Delivery of Supported Self-Management in Remote Asthma Reviews: A Rapid Realist Review.
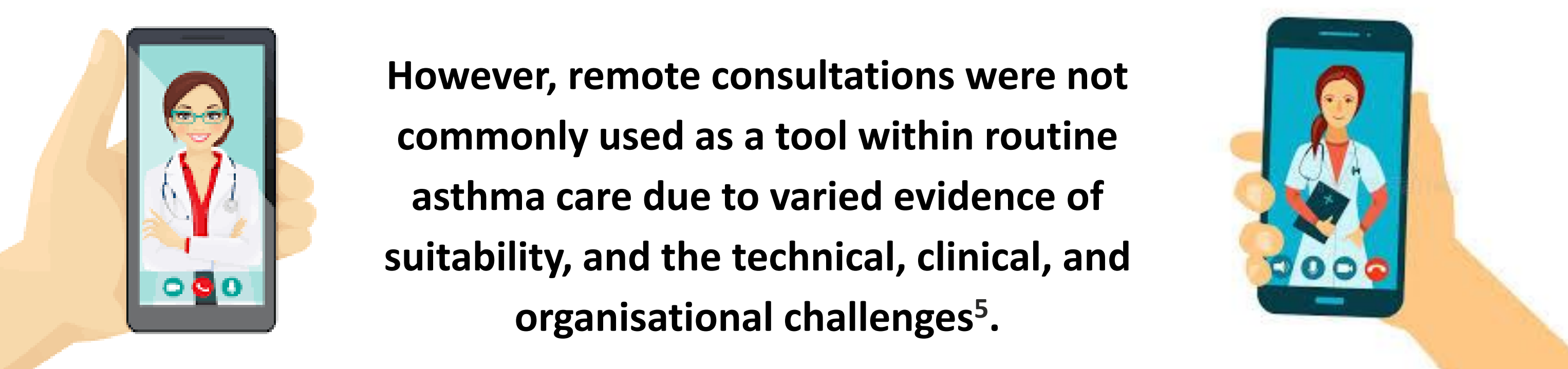
Nested in the IMP²ART Programme of Work (IMPlementing IMProved Asthma self-management as RouTine)

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Background

- The use of digital and remote consulting technologies can be seen as a partial solution to the growing challenge in health care, including those with long-term conditions[1] and maximises opportunities to support patient self-management[2].
- Asthma results in ≈6.3 million UK primary care consultations each year. Supported self-management reduces the risk of acute attacks, improves asthma control and quality of life[3].
- Research regarding the delivery of supported self-management during remote asthma consultations suggests that people with asthma report high levels of satisfaction with remote consultations[3] and improvements in overall asthma control have been reported[4].
- Due to the COVID-19 pandemic, health care systems globally have had to adapt quickly to modes of remote health care delivery.

However, remote consultations were not commonly used as a tool within routine asthma care due to varied evidence of suitability, and the technical, clinical, and organisational challenges[5].

Aims

Following standard methodology for rapid realist reviews[6,7], we aimed to explore the context and mechanisms for the outcomes (C-M-O's) of;

- **clinical effectiveness**
- **acceptability**
- **safety**

of supported self-management delivery within remote asthma consultations.

PPI & Expertise

Patient and Public Involvement (PPI): Patient and public contribution was provided by a representative of the Asthma UK Centre for Applied Research (AUKCAR) PPI group. The PPI representative reviewed the findings, and feedback and comments were considered. This lead to further interpretations of the data which were included in the final manuscript.

Expertise: An External Reference Group (ERG) (respiratory and primary care experts, clinicians and health care researchers) provided expert advice and guidance throughout the study.

Methods

The Rapid Realist Review Approach (Adapted from Saul et al.[6])

1) Development of Project Scope
- Ensure feasibility, scope, and consider the content area under review

2) Creation of Initial Programme Theory
- Scope of relevant literature
- Basis for subsequent theory development

Steps 2 & 3 Discussed with Review Team

3) Development of Research Questions
- Refine Review Research Questions

4) Identification of How Findings and Recommendations will be used
- Ensuring the review is clearly focused

5a) Search for Empirical Data – Search Terms
- Relevant to review, likely to identify studies to address research question and development of theory.

5c) Quality Review – External Reference Group
- Review full text data with external experts

5b) Search for Empirical Data
- Database Search

6) Extraction of Data
- Generation and Refine CMO's
- Prioritise/Theme CMO's

7) Validation of Findings with External Reference Group
- Feedback to relevance and consistency of findings

8) Synthesis of Findings – Final Programme Theory
- Findings will be used to create a final, refined programme theory

9) Dissemination of Results

Input from External Reference group throughout the Review Process

Search strategy: We systematically searched four electronic databases and selected papers that explored self-management delivery during routine asthma reviews (specifically including telephone/video consultations).

Data extraction and synthesis: Data were extracted using Context-Mechanism-Outcome (C-M-O) configurations and synthesised into overarching themes using the PRISMS taxonomy of supported self-management as a framework to structure the findings.

Results

Main Findings: The data extraction process was completed for the 18 included articles (full C-M-O configurations)**.** The PRISMS supported self-management taxonomy was used as a framework to synthesise the data.

6 Key themes emerged from the data. The findings supported that supported self-management for asthma delivered via remote consultation can lead to:
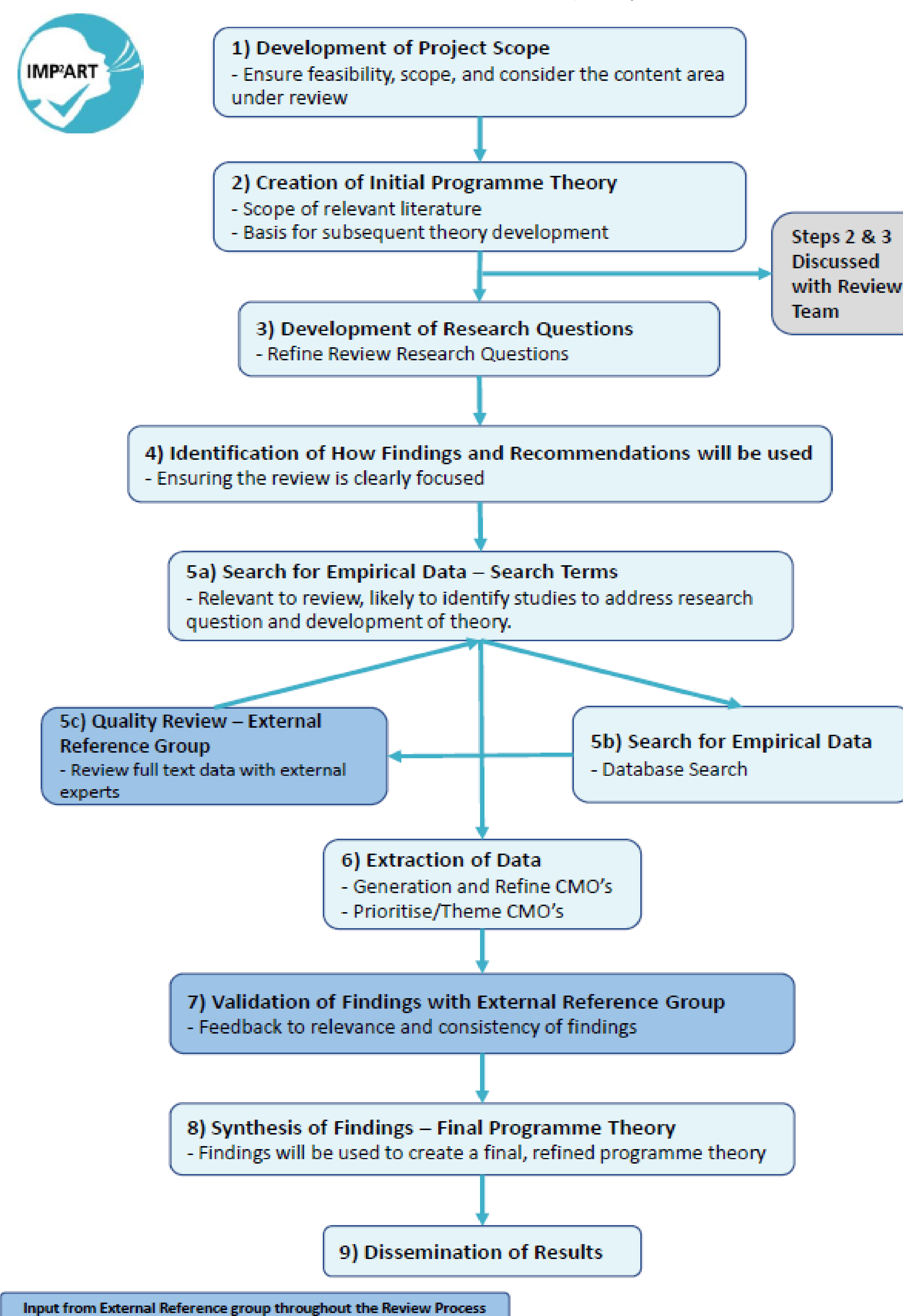
1. Increased regular patient attendance and increased monitoring of patient

2. Increased opportunities to provide individualised information about asthma and asthma management

3. Provision of convenient/flexible access to advice and support

4. Enhanced healthcare professional-patient relationships and communication

5. Appropriate provision of specific practical asthma self-management strategies (action plans and inhaler technique)

6. Increased patient confidence & self-efficacy

Overarching Synthesis in relation to key aims (to explore the safety, clinical effectiveness and safety of supported self-management delivery in remote asthma consultations): remote consultations were overall, more highly accepted than in-person consultations by many patients and professionals, and were an equally safe and effective alternative to face-to-face reviews.

	Remote (video/telephone) versus face-to-face (in person) asthma consultations
Acceptability	↑ (on average) higher levels of acceptability from both patients and professionals for remote delivery of asthma care.
Safety	= Remote consultations were recognised as safe as providing a face-to-face review.
Clinical Effectiveness	= Remote consultations were recognised as clinically effective as providing a face-to-face review.

Conclusions

Even when the COVID-19 pandemic recedes, remote technologies will remain in everyday healthcare. Our realist review has explored the context and mechanisms by which asthma self-management can be delivered during video and telephone reviews. Across a broad range of contexts, remote consultations are highly accepted by both patients and professionals, and are as clinically effective and safe as face-to-face reviews to provide self-management support. Specific groups advantaged by remote consulting included those living in rural communities, or who had to fit their healthcare around work or domestic responsibilities, and those with reduced mobility. The findings of this rapid realist review can inform the conduct of remote asthma reviews, and implementation of supported self-management techniques into asthma care.

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1. Armfield, N. R., Bradford, M., & Bradford, N. K. (2015). The clinical use of Skype—for which patients, with which problems and in which settings? A snapshot review of the literature. *International Journal of Medical Informatics*, 84(10), 737-742.
2. Greenhalgh, T., Shaw, S., Wherton, J., Vijayaraghavan, S., Morris, J., Bhattacharya, S., ... & Hodkinson, I. (2018). Real-world implementation of video outpatient consultations at macro, meso, and micro levels: mixed-method study. Journal of medical Internet research, 20(4), e150.
3. Pinnock, H., Adlem, L., Gaskin, S., Harris, J., Snellgrove, C., & Sheikh, A. (2007). Accessibility, clinical effectiveness, and practice costs of providing a telephone option for routine asthma reviews: phase IV controlled implementation study. *Br J Gen Pract*, 57(542), 714-722.
4. Van den Wijngaart, L. S., Roukema, J., Boehmer, A. L. M., Brouwer, M. L., Hugen, C. A. C., Niers, L. E. M., ... & Verhaak, C. M. (2017). A virtual asthma clinic for children: fewer routine outpatient visits, same asthma control. *The European Respiratory Journal*, 50(4).
5. Donaghy, E., Atherton, H., Hammersley, V., McNeilly, H., Bikker, A., Robbins, L., ... & McKinstry, B. (2019). Acceptability, benefits, and challenges of video consulting: a qualitative study in primary care. *British Journal of General Practice*, 69(686), e586-e594.
6. Saul, J. E., Willis, C. D., Bitz, J., & Best, A. (2013). A time-responsive tool for informing policy making: rapid realist review. *Implementation Science*, 8(1), 103.
7. Pawson, R., & Tilley, N. (1997). Realistic evaluation. sage.

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