naloxone training was adapted following research that demonstrated bystanders are best positioned to intervene with the onset of overdose symptoms as the efficacy of naloxone is inherently time dependent.⁵ The timely use of critical, life-preserving medications by bystanders trained in BLS has already been well established with the use of epinephrine injections for people suffering anaphylaxis.⁶ However, in contraindication to these recommendations from AHA and PHECC, naloxone training has not yet been integrated into the Irish Heart Foundation course provided to UCD medical students.^{3,4}

In the most recently published National Drug-Related Deaths Index from the Health Research Board (HRB), opioids continue to be the main drug group implicated in poisoning deaths in Ireland. This report presents figures on drug-related deaths in Ireland from 2008 until 2017, during this period opioids, including heroin, methadone, morphine, codeine, and other opioid analgesics, were overwhelmingly implicated in poisoning deaths (N = 1996 of 3715).⁷ In 2017, of the poisoning deaths in people who were known to be injecting at the time of the incident that lead to their death, 94% of these deaths involved opioids.⁷ Of those who injected drugs and died of a poisoning death which involved opioids in 2017, 41% were not alone at the time of the incident that led to their death, and 16% injected in a public place.⁷ Considering a number of these overdoses were witnessed represents a real opportunity for those with training in opioid overdose response and BLS to intervene, preventing significant morbidity and mortality. Notably of the deaths in people who were injecting at the time of the incident that led to their death, 41% died in Dublin City.⁷ Given that the medical students at UCD are primarily living in Dublin City and participating in clinical rotations within the city, we have a unique opportunity to respond to medical emergencies in our community. Naloxone can be safely and easily administered intranasally or by intramuscular injection.⁵ It has no potential for abuse or overdose and is pharmacologically inactive in the absence of opioids or opioid antagonists, thus even unwarranted administration would be unlikely to result in any adverse reaction. The 2015 Naloxone Demonstration Project with the HSE provided training to addiction service users, service providers, family members, and front line workers.⁸ During the course of the project, June until October 2015, when naloxone was administered by project participants during suspected opioid-overdose a potentially fatal overdose was prevented in 100% of cases (n = 5 administrations).⁸ In the evaluation of this project it was recommended to continue Train the Trainer programmes on naloxone and overdose prevention.⁸

In a 2015 survey of academic physicians and medical students in the USA, lack of knowledge and unfamiliarity with naloxone were identified as barriers to naloxone prescription.⁹ Addressing this is critical to improve

substance use disorder (SUD) education and reduce stigma around naloxone. Educational interventions grounded in harm reduction theory can increase students' knowledge and preparedness to address SUD.^{10,11} From an Irish perspective, literature has critiqued the Governmental approach, or lack thereof, regarding the issue of overdose prevention.¹² A 2017 survey conducted by UCD's Department of General Practice showed that two thirds of GPs surveyed were in favour of increased community access to naloxone, with intranasal being the delivery route of choice.¹³ Interestingly, the same survey (op cit) showed a higher interest in naloxone distribution amongst GP trainees when compared to qualified GPs.¹³ This mirrors our belief that such education should start at the foundation and move up, to match the demand for such services in our future careers. Unmet learning needs in medicine training on opioid use disorder, including diagnosis and management of opioid overdose, has potentially significant consequences on patient care.¹³

It is our hope to integrate naloxone rescue training into the medical student curriculum with the same three objectives used by Harvard Medical School's BLS-integrated naloxone training program.¹⁴ Firstly, to raise awareness about the frequency and mortality of overdoses and empower students to respond to opioid-related emergencies alongside other emergencies. Secondly, to ensure that all medical students know how to administer naloxone to patients in the hospital or in the community. This skill is particularly valuable given that a large number of opioid related deaths occur in Dublin City. Thirdly, to introduce the idea that students can talk with high-risk patients about obtaining and using naloxone for themselves or their friends or family.

We request this training while recognizing that current legislation in Ireland is a barrier to the availability of and access to naloxone. It is a prescription medicine that is meant to be prescribed to a person at risk of overdosing on opioids. A 2015 amendment to the Medicinal Products (Prescription and Control of Supply) Regulations allows for exemption from prescription control of naloxone if it is administered by a person who has satisfactorily completed a training course.⁸ This amendment was made at the recommendation of the HSE Naloxone Demonstration Project to enhance distribution and access to naloxone.⁸ The law in Ireland regarding the administration of naloxone by those who have training to recognise opioid overdose and perform BLS states:

*'There should be no exclusions from administering naloxone where the risk of opioid overdose is suspected as failure to administer naloxone may result in the death of an individual. Legislation is in place which allows intervention in an emergency situation, Civil Law (Miscellaneous Provisions) Act 2011, SI 449.'*¹³

Additionally, while nasal naloxone, Narcan, is available in other countries, it is not currently available on the European market and it is cost prohibitive.⁸ During the course, we recommend there be discussions regarding the availability of naloxone and legality around its administration. The students who participate in this program may serve as advocates for more public health measures to counter the opioid crisis and potentially participate in Train the Trainer programs with the HSE. The HSE Naloxone Demonstration Project found training in the use of naloxone to be cost-effective by preventing overdose related deaths.⁸ There may be a minor associated cost burden with the funding of this naloxone training, however this furthers the case for the simultaneous delivery of such training alongside the pre-existing BLS curriculum. Given the already established integration of naloxone training as part of the AHA Heartsaver BLS AED course and PHECC Clinical Practice Guidelines for cardiac first response, as well as the ongoing opioid crisis with a high rate of opioid-overdose deaths in Ireland, we encourage UCD School of Medicine to revise their BLS curriculum to include this much needed training.

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