

# The Impact on Health Service Delivery of Providing an Alternative Telephone Pathway for Acute, Non-Urgent Medical Care Needs in the Pre-hospital Setting: a Scoping Review of International Practice.



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## Background

Individuals seeking publicly funded healthcare may find it difficult to differentiate between healthcare needs that require emergency medical attention and those that are acute but non-urgent, and could be safely deferred or managed in other areas of the healthcare system. In Ireland, when primary care services, local injury units or other community health care services are unavailable, people with acute, non-urgent medical care needs who are unwilling or unable to wait must go to an emergency department (ED) or call 112/999 for an emergency ambulance in order to access healthcare. Emergency medical care services are facing significant challenges in meeting demand. The aim of alternative telephone pathways, distinct from 112/999 emergency numbers, is to triage people with acute, non-urgent medical care needs in the pre-hospital setting in order to provide timely assistance and appropriate care. As part of an ongoing health technology assessment in Ireland, a scoping review of international practice was undertaken to assess the impact of introducing such a pathway on health service delivery.

## Methods

The PICOS (population, area of interest, context, outcomes of interest, study design) framework used to formulate the international scoping review is presented in Table 1. Empirical evidence from OECD countries was sought from Medline and Embase and supplemented with grey literature sources published since 2004. Data were extracted independently by two reviewers using a standardised, pre-piloted electronic data extraction form. The scoping review adheres to the Arksey and O'Malley six-stage framework.<sup>(1)</sup>

## Results

A total of 71 studies were identified from 10 countries (Belgium, Denmark, Finland, England, Scotland, Switzerland, Australia, Canada [Alberta], Japan and New Zealand). Across studies, a wide range of health system stakeholders were considered when assessing the impact of introducing an alternative telephone pathway, such as primary care (daytime and out-of-hours), EDs, ambulance services, and patients. Due to differences in models of service delivery and the metrics reported, results across service areas were highly variable and not comparable. All countries noted a steady increase in calls to the alternative telephone pathway service over time. Callers were typically advised to visit their GP (9% to 69%), attend the ED (5% to 49%), or given self-care advice (7% to 51%). Table 2 presents a high-level direction of effect overview of the impact on other services. These include reduced home visits OOH in Denmark and Scotland, reduced ED presentations and ambulance call outs in Sweden, Australia and Japan, and increased in-hours primary care contacts in Sweden and Scotland. There is conflicting evidence from England regarding the impact on ambulance activity, while no effect on ED and ambulance activity was demonstrated in Denmark and Scotland. Furthermore, impacts may occur across multiple services concurrently. Unless a call is closed with self-care advice, the outcome of a call is not to eliminate the need for care, but to potentially change the setting in which care is delivered.

Table 1. PICOS for Scoping Review of International Practice

Population	People who have an acute, non-urgent medical care need in the pre-hospital setting.
Interest	An alternative telephone pathway, distinct from 112/999, to access the healthcare system for acute, non-urgent medical care needs in the pre-hospital setting.
Context	OECD countries
Outcome	The main outcomes of interest are: <ul style="list-style-type: none"><li>• appropriateness (medical appropriateness and or accuracy of advice or referrals)</li><li>• compliance (user compliance with advice given)</li><li>• costs (costs or cost savings e.g. costs saved from callers change in subsequent health-care-seeking behavior as a result of the call)</li><li>• disposition (triage outcome)</li><li>• safety (the safety of triage decisions made e.g. the rate of potential adverse events or triage errors)</li><li>• service impacts (impacts on telephone triage service or other services, either from increased or reduced service use and or increased or reduced staff workload)</li><li>• service use (performance analysis)</li><li>• user characteristics</li><li>• user experience (e.g. satisfaction, reassurance, doubts about competency, relevance of triage questions).</li></ul>
Study design	Empirical evidence (all study designs) from the following document types: <ul style="list-style-type: none"><li>• reports</li><li>• evaluations</li><li>• HTAs</li><li>• peer reviewed publications.</li></ul>

Table 2. Impact on other services- direction of effect

Country	Impact on other services		
	Primary care*	Emergency Department	Ambulance
Denmark†	Positive	Inconclusive	
Sweden	Negative	Positive	
England		Inconclusive	Inconclusive
Scotland	Positive	Inconclusive	Inconclusive
Australia		Positive	Positive
Japan			Positive

Key: Positive impact (for example: avoid unnecessary resource use, decreased demand)  
Inconclusive impact (± no effect or ◇ conflicting report)  
Negative impact (increased demand, avoidable attendances)  
\* Primary care incorporating out-of-hours services  
† Primary care impact based solely on out-of-hours service in Denmark

## Key findings

- Alternative telephone pathways can positively assist callers to access timely and appropriate care.
- A call may not resolve care needs but instead impact upon stakeholders by shifting resource use between different healthcare settings.
- The evidence suggests that there are many interacting factors, unique to each country, which can influence the impact of alternative telephone pathways on health service delivery.