LITERATURE REVIEW

COVID-19 healthcare policies in Ireland: A rapid review of the initial pandemic response

NOREEN O'LEARY[1,2] iD, LIZ KINGSTON[2,3], ANNE GRIFFIN[1,2],
ANN-MARIE MORRISSEY[2,4], MARIA NOONAN[2,3], DERVLA KELLY[2,5],
OWEN DOODY[2,3], VIKRAM NIRANJAN[2,6,7], AOIFE GALLAGHER[1],
CLÍONA O'RIORDAN[2,4] & AOIFE LYNCH[3] iD

[1]*School of Allied Health, University of Limerick, Ireland,* [2]*Health Research Institute, University of Limerick, Ireland,*
[3]*Department of Nursing and Midwifery, University of Limerick, Ireland,* [4]*Ageing Research Centre, University of Limerick,
Ireland,* [5]*ULCan Research Cluster, University of Limerick, Ireland,* [6]*School of Medicine, University of Limerick, Ireland
and* [7]*Public Health, School of Public Health, Physiotherapy and Sports Science, University College Dublin, Ireland*

Abstract
Aims: Healthcare systems urgently required policies to guide the response to the COVID-19 pandemic. The aim of this
review was to document the healthcare policies developed during the initial wave of widespread COVID-19 transmission in
Ireland. We further sought to determine the key focus and impact of these policies. *Methods:* We conducted a rapid review
of COVID-19 healthcare policies published from 28 January to 31 May 2020. Key information including the focus of the
policy, target population and impact on service delivery was extracted from included policies. During analysis, data was
grouped under descriptive categories and narrative summaries were developed for each category. *Results:* We identified 61
healthcare policies relating to COVID-19. We developed six category headings to describe the focus and impact of these
policies: infection prevention and control ($n = 19$), residential care settings ($n = 12$), maintaining non-COVID-19 healthcare
services and supports ($n = 12$), testing and contact tracing ($n = 7$), guidance for healthcare workers concerning COVID-19
($n = 6$), and treating COVID-19 ($n = 5$). **Conclusions: This review has identified lessons for policy development
and implementation to help prepare for future healthcare emergencies. Factors to consider include support of
vulnerable groups during and in the aftermath of the pandemic, providing psychological supports for healthcare
workers and investment in public healthcare services such as contact tracing for future emergencies. While
pandemic conditions necessitate the speedy development of policies, effective communication and adequate
resourcing is required to ensure policy implementation.**

Keywords: *COVID-19, healthcare system, healthcare workers, policy, rapid review*

Introduction

COVID-19 is a coronavirus rapidly transmitting
infectious disease. It emerged as a public health
emergency of global concern in early 2020 [1].
Internationally, the development of policies in
response to COVID-19 was time-sensitive, with key
imperatives of minimising deaths, limiting the spread
of the disease, and ensuring healthcare systems were

not overwhelmed [2]. Healthcare policies at a
national level were necessary to manage the out-
break. Tracking policy responses at this level pro-
vides an understanding of an individual healthcare
system response and change over time related to key
events. It also facilitates comparison to international
responses and informs future pandemic responses.
This review provides a descriptive account, and it is

not intended to evaluate the policies. Policy responses and their stringencies will vary between countries according to national healthcare systems and the scale of infection outbreaks. Therefore, we provide information on the Irish healthcare system to contextualise the state of preparedness prior to COVID-19.

Ireland's population was estimated at *c.* 4.7 million in 2016, with a population density of 72 people/km² [3]. Life expectancy at birth is 84 years for females and 80.4 years for males [4]. The proportion of the population aged 65 or older is 14%, while the proportion aged over 85 is slightly over 1.5%. Healthcare policy in Ireland is set by the Department of Health (DOH). The Health Services Executive (HSE) implements the policies of the DOH [5] and manages the delivery of publicly funded services. Acute hospital services are delivered by both public and private hospitals. There is substantial private sector involvement in the delivery of non-acute healthcare, ranging from long-stay residential care settings to general practitioners (GPs), allied health professionals and homecare. A large proportion of the population hold supplemental private health insurance [6]. Prior to COVID-19, the Irish healthcare service was struggling to meet population needs. For example, hospital bed occupancy was 90%, 15% above the European average of 75% [4]. On 1 January 2020, there were 556,770 patients awaiting an initial outpatient hospital appointment [7]. Many non-essential healthcare services were paused, postponed, or significantly altered due to COVID-19 restrictions from 27 March to 5 May, further stretching service delivery [8]. The low number of intensive care unit (ICU) beds in public hospitals (255 in total or 5.5 per 100,000) was a critical issue in Ireland during the pandemic. On 24 March the government announced the incorporation of private hospitals into the public system for the duration of the crisis [9].

The likelihood of the occurrence of a rapidly spreading global pandemic had increased, with growing international mobility in the last two decades [10]. In Ireland, the National Pandemic Influenza Expert Group was formed in 1999 [11]. During the period of the H1N1 (swine flu) outbreak of 2009, the group published a comprehensive pandemic preparedness document, with recommendations including the development of an electronic national contact tracing system [11]. This recommendation was not implemented prior to the outbreak of COVID-19. In the aftermath of the H1N1 outbreak, the World Health Organization (WHO) warned that greater investment in public healthcare services was needed to respond to a global pandemic [12]. However, investment in Ireland's public healthcare system has reduced in recent years. A 2018 report stated this

would hamper public health ability to provide a surge response during urgent health threats [13]. Policies regarding delivery and staffing of healthcare services during pandemics were not identifiable pre-COVID-19. Therefore, Ireland was in a state of poor preparedness prior to the COVID-19 pandemic.

In Ireland, the first reported case of COVID-19 occurred on 29 February 2020 [14]. From 27 March to 31 May 2020 the Irish population were asked to enter lockdown to 'flatten the curve' of COVID-19 infection. Globally, healthcare workers (HCWs) represented the frontline response to COVID-19 in terms of assessment and treatment, necessitating close patient contact and increased risk of contracting COVID-19 [15]. Early reports from other countries, including Italy, illustrated the demands this pandemic placed on the healthcare workforce [16]. In Ireland, of the 24,924 cases reported by 31 May, approximately one-third ($n = 7963$, 31.95%) were among HCWs [17]. This had an immediate impact on staff availability for work.

The National Public Health Emergency Team (NPHET) is the Irish mechanism for co-ordinating a healthcare sector response to significant health-based emergencies [18]. The Health Protection Surveillance Centre (HPSC) is responsible for researching and monitoring infectious diseases and developing public healthcare policies and is represented on NPHET. While government responses to COVID-19 may differ in other countries, Glover and colleagues assert that despite these variations, policies developed during this pandemic will have wide-ranging impacts, in both the immediate and long term [19]. Therefore, access to information on national responses across countries is valuable. Worldwide, the spread of COVID-19 continues. Many countries are experiencing a second or third wave of the virus [20]. It is also imaginable that there will be future healthcare crises at pandemic level. Reflecting on the crisis response can support preparedness for future crisis situations [21]. Indeed, the European Centre for Disease Prevention and Control (ECDC) recommends a systematic review of the policies and response to COVID-19 to improve future healthcare preparation and response planning [22]. Moreover, policy review can highlight ongoing or legacy issues from the crisis response that will impact services as they resume [21]. This rapid review summarises healthcare policies developed during the initial response to the pandemic in Ireland. Reviewing policy development can help improve healthcare system resilience for future shocks and provide recommendations to strengthen healthcare policy and systems. This is beneficial to the overall population as the ability of the healthcare services to prepare, respond and recover from extreme events has an impact on society

as a whole [23]. Findings may also be of interest to other countries as they reflect on the COVID-19 pandemic and plan for future pandemics.

Overall, the aims of this review were to:

- document Irish healthcare policies developed in the initial response to COVID-19; and
- determine the primary focus and impact of these policies.

Methods

The original concept of conducting a rapid review of COVID-19 healthcare policy was devised by the Rapid Research, Evaluation and Appraisal Lab (RREAL) at University College London (UCL). Following a call for international researchers to conduct mirror studies we, an interprofessional group of researchers, conducted a review of Irish policy. The materials considered for this review were policy documents produced by the Irish healthcare service and published on official websites. The procedural guidelines of Tricco and colleagues were used to guide the review process [24]. Guidance was also taken from the Health Information and Quality Authority (HIQA) protocol for identifying and reviewing policy documents about COVID-19 [25].

Search strategy

The search strategy for this review was developed according to the ECLIPSE formula which is more suited to policy-focused reviews than traditional PICO formula [26] (see Supplemental Material). Searching policy documents (grey literature) is more diffuse than searching for peer-reviewed research [27]. Drawing on the strategy of the team at UCL, we identified the primary sources as the Irish government website (www.gov.ie) and the website of the HSPC (www.hspc.ie). To balance comprehensive searching with rapid review timelines, we conducted cross-referencing with the websites of the national healthcare service (www.hse.ie), the Health Information Quality Authority (www.hiqa.ie) and the national healthcare service library website (www.hse.drsteevenslibrary.ie). Search terms were: COVID-19 *OR* coronavirus *OR* corona. Searching was conducted by NOL, AM, AG, DK and LK. The initial policy search was conducted on 22 May by NOL. As policy development was rapid during this period, the search was repeated four times (AM, AG, DK, LK) between 26 May to 1 June to ensure all policies meeting inclusion criteria were included.

Screening and data extraction

AM, AG, LK, DK and NOL screened all identified policies as per the inclusion and exclusion criteria (see Supplemental Material). AG, AM and DK reviewed and refined the framework devised by the UCL team. Twenty percent of policies were double screened. Data extraction was carried out by the full author group. There were multiple revisions of the original version issued for 12 policies. A sub-group completed data extraction on these policies (AGr, MN, AL) with a focus on how they had changed over time. While reviewing other policies, earlier versions were occasionally referenced which were no longer accessible. Within the parameters of a rapid review sourcing of these earlier policy versions was not feasible. An overview of the screening process is provided in the PRISMA flow chart (see Supplemental Material) [28]. To enhance rigour, data extraction for each policy involved two members of the author group. Data was extracted to provide information from the policy document related to the category of response (for example, healthcare system preparedness and clinical response), response element (suspected cases and risk assessment, diagnosis and screening, etc.), target population, date of publication and service impact (new service and altered service delivery).

Data analysis

Given the type of data gathered and aim of the review, we drew on the data analysis approach used by Toppenberg-Pejcic and colleagues, who conducted a rapid review of grey literature relating to Ebola, Zika and Yellow Fever [29]. We grouped policies into descriptive categories and generated narrative summaries of the information per topic. Category labels are descriptive of the underpinning data, as opposed to abstractive interpretations required for the generation of themes [30]. This stage was completed by AM, OD, and NOL.

Findings

We identified 61 healthcare policies developed in response to COVID-19. A full list of policies and timelines of release and updating can be found in the Supplemental Material. The six categories we developed were:

1. Infection prevention and control ($n = 19$)
2. Residential care settings ($n = 12$)
3. Maintaining non-COVID-19 healthcare services and supports ($n = 12$)
4. Testing and contact tracing ($n = 7$)
5. Guidance for healthcare workers concerning COVID-19 ($n = 6$)
6. Treating COVID-19 ($n = 5$)

The primary focus and impact of policies on healthcare services are summarised in Table I (see Supplemental Material).

Discussion

The findings of this review provide an overview of the Irish healthcare system's policy response to COVID-19. In this section we discuss key learning points to inform effective healthcare preparedness and response to future emergencies. Furthermore, this review approach could be adopted in future situations requiring rapid healthcare policy development [31].

The early weeks of the pandemic were a time of unprecedented and rapidly evolving demand on healthcare systems. In ordinary times, Irish healthcare policy development is guided by the National Framework for developing Policies, Procedures, Protocols and Guidelines [32]. This framework sets out defined stages that must be completed sequentially [32]. During the unanticipated event of COVID-19, a document entitled *The Simple Guide to develop HSE interim clinical guidance in a COVID-19 environment* was developed [33]. This was based on existing WHO emergency guidelines [31,33]. Guidance in Ireland was typically issued following the release of similar policies or policy updates from the WHO or the ECDC. The national healthcare policies were live documents and amended when required to ensure they reflected the COVID-19 context and international evidence. The evidence base for recommendations was published when available. Where evidence was lacking, policymakers did not shy away from making recommendations and this reflected the leadership from the WHO in particular, in urging countries to take action [34]. As a consequence, there were regular updates to national healthcare policies. We contend that a greater consistency in labelling and archiving earlier versions would support more detailed mapping and understanding of policy evolution.

Infection prevention and control

The primary focus of the policies we identified was the management and reduction of transmission risk in acute hospital settings, community healthcare settings and COVID-19 specific settings including community assessment hubs. Personal protective equipment (PPE) is a key cornerstone of effective infection prevention and control practice. Access to PPE is especially essential for reducing transmission of COVID-19 to and from HCWs [35]. Ireland, like many EU countries, is a net importer of PPE [36]. During the pandemic, PPE was initially limited to staff working with COVID-19 cases, to sustain PPE supplies. Current research indicates that surgical masks are effective at containing respiratory virus epidemics [37–39]. Future consideration needs to be given to the early implementation of this low-cost intervention as part of a 'policy package' for reducing transmission of viral respiratory infections. However, correct PPE usage is as important as access. Emerging research suggests that compliance with and correct usage of PPE is higher in COVID-19 hospital wards compared to non-COVID-19 wards [40]. Therefore, correct usage must continue to be promoted for all HCWs to reduce transmission risk. The implementation and monitoring of PPE policies in areas such as residential care settings and the community may be as important as developing the policy itself.

Residential care settings

There were 12 policies issued, some with multiple revisions, to provide guidance for residential care settings for older people specifically. These polices focused on key areas of altered service delivery including infection prevention and control, management of resident's healthcare needs, and end-of-life issues. Internationally, the residential care sector for older persons has experienced the greatest impact of COVID-19 [41]. People in residential care settings are recognised as highly susceptible to COVID-19 infection and subsequent severe adverse health outcomes [41]. Additionally, congregated living environments and frequent carer-resident contacts made residential care settings high-risk for a COVID-19 outbreak [42]. The first reported confirmed case of COVID-19 in an Irish nursing home was on 13 March. By the end of the month, it was clear that COVID-19 infection had taken a substantial hold in long-term residential care with 20.3% of clusters/outbreaks reported as occurring in this setting [9,43].

We observed several revisions of policy produced for the residential care of older persons over the three-month timeframe, reflecting the fast pace at which public health advice was changing and the complex nature of care delivery in nursing homes. However, this may have led to uncertainty and confusion among staff struggling to keep up to date with policies and training while caring for acutely ill residents. Staff may feel overwhelmed when local guidelines constantly change, and this could negatively impact adherence to policy [44]. Moreover, the model of care is predominantly that of social care. Staff may not have had the same expertise, knowledge and skills in infection prevention and control practices as staff in the acute sector. Staff shortages and high rates of absenteeism arising from

COVID-19 infection were especially challenging for the sector. Contingency plans for enhanced staffing and temporary backfilling of staff to maintain optimal care provision will be required for future outbreaks [41]. Further education and implementation support including development of infection prevention and control experts in residential care settings warrant consideration. Overall, the experience of COVID-19 has shed light on the need for a more integrated working relationship between the state and the residential care sector [45].

We found that guidance for residential care settings, including community disability and mental health services or children's residential centres, was limited. People with disabilities avail of a range of community care services, many of which were suspended during COVID-19 [46]. This resulted in immense psychological distress for carers who rely on respite care and support services [47]. Future guidance needs to address the maintenance of remote support during any similar pandemics and plan for safe resumption of services.

Maintaining non-COVID-19 healthcare services and supports

Policies related to managing non-COVID-19 healthcare services and supports emphasised the prioritisation and continuation of adapted essential services across the patient pathway. This aligns with international policy to minimise an increase in morbidity and mortality from other health conditions [48]. However, there was a shutdown of many non-COVID-19 services and restoration of such services needs to be a key focus of future policy development. Before the pandemic, the Irish healthcare service was working beyond capacity [49]. Given that many services and procedures were identified as non-essential during the pandemic, there are now further delays in accessing treatment as many appointments were further postponed or cancelled [50]. A national approach to addressing the delays and disruptions caused due to COVID-19 should be prioritised to minimise the impact of the pandemic on healthcare services in the longer term. Lessons learned from COVID-19 provide opportunities to identify new ways of service delivery including the transfer of services from acute facilities to community-based delivery and the use of tele-health to provide healthcare services remotely.

Testing and contact tracing

Testing and contact tracing are essential control measures in managing infectious disease. Three policies addressed contact tracing with a focus on establishing a National Contact Management Programme (CMP). Commencing on 13 March 2020, the primary objective of this programme was the public health management of confirmed cases and their contacts. Redeployed healthcare staff, trained volunteers and public healthcare workers were responsible for the programme's delivery. We observed four updates to the contact tracing policy published within a four-week period. This led to a significant impact on the workload of the staff within the CMP. For example, expansion to tracing of asymptomatic cases was added on 22 April. This in turn slowed the tracing process, limiting the impact of contact tracing on transmission [51]. Proactive planning for developing an agile contact tracing service with capacity to scale up as required is recommended as a priority in the ongoing COVID-19 response. This would also apply to future pandemic responses and has been recommended since 2009 [11].

COVID-19 testing criteria for different populations were also amended during the pandemic and this led to periods of confusion among the public [52]. With respect to residential care settings, testing for COVID-19 was reserved for symptomatic residents initially [53]. However, COVID-19 frequently presents atypically in older persons and pre-symptomatic carriage may occur in up to 56% of residents [41]. Consequently, the policy guidance changed to include testing of all staff and residents in residential care settings, regardless of symptomology. Going forward vulnerable groups must be prioritised and their requirement for a lower screening threshold should be considered in preparedness plans.

Guidance for healthcare workers concerning COVID-19

During the first wave of COVID-19, policies involving staff reorganisation and redeployment were prioritised. This approach was critical to maintain healthcare services. Within hospitals, staff were redeployed to areas of high clinical need. Within community services, staff were redeployed to testing and contact tracing. We found that detailed national guidance about redeployment was limited. While staff were asked to work in different clinical areas, guidance from national regulatory bodies required all registered HCWs to continue to comply with their professional code of conduct and ethics and to only act within the limits of their knowledge, skills and competence [54]. This may have been challenging for staff in practical terms. Consultation with frontline staff, management and regulatory bodies could inform planning for future situations requiring large

scale redeployment. It is also important to sustain the mental and physical health of staff during crisis situations. Guidance concerning HCW welfare appeared lacking during the first wave of COVID-19. Dedicated policies relating to mental health and wellbeing of frontline HCWs would have been a valuable resource for support, considering the significant psychological impact of COVID-19 on them [55].

Treating COVID-19

Treatment protocols in Ireland were comparable to other countries and WHO guidelines. They included guidance on best practices for triage, the provision of supportive care, respiratory therapy and pharmacological interventions including corticosteroids and antivirals [56–58]. Immediate concerns related to the availability of life-saving equipment, such as ventilators for those with severe respiratory symptoms [59], and the capacity to maintain the workforce due to staff contracting COVID-19 [60]. Available data indicates that Ireland 'flattened the curve' of COVID-19 cases due to the collective response of the population to public health campaigns to mitigate against the spread of the virus [9]. This response of the Irish people avoided a situation whereby the treatment need exceeded the available capacity of the acute healthcare service to treat patients with COVID-19 during the first wave [61].

Strengths and limitations

This rapid review provides an overview of one country's healthcare policy response to the COVID-19 pandemic. A limitation of this approach is that in-depth exploration is challenging given the rapid nature of the review. However, it does provide sign-posting to topics for consideration in the evaluation of policy for international researchers. While a rapid review may not be as comprehensive as a systematic review, our methodological approach ensured a high level of rigour and thus confidence in the findings generated. Economic and social policies were outside the scope of this review. However, given the broad ranging impact of COVID-19 they warrant consideration and can be accessed via the work of Kennelly and colleagues [9].

Conclusions

The high transmissibility of COVID-19 demanded a timely and co-ordinated response where 'speed trumps perfection' [62]. It is evident from this review that policies were created and updated expediently amid unprecedented circumstances. Policies primarily focused on reducing transmission, protecting vulnerable populations and maintaining the healthcare workforce. For future crisis situations maintaining non-essential services and providing psychological supports for HCW is recommended. Proactive public health investment in resources and tools such as contact tracing is also required. Furthermore, when policies are evolving rapidly it is important that resources are provided to support communication, education, and implementation. Reflection on lessons learnt from COVID-19, including consultation with those directly impacted, should feed into national strategic planning for future healthcare emergencies.

ORCID iDs

Noreen O'Leary [iD] https://orcid.org/0000-0002-1148-2186
Aoife Lynch [iD] https://orcid.org/0000-0001-6242-1888

Supplemental material

Supplemental material for this article is available online.

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