The Healthy Islands Pilot
Where Isolation meets Innovation

Oireachtas Submission
September 22nd 2023
Dr Jennifer Doran
Dr Ian McCabe

A Cathaoirleach, Deputies and Senators, thank you for having us here today to address how to improve quality and duration of life for those living on Ireland's offshore islands. My name is Dr Jennifer Doran, I am medical doctor, a research physician in E health, and I also have a background in Law, having worked for over 5 years in the European Commission and Parliament, focussing in the area of regional development.

Today, I am joined by my colleagues Dr Ian McCabe and Dr Noreen Curtis. Dr Curtis will speak to you about the day-to-day realities, and challenges, of life as an island G.P., while Ian and myself will speak to you about the pilot projects in E health which the HIVE lab in the University of Galway is pioneering.

The HIVE Lab, for those of you who are unfamiliar with it, stands for Health Innovation via Engineering – we are a group of doctors, researchers, thinkers and engineers focussed on finding innovative solutions to healthcare problems using technology and engineering. We do this in the hopes of keeping the Irish population, in particular *rural populations* living longer and better, and reducing the need for admission into our hospitals and care homes.

We have focussed our work on some of the most isolated parts of Ireland – working at the frontier where 'isolation meets innovation'. Where better to start then, than the islands?

Our work began a year ago on Clare Island, with the Home Health Project, and will soon expand to Inis Turk and Inis Boffin under the umbrella of the Healthy Islands Pilot. With your support, we hope to expand beyond this and grow the suite of healthcare solutions and options on offer to Ireland's island and rural populations. We are also working on a pioneering 'virtual ward' project aimed at delaying admission and facilitating early discharge from hospital so as to keep people in their own homes for longer.

Deputies and Senators, the COVID-19 pandemic showed us what can happen when patients are unable to visit their doctors or hospitals for fear of infection. However, similar barriers to healthcare exist year-round for a large portion of the population who find attendance at their healthcare provider difficult due to distance, disability, lack of transport, responsibility for loved ones, land and livestock, or inclement weather.

In all these situations, a telemedicine solution could provide options for alternative models of care. Nowhere is this more true than in the management of chronic conditions such as hypertension, heart failure, diabetes, and other comorbidities which together represent the biggest burden on the Irish Health service. Here, telemonitoring and telemedicine have the potential to revolutionise a patient's experience of care, to save time and money for both patient and provider alike, and to alleviate some of the strain on our already heaving health service.

Modern medicine has meant that people are living longer and, correspondingly, there has been a huge increase in chronic illness[i]**.** This means that new approaches are needed to deliver healthcare

efficiently and effectively. This is especially important for those living many miles from their local tertiary care centre, whether distanced by land or sea. Telemedicine allows the secure, remote exchange of medical data between patients and healthcare professionals. It is used to increase patients' access to care and provide effective healthcare services at a distance[ii]. The overarching goals of our work are (i) to explore the impact of remotely delivered health care on the wellbeing of isolated rural communities. (ii) to evaluate its impact on patients' experience of, engagement in, and management of, their own health and chronic conditions, (iii) and to investigate barriers to the adoption of digital health, wellbeing and monitoring among adult populations in rural communities.

Clare Island, where we began our work a year ago, is home to a community of 160 people who have carved out a living for themselves on a remote island 5 kilometres off the West coast of Ireland. Serviced by a single doctor who travels weekly to the island from the mainland, it is home not least to several newborn babies, but also to an ageing population attempting to live with, and manage, a complex tapestry of chronic conditions and comorbidities. For many, a routine hospital appointment can mean days away from home, an arduous journey via boat, bus, and car, together with a costly stay on the mainland until weather permits a return home (and that's before we mention slippery cement steps at both island and mainland piers, where you sometimes have to take your life in your hands getting on and off the boat!). This is particularly challenging for those with physical disabilities or activity-limiting health conditions. . In our work we are conducting feasibility studies into the ways in which the use of remote delivery of healthcare and health promotion can improve the health of a rural community, and examining its impact on people's lives on both an individual and community level, with a view to expanding this pilot model to other islands and across rural Ireland.

As my colleague Dr McCabe will explain, through our work on the Healthy Islands Project and the Home Health project, together with our partners in the HSE, CISCO, the Western Development Commission and the HSE, we hope to bridge that gap, and level up the access to healthcare, for those living in rural and offshore areas of Ireland. Thank you.

My name is Ian Mc Cabe, I too am a member of the HIVE lab at University of Galway, lead be Prof. Derek O'Keeffe: consultant endocrinologist at UCHG and Professor of Medical Device Technology at UofG. I approach healthcare from a different origin than my colleagues having trained in Physics and Bioengineering before taking up a post-doctoral role at NUIG eight years ago. When starting that position in 2015 I returned from abroad to my native Clare Island where I continue to live and work remotely.
Our work in the Home Health project is enabling us to demonstrate, in a limited way, some of the possibilities for remote healthcare driven by the rollout of high speed broadband and online communication platforms. Over the past 12months we have demonstrated remote patient monitoring, online consultations, rapid diagnostics, community health screening, and personalised nutritional and exercise goals for islanders. We have also showcased some of the more exotic capabilities that Robotics, Artificial Intelligence, and Drone Delivery have enabled. The Clare Island community has shown itself to be highly motivated and engaged partner in the adoption of these new technologies and techniques. The Island communities in general are the ideal population group with whom to develop E-Health and telemedicine in Ireland. Being both highly motivated and open-minded communities and having a greater inherent barrier to healthcare that telemedicine can directly address.
The foundation for the success of the Home Health initiative has been due in large part to two factors:

1) The careful selection of the steering group and operational team which has included:

- Steering group Quadruple Helix
    - Industry – Cisco, WDC

    - Community – Direct engagement, engage via representatives eg nurses & GP, engage vie community organisations
    - Government
        - Local –Mayo Co Co, Community Development Co
        - Regional – Mayo Co Co, WDC
        - National – HSE, DRCD, OGCIO
    - Academia – UG, UCD
- University Multi-Disciplinary Project Team from the faculties of:
    - Medicine
    - Psychology
    - Mathematics
    - Nursing
    - Engineering
    - Health & Human Nutrition
    - Epidemiology
    - Education

2) The second Factor for success is a deep and ongoing engagement with the island community through

- Multiple community information and engagement sessions during project initiation
- Employment of a dedicated community representative on the project team – our PPI lead Jack Pinder
- And close communication and support of the island GP and nursing team.

Future projects of the HIVE lab will demonstrate the possibilities for telemedicine in a Primary Care environment on Clare Island, Inishturk, and Inishbofin in the Healthy Islands project (A collaboration with the HSE funded by the Slaintecare innovation Fund), and as a means to help avoid hospitalisations in the Virtual Hospital project (funded by Cisco Ireland and SFI). We hope to continue to demonstrate that the island communities are the most suitable locations for developing and showcasing telemedicine within the Irish healthcare system. The support of this body will empower the translation of these practices from the few demonstrator islands, to all the populated offshore islands and from there out to the Irish population as a whole having been thoroughly tested and refined.

The most important collaboration in all this exciting technology and systems development has been with the General Practitioner responsible for Clare Island, Dr Noreen Lineen-Curtis. Dr Curtis has been an early adopter of telemedicine and can speak with great experience on the specific challenges of island based healthcare….

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Dr Noreen Lineen Curtis

The people of the offshore islands of Ireland, healthcare professionals and patients alike, are no strangers to using all technology available at the time to access care.

From lighting a bale of hay to signal the need for help from the mainland, to dropping medications by drone a hundred years later, many advances have been made. My father, GP to the islands for over forty years, recounts visits where he travelled on foot or bicycle to see patients and I know there was one incident involving a GP seated in an armchair in a trailer being towed behind a tractor. Now there are engines instead of oars and cars instead of bikes.

As technology has become more advanced, we have embraced it all on the islands. Using phones, faxes, emails, computers, and smartphones - all have been integrated into use for healthcare. Technology is used to help care for patients every day of the week. This latest Home Health project is a wonderful new platform for improving access to healthcare and we are eager to see it continue and expand beyond the timeline of this pilot project. In the short time since the project started, several new diagnoses have been made that most likely would have been delayed without the project, and the management of known conditions has improved. Patients are being given the knowledge and tools to become more mindful of their health and in many cases to start to self-manage their chronic conditions. They are being empowered to improve their health and this will lead to their ability to stay healthier for longer, and therefore remain independently on the island for longer. Work continues making more consultations with secondary care and the allied health professionals available electronically as well so that unnecessary travel can be eliminated. This patient-centred model should be rolled out to non-Island as well as Island communities. Improved connectivity will benefit all walks of life on the island and encourage more people to stay.

A detailed review of all of Ireland's inhabited islands was carried out between 2014 and 2016 by the HSE, and published in 2017 (**1**) Among the many recommendations , the report states that "*the HSE will work to develop telemedicine services for islands with a view to facilitating the delivery of video link consultations, providing services that promote mobile assessment and enhanced service delivery on islands in line with best practice, improving multidisciplinary working and providing online training and education*"

However, all the technology is reliant on the healthcare professionals, especially the GPs, to function. Governments own National Islands Policy 2023 – 2033 (**2**), refers to the HSE Primary Care Island Services Review and supports the need to "*Provide the Right Care in the Right Place at the Right Time"*

GPs form the foundation of the healthcare service in Ireland.
To make a simplistic comparison, if healthcare is compared to a house – GPs are the foundation. Of course, we need walls and a roof – this can be compared to our secondary and tertiary care in hospitals. The allied health services are also needed to fit and furnish the house.
However, you cannot build an extension without having more foundations, and no matter how many extra rooms are created or how many fancy fixtures and fittings you install, if you do not have a solid, adequate foundation, the cracks will appear, and the house will eventually collapse.

In the recent ICGP publication – "Shaping the Future" – it was noted that Ireland has one of the highest rural populations in Europe at 31%. However, only 15% of Irish GPs cater for this highly dispersed and often elderly population with many complex health needs. Therein lies a significant inequity of access to health care for our rural and Island populations.
Over 29 million consultations take place in General Practice each year, and each patient, on average, visits their GP 4.3 times per year. Almost a quarter of these GPs are aged over 60 (**3**)
I commenced work as a GP in Mayo in September 2001.
Over the past 22 years the population of the county has increased by approximately 20,000. The age profile has gone up. As per the CSO, Mayo has one of the highest average age profiles and one of the highest old age dependency rates in the country. People are living longer and have more complex care needs. The variety of treatment options available has risen. The workload for all healthcare professionals has gone up. With an ever-

increasing number of medical cards, the development and expansion of the Chronic Disease Management programme and the significant work that the covid vaccination programme has brought, to mention a few, the workload for GPs continues to rise all the time. This is hugely important work in terms of the benefit for individuals, families, and their communities but there are less and less GPs available to do this work.

In September 2001, there were 78 GMS GP posts in Co Mayo. At the same time, there were 21 consultant posts in the county hospital (now Mayo University Hospital). In the interim period, of 22 years, the number of consultant posts has nearly tripled to 57 and the number of GMS GP posts has not changed and remains at 78.

There are many other GPs working in the county. There are part-time and sessional GPs, but the overall number of WTEs has not increased significantly, and the GMS posts have stayed the same, with some of these not even being filled. There are 5 GMS posts in the county that remain empty, 4 of these are rural. The fact that the GMS contract still contains a 24/7/365 commitment to patients is certainly a huge factor in younger GPs voting with their feet and not taking up GMS GP posts.
Another recommendation in the Island Services Report (**1**) states that "*GPs need to be provided with adequate locum supports to enable them to take leave and to attend on-going training on a consistent basis".*

Unless the conditions improve dramatically for GPs, in particular rural and remote GPs, this country will continue to lose our highly trained and talented GPs to countries with better working conditions. Without a GP to look after the healthcare needs of an island community, the population will slowly decline. The "No Doctor No Village" campaign of 2016 is even more true for a community on an offshore island (**4**)

So, what is required to turn this around?

The 19th World Rural Health Conference, hosted in rural Ireland and the University of Limerick last year, with over 650 participants coming from 40 countries and an additional 1,600 engaging online, carefully considered this question and in response published the "Limerick Declaration on Rural healthcare" (**5**) which asserts the right of rural and Island communities to equitable access to healthcare and is a blueprint to transform healthcare for rural and Island communities on this island. This statement is also in support of World Health Assembly resolution 72.2 on primary health care (**6**), which calls on all stakeholders to provide support to Member States in mobilizing human, technological, financial and information resources to help build strong and sustainable primary health care (PHC), as envisaged in the Declaration of Astana (**7**).

The "Limerick Declaration on Rural healthcare" calls for the following key actions for Rural and Island communities:

- The current focus on large urban based healthcare infrastructure development should be widened to include investment in rural healthcare infrastructure so as to ensure decent working conditions for rural health workers. This will include funding to cover investment in innovative technological solutions to enhance but not replace the face-to-face service.

- Socially accountable higher educational Institutions need to develop rural academic educational and research infrastructure closely aligned to the communities which they serve.

- Building on established international examples, we recommend that specific undergraduate medical, nursing and allied health programmes are developed which are dedicated to producing graduates who have the skills, attitudes and desire to work in rural and remote locations

- We need targeted admission policies to enrol students with a rural background in health worker education programmes.

- Specific rural curricula and pathways should exist within undergraduate and postgraduate training where exposure to rural practice should be maximised based on the "If they can't see it, they can't be it" principle

- We need to deploy a package of fiscally sustainable financial and non-financial incentives for health

workers practising in rural and remote areas. Here in Ireland for General Practice, we have the Rural Support Framework but the criteria for access to this are very narrow and the quantum is relatively very small so both need to be increased immediately not in 2024 when it is up for review.

- Challenges of smaller rural healthcare practices should be recognized and supported through innovative solutions involving Cooperatives to deliver equitable Out of hours commitments, shared appointments, salaried posts, fellowship positions and creating partnerships and clusters of practices.

- We need guaranteed holiday, maternity, and parental leave and this should be a minimum requirement for a rural healthcare practice.

- Development of a clear rural general practice career pathway (or 'pipeline'). A target regarding the proportion of Irish medical graduates required in general practice to deliver 'Sláintecare' should be set. The equivalent figure in the UK is 50% (26).

- To provide clinical, academic and advocacy leadership for the above, Chairs of Rural General Practice should be funded within higher education institutions with, in addition, a National Clinical Lead for Rural Healthcare within the ICGP and a National Lead for Rural Healthcare delivery within the HSE. We must enable dynamic co-production of data on rural health between communities, health workers, academic researchers, policymakers and civil society organizations by mainstreaming rural research activities. The lived experiences and voices of the community need to be reflected in the research used to generate this evidence and Ring-fenced and proportional research funding accessible to communities and rural researchers building an equitable community of research practice is required to deliver this.

The recent motion from the RIDDI group at the IMO AGM of a "2 for 1" model of practice needs serious consideration.

Equitable access to healthcare is a crucial marker of democracy. Hence, I call, not only on the Irish government but on all governments, policy makers, academic institutions and communities globally, to commit to providing their rural and Island dwellers with equitable access to healthcare which is properly resourced and fundamentally patient-centred in its design, otherwise it is very clear the rural and Island communities will again be left behind.

All the technology in the world will amount to little if there are no GPs on the ground to run the services.

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