Basic Results Summary for ISRCTN99175761: Testing a support system designed to improve antibiotic use in care homes- "ARCHeS"

Participant Flow

Total target enrolment	Not specified
Total final enrolment	16

Baseline Characteristics

Participant role(s)	Number of participants
Care Home Manager	3
Senior Carer and Antibiotic Champion	3
Senior Carer	1
Carer	6
Advanced Nurse Practitioner (ANP)	3

Primary outcome measures

Outcome measure	Results
1. Recruitment of care homes recorded as the number (and proportion of those approached) of care homes recruited at 2 months after the recruitment start date	The recruitment target of four care homes was achieved. This took seven months altogether (with new homes being contacted when ones initially expressing interest then declined) and a total of 35 care homes were contacted.
2. Retention recorded as the number of care homes that complete the 6-month feasibility study	One of four recruited care homes completed the 6-month feasibility study (28 weeks). One care home completed 18 weeks. Two care homes did not provide any data (essentially dropped out post-recruitment).
3. Implementation outcomes:	
3.1. Fidelity and adaptation are measures of the extent to which the intervention is delivered as intended, assessed using: training logs; interviews (and observations if possible); weekly activity logs submitted by Antibiotic Champions; and document analysis of completed tools.	Short-staffing and internal IT limitations affected the ability for all staff to undertake training but some staff in both care homes participated. The tools were used as planned in submitted documents and in reports from phone calls. There were no adaptations made to the support system elements. The main adaptation suggested was to make the tools electronic and compatible with IT systems used by some care homes for resident daily care (beyond the scope of this study).
3.2. Adoption (or uptake) measures the extent to which intervention components are used in routine practice, assessed using weekly logs; interviews (and observations if possible), and documentary analysis,	Staff reported in interviews and phone calls that the tools were used almost every time there was an appropriate situation. There were occasional reports that they had not been used if the staff member involved had not undergone training.
3.3. Reach (or penetration) measures how well the intervention has reached the target population, assessed using	As reported in interviews and phone calls, the extent of dissemination to all members of staff was

training logs and interviews (and observations if possible).	limited by workload, staff availability, and perceived limitations of some staff roles.
3.4. Acceptability measures how well the staff like the intervention and find it suitable for use, assessed using interviews with topic guide structured around the Theoretical Framework of Acceptability, and feedback within weekly activity logs submitted by Antibiotic Champions.	Reports and feedback from interviews and focus groups were overall very positive about the tools, and the whole support system. There was no negative feedback in the weekly logs. There were reports that the additional paperwork (particularly for study participation) was onerous, and there was some perceived overlap between ARCHeS tools and existing recording that staff routinely undertake.
3.5. Feasibility measures actual fit or utility/suitability for everyday use, assessed using interviews (and observations if possible) exploring barriers and enablers to intervention use.	Other than IT issues noted above, the support system was felt to be suitable for use, as reported in interviews, Antibiotic Champion training sessions, phone calls and focus groups. However, key challenges to implementation included understaffing, protecting time for training, balance between increased autonomy and fear of "missing something"/blame, alongside balancing standardisation across the sector with adaptation to individual care home contexts.
4. Recruitment of individuals for interviews (and observations if possible) recorded as the number (and proportion of planned) participants completing the activity.	There was no fixed target (as stated at registration), but COVID-19 had a significant detrimental effect on recruitment and retention. The ten interviews from participating care homes and seven focus group participants (one interviewee also participated in a focus group) is lower than anticipated. There were an additional four interviews planned that the participant withdrew from before initiation.
5. Feasibility of measuring potential trial outcomes (for example antibiotic prescriptions dispensed to care home residents) using different data sources, assessed by comparison of data collected by care home staff and data collated at the Health Informatics Centre (HIC), University of Dundee.	HIC data can be used to generate efficacy (including antibiotic prescribing rates) and safety (including unplanned hospital admission rates) measures but for a small number of care homes, the numbers of events are low, and the time delay inherent in administrative data processing limits the utility over a short timeframe study. The number of care homes and events in the feasibility study were too low for comparison between sources.
6. Selection of outcome measures for a future definitive trial using interviews with care home managers, weekly activity logs submitted by Antibiotic Champions, literature review and outcome of feasibility assessment (above).	Due to the limitations in data collection above, exploration of additional potential outcome measures, and definitive selection for a future trial, were limited but participants agreed that antibiotic prescribing rates were useful (both as feedback and outcome measurement) and safety outcomes were important.

Adverse Events

There were no adverse events reported in the study.