

Factors Affecting Vaccine Uptake in Renal Transplant Patients in Ireland

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Introduction

Renal transplant recipients are at significantly increased risk of severe infection due to lifelong immunosuppression. Despite well-established clinical guidelines, vaccine uptake in this vulnerable group remains consistently suboptimal.

Infections such as *Streptococcus pneumoniae*, influenza, and SARS-CoV-2 continue to pose a major threat to transplant outcomes. However, uptake is influenced by more than clinical need — it reflects concerns about safety, trust in healthcare, logistical barriers, and cultural or social factors.

In Ireland, where healthcare is delivered through the HSE, understanding these influences is critical for designing equitable, effective vaccination strategies. This review explores the complex interplay of factors that shape vaccine decision-making in renal transplant patients and identifies opportunities to improve uptake through targeted, evidence-based interventions.

Objectives

This review sought to clarify why vaccine uptake remains inconsistent among renal transplant recipients, despite established clinical guidance. By examining a broad range of studies, the aim was to uncover the underlying drivers of hesitancy and identify practical strategies for improvement in the Irish context.

Specific objectives:

- To map the full range of factors influencing vaccine decision-making in renal transplant patients, including clinical, structural, social, and cultural elements.
- To examine existing interventions aimed at improving vaccine uptake in high-risk or marginalised populations.
- To identify gaps in current research relevant to Ireland's healthcare system and transplant services.
- To generate practical recommendations for healthcare providers and policy leaders to support more effective, equitable vaccine delivery.

Methods

This study was a scoping review conducted in accordance with the PRISMA-ScR framework to systematically map evidence on factors affecting vaccine uptake in renal transplant patients.

Design: Scoping review (PRISMA-ScR)

Databases Searched: PubMed, Scopus, Embase, Google Scholar

Inclusion Criteria:

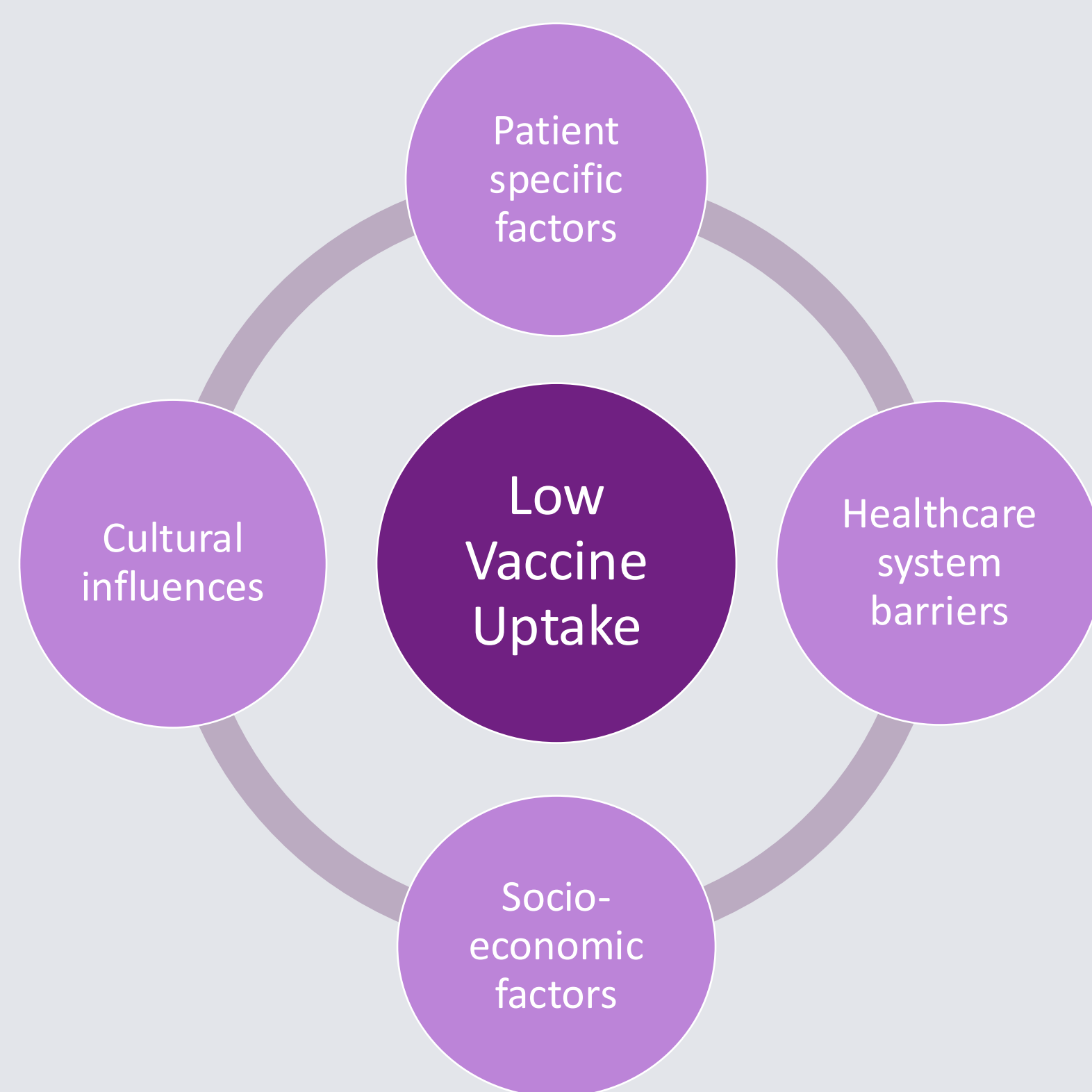
- Studies from 2015–2024
- Renal transplant or immunocompromised populations
- Focus on vaccine uptake and hesitancy
- Consideration of socioeconomic, cultural, or system-level factors

Analysis:

Thematic synthesis grouped findings into four domains:

- Patient-Specific
- Healthcare System
- Socioeconomic
- Cultural

Total Studies Included: 17



Results

Thematic synthesis revealed four key domains influencing vaccine uptake among renal transplant patients and related groups:

1. Patient-Specific Factors

- Safety concerns were the most frequently reported barrier (14/17 studies).
- Concerns included side effects, long-term impact, and doubts about efficacy in immunosuppressed individuals.

2. Healthcare System Barriers

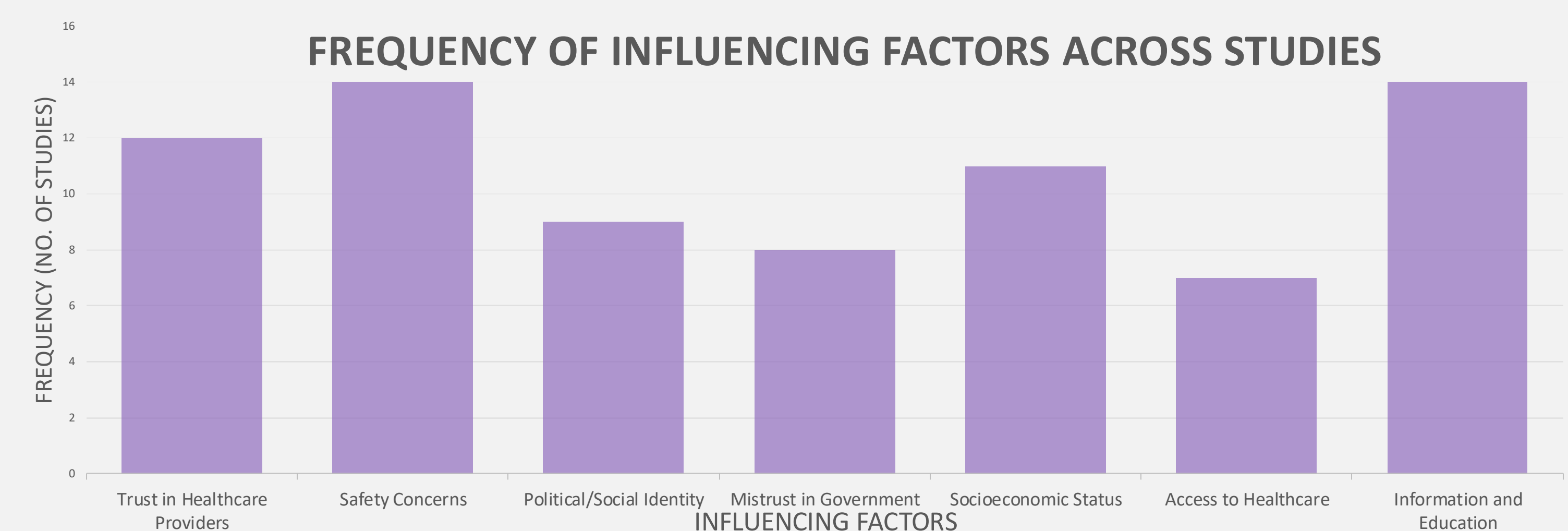
- Limited time for vaccine discussions in clinical settings.
- Inconsistent communication and gaps in follow-up.
- Access challenges, including appointment availability and travel.

3. Socioeconomic Influences

- Low income and education levels correlated with reduced vaccine uptake.
- Health literacy issues and exposure to misinformation were significant contributors.
- Practical barriers included cost and transport difficulties.

4. Cultural and Community Factors

- Mistrust in healthcare systems, especially among minority groups.
- Cultural or religious beliefs influenced vaccine decisions.
- Community narratives and misinformation shaped attitudes in some populations.



Discussion

- Vaccine hesitancy in renal transplant patients is driven by multiple, interacting factors.
- Safety concerns were most common, but socioeconomic, cultural, and system-level barriers were also significant.
- Healthcare professional recommendation was a major facilitator, yet opportunities were often missed due to time constraints and poor communication.
- Lower income, limited health literacy, and cultural mistrust contributed to lower uptake in vulnerable groups.
- Findings support the need for tailored education, stronger provider–patient communication, and system-level changes to improve access and trust.
- Solutions must be patient-centred and context-specific, particularly within the Irish healthcare setting.

Recommendations

- Integrate vaccination into routine transplant follow-up to avoid missed opportunities.
- Use clinical prompts or checklists to support vaccine delivery in time-limited settings.
- Co-design culturally appropriate messaging with minority communities.
- Improve convenience with flexible vaccine access at clinics or via mobile units.

References

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