Of the 54 (65%) clinic attendees who were solely managed by the nurse and needed no doctor review, only four patients believed that their care would have benefitted from further doctor review. This further demonstrates that patients were happy with their management and with the proficiency of the healthcare professional who reviewed them in clinic. However, it is still important to ensure that patients are fully aware that the clinic is 'nurse-led' by experienced nurses and doctor review is available if clinically indicated.

We accept the main limitation to this study is that patient views and satisfaction were not correlated with their clinical outcomes. For example, if a chest drain removal had resulted in a visible airspace on chest X-ray, this would have required further monitoring or intervention and would have not been an ideal outcome for the patient personally; and this may have influenced that patient's feedback in the questionnaire.

Thoracic nurse-led clinics are much less well established when compared to other surgical specialities such as colorectal surgery. The encouragement and recommended use of nurse-led stoma care clinics within the colorectal cancer care pathway for the management of patients in the UK [4, 5] provides the speciality with a degree of national guidance and more experience to draw upon when developing and implementing new clinic services. National guideline involvement also means there may be improved access to facilities and resources in setting up clinics, compared with our locally developed and managed nurse-led clinic.

This study has touched upon the challenges faced for setting up thoracic surgery nurse-led clinics. There are obvious advantages to the clinic based on or near the department ward such as easy access to doctor review if required and a safe, well-equipped environment for chest drain removal. This may pose a problem for some departments where resources, such as ward space and an extra experienced nurse to run the clinic, may prove difficult to access. The availability of doctor review may cause clinic delays if the ward or on-call doctor is not immediately available for review due to acute inpatient problems or other clinical commitments.

This study was limited to a 2-month data collection period. A longer time period would have provided increased data for the analysis. Some of the patients attending the clinic may attend for further review at a later date. In some cases, this may have been within the 2-month data collection period and therefore the same patient may have filled out a questionnaire on more than one occasion. However, we still feel this is valid as each separate patient experience at the clinic can be judged on its own merit.

CONCLUSION

This survey demonstrates that overall patient satisfaction with the service is high, expectations of care received are in line with actual management and nurse-led clinics are generally positive patient experiences. This study helps to add support for the role of structured nurse-led management in the outpatient care of thoracic surgical patients and will hopefully encourage more to develop.

Our survey results would be enhanced with further work correlating patient satisfaction with clinical outcome. We also suggest comparing patient satisfaction with nurse-led clinic experiences against patient experiences of other types of follow-up such as ward attending, as this may further support for thoracic nurse-led clinics.

From our experience, we can suggest certain prerequisites for starting up a thoracic nurse-led clinic. A suitable clinic location, well equipped for anticipated procedures, is paramount. Clinic proximity to the base ward where extra resources and doctor review may be obtained is important to consider. An experienced nurse whose sole priority is to run the clinic is essential as is the availability of appropriate doctor review, if required. Finally, clear guidelines regarding which patients are reviewed in the clinic and how they are managed need to be developed and agreed between doctor and nursing staff to ensure efficient and safe clinic operation.

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eComment. Nurse-led clinics and cost-effectiveness

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Reports from high-income countries, as seen from the article by Williams et al. [1], have documented that nurse-led clinics are safe and efficient alternatives to formal outpatient clinic review. The importance of consumer satisfaction with healthcare has been recognized and a greater emphasis is now placed on the consumer's view. Previously published studies of nurse-led clinics found them to improve health-related quality of life, patient satisfaction and cost-effectiveness [2].

In order to improve our management protocols of comprehensive assessment of the postoperative short-term treatment of patients after surgery for carotid occlusive disease (COD), we retrospectively examined records from our University Clinic Cardiovascular Department (UCCD), related to postoperative nurse-led cardiovascular clinic over a period from January to December 2010. Data included participants' attendances at nurse-led clinic, cardiovascular drugs, cardiovascular events and patient satisfaction. At the same time, we collected data by postal questionnaire on health-related quality of life (SF-36). We constructed Kaplan-Meier survival curves for postoperative mortality, life years, and quality adjusted life years (QALYs) [3]. Outpatient costs (of nurse-led clinic) were based on the number of attendances multiplied by the relevant hospital unit cost. We used sensitivity analysis to explore the increasing difference between nurse-led and classic postoperative outpatient clinic review, on the basis that the benefits may have been underestimated owing to use of intention-to-treat analysis. Compared with the wider range of health interventions, the cost effectiveness of nurse-led clinics remains favourable. The incremental cost per QALY of under £ 1000 that we found was due to the relatively small increase in cost per patient of £ 96, which was in turn mainly due to increases in the use of drugs and even costly statins. This

pattern is consistent with other complex health service interventions, where incremental improvements in process outcomes are more likely to be achieved than wholesale changes [4]. Nonetheless, these relatively low increases in cost were linked to health gains that were considerable in terms of QALYs.

This report by Williams et al. has documented high overall patient satisfaction with nurse-led services and supports the role of structured nurse-led management in outpatient COD postoperative care, but these results are not easily reproducible in middle-income countries, where support services and facilities are not readily available [1,5]. Our results, which are almost identical as those of Williams et al., indicated that well-trained nurses were able to look after the patient without any further medical input in note than 60% of patients. Because of this, it is important that a nurse-led clinic is scheduled during standard working hours, when surgeons are present to offer help if required. Data presented by Williams et al. could assist cardiovascular surgeons and nurses in the middle income countries, in the management of postoperative care of COD patients in a scope of cost effectiveness and improved patient satisfaction.

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