

# TELEMETRY-SUPPORTED CARE FOR COPD IN LOTHIAN REGION:



A PILOT STUDY EVALUATION

## EXECUTIVE SUMMARY

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# EXECUTIVE SUMMARY

## USER PERCEPTIONS

1. Patients and carers were very positive about the system, even where there were operational problems. They consistently cited a range of benefits echoed in other studies
  - a. More rapid access to a GP / intervention when required
  - b. Reduced anxiety and reassurance that they were 'being monitored'
  - c. Relief that the difficulties they cited in knowing whether they were ill enough to call a doctor were to some extent handled by the system
  - d. Objective evidence from scores to inform their own or a carers' decision to call a doctor
  - e. Earlier recognition of symptoms by patients and greater awareness of symptoms by practice staff improved the perceived quality of care
2. Patients typically identified previous hospital admissions as due to avoidable delay at different stages
  - a. Delay in calling surgery due to unwillingness to bother a GP
  - b. Delay getting a timely appointment when they call
  - c. Difficulty getting to the surgery
  - d. (For some practices) Delay in getting antibiotics
3. Potential impact on electricity/phone bills was a concern for a small group
4. The alarm, and the unreliability of the process for switching it off when away was a recurring concern for a number of patients. This should be reconsidered for the wider trial
5. A number of patients and GPs provided examples of early interventions that they felt would not have happened otherwise
6. Confidentiality was not an issue for patients
7. Carers were a crucial part of the success of patients in learning to use the system, as well as in other aspects of compliance, liaison and feedback to the team. More account could be taken of this in recruitment, consultation and planning.
8. GPs also perceived the quality of care, and perceived the rate of deterioration as slower in these patients. This was balanced against a perception of a moderate but manageable increase in workload.

## EMERGING CHALLENGES AND OPPORTUNITIES

9. During the pilot, the vision of telemetry-assisted care at home changed emphasis from protocol-led monitoring of patients symptom scores against standard benchmarks to longer term monitoring against individual personal benchmarks with additional patient and context specific information
10. The pilot appeared to acted as a catalyst for change, providing a focus for reviewing practice, such as the provision of antibiotics at home, to reduce delays between recognition of an exacerbation and treatment
11. Symptom scores alone were insufficient as a basis for either diagnosis or intervention, and further patient and context specific information was required to interpret or act on them. This was perceived as creating some additional work, but enhancing the quality of individual care
12. Scores were shaped by a range of factors other than the disease:
  - a. Patient factors such as variation in the experience /management of the condition
  - b. The peripherals (spirometry in particular), over or under-reading for various reasons,
  - c. The impact of other conditions
  - d. Activity prior to testing,
  - e. Use of oxygen, or other medication, before testing.
  - f. Environmental factors such as the weather, temperature or damp housing
  - g. Technological factors that may have impacted on scores -transmission problems, battery failure, connectivity and the usability of peripherals
13. Physiotherapists, nurse managers, practice nurses and other health professionals identified opportunities for synergy in supporting home-based care, including using the system for:
  - a. Sharing current information on patients, or tailored information for patients
  - b. Coordinating disparate care services around individual needs
  - c. Using video-conferencing to contact or reassure patients, and prioritise visits
14. Nurses and nurse managers identified four key challenges for home based care telecare:
  - a. Communication of the right information to the right person at the right time
  - b. Training that ensures that community nurses and others providing home-based care will know what to do, particularly given the severity of some conditions now being managed at home, and the need for urgent action in some cases
  - c. Partnership working with other services
  - d. Pressure on community and social care resources

## **RECRUITMENT, IMPLEMENTATION AND USE**

15. Training was seen by most patients as sufficient, however, some patients, particularly older female patients were very anxious about using the system initially, and would prefer an additional session.

16. Cognitively able, moderately severe COPD patients were seen by GPs and physiotherapists as the group most likely to both comply with and benefit from tele-monitoring.
17. GPs perceived their success in recruiting patients as requiring time and personal engagement with patients, and saw this as a barrier to recruitment for a larger trial.
18. Patients commented on the friendliness, responsiveness and accessibility of the installation team and the project manager. This smoothed over teething problems in the initial set-up, alerting the wider team to problems at an early stage. The scaling up of the operation to a larger trial would require an alternative means of providing feedback and support in the crucial early stages.
19. Installation using phone lines sometimes restricted use of a spare room or use of second phones or broadband for laptops, though this was balanced against the perceived benefits
20. The system and the peripherals were seen as easy to use by patients, (with the exception of the FEV<sub>1</sub> meter which was complicated to use, often failed to transmit, and was not designed for use by elderly patients)
21. Battery failure was a problem for almost all the users, and generated additional work, stress and inconvenience, with the potential to impact on the accuracy of readings, raising the need to benchmark the accuracy of readings from different machines
22. Transmission failure was a common problem, particularly with the FEV<sub>1</sub> peripheral, raising concerns for patients as to whether readings had been received or not, and confusion about the nature (or cause) of problems that arose. A useful feature would be the design of a more transparent feedback mechanism for users indicating the progress of the transmission, and giving pointers where this failed.
23. The usability of the backend interface was laborious and cumbersome for GPs, practice staff and Careline staff although the patient interface was easy to use.
24. Careline staff felt that the encryption process was laborious and time consuming and could be streamlined. They felt greater inclusion in development meetings would help coordination and communication.
25. The existence of an informal support system and small patient numbers may well have shielded the pilot from the impact of issues (technical and personal) that would otherwise have impacted on recruitment and retention. Scaling this up to a wider rollout is likely to require consideration of how feedback will be collected and responded to in the wider trial.