PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (see an example) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Barriers to accurate diagnosis and effective management of heart failure have not changed in the past 10 years: a qualitative study and national survey
AUTHORS	Hancock, Helen; Close, Helen; Fuat, Ahmet; Murphy, Jerry; Hungin, A P S; Mason, James

VERSION 1 - REVIEW

REVIEWER	Stephen Leslie NHS, Raigmore Hospital, Inverness
REVIEW RETURNED	27-Sep-2013

GENERAL COMMENTS	Thank you asking me to review the manuscript "Barriers to accurate diagnosis and effective management of heart failure have not changed in the past 10 years: a qualitative study and national survey." General This is a good study which is well written and very relevant as heart failure care remains an issue which affect a large number of patients and consumes a large amount of heath care resources. I have only a few suggestions as on the whole I thought this was an interesting paper of high quality The finding that end-of-life care is difficult is interesting and warrant further study BUT why is this a new finding?? Is it just that the authors specifically asked about it this time and didn't in their last study or has something changed? The limitations are noted. The paper would be strengthened by including a copy or link to the actual questionnaire used. Specific points I would add the number of respondent to the abstract. In the summary box (page 3) in the last comment the authors claim that the study provides new understanding – they need to be more specific about what this actually is. The introduction was succinct and well written. The methods and results sections were similarly good. The discussion section needed more work and more analysis. There is scope to add some opinion or suggestion about how the situation can be improved rather than just repeat the findings of the study – perhaps draw from the wider literature about what has been done in other areas or countries to improve the 'categories or themes' that they have identified? Overall a good and interesting piece of work.

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REVIEWER	Dr Abdallah Al-Mohammad South Yorkshire Cardiothoracic Centre, Chesterman Wing, Northern General Hospital,
REVIEW RETURNED	29-Sep-2013

GENERAL COMMENTS	1. The implication from the title and the conclusion as well as from the abstract is that a comparison with the results of the previous survey had been made. However, there is no indication in the methods and the results sections of any real comparison being made. There is a mention of the statistics but the details are inadequate. Had there really been a comparison made? 2. Although the very low response to the survey is acknowledged (less than 5%); it is not really safe to assume that the responding section of the sampled cohort is representative of the cohort. Therefore, while the concerns expressed are important and real, we are still left with the question of whether the bias of sampling had been avoided. Self selection through unifying frustration with the subject in question may be an issue here. It would be nice if the authors were able to address this issue. 3. The paper uses interesting methodology that allowed practitioners to express in free text their frustrations and impressions. However, it would have been helpful to control for the circumstances that differed between their practices; such as access to services and availability of specialist support. 4. It would have been nice if solutions to the reported difficulties were proposed in the discussion. 5. The authors assumed that the 2010 guidelines placed the responsibility for the package of care for HF patients in the hands of the specialist as HF MDT is the vehicle to deliver care. The authors are gently reminded that the specialist is tasked with leading the MDT, but the MDT is composed of many professionals and a major component of the MDT is the primary care physician. Thus the assertion by the authors in this regard is inaccurate. The guidelines defined both the specialist and the MDT as follows: [Throughout this guideline the term “specialist” denotes a physician with sub-specialty interest in heart failure (often a consultant cardiologist) who leads a specialist multidisciplinary heart failure team of professionals with appropriate competencies from primary and secondary care. The team will involve, where necessary, other services (such as rehabilitation, tertiary care and palliative care) in the care of individual patients.] I have concern that a 3% uncontrolled sample was taken as necessarily representative of the health professionals' opinions. Some of the comments clearly reflect that the respondents did not even attempt to read the guidelines. Therefore, to assert that the guidelines had failed to break the barriers as an explanation to the reported difficulties is unproven.

REVIEWER	Frans H Rutten Julius Centre for Health Sciences and Primary Care, University Medical Centr Utrecht, the Netherlands.

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REVIEW RETURNED	06-Oct-2013

GENERAL COMMENTS	In the Discussion paragraph the authors could possibly provide some more information about studies outside the UK. They could also elaborate somewhat more on the fact that especially cardiologists from the UK are hesitant about heart failure with preserved ejection fraction. This could 'translate' in an uncertainty by GPs. Finally, the NICE guidelines on heart failure do differ from the ESC guidelines on heart failure. The latter one from 2012 provides clear guidance on how to use natriuretic peptides applying 'rule-out cut points for both patients with acute and slow onset symptoms. Finally, the role of chest x-rays is over-rated. The ESC guidelines on heart failure 2012 also states that the role of chest x-ray in patients suspected of non-acute onset of heart failure (generally the case in primary care) is marginal. Adequate use of history taking, physicial exam, ECG, and measurement of natriuretic peptides are key. Chest x-ray is in general unneccessary to select those who need echocardiography to confirm (or exclude) the diagnosis of heart failure.

VERSION 1 – AUTHOR RESPONSE

Reviewer Name Stephen Leslie
Institution and Country NHS, Raigmore Hospital, Inverness
Please state any competing interests or state 'None declared': None

Thank you asking me to review the manuscript "Barriers to accurate diagnosis and effective management of heart failure have not changed in the past 10 years: a qualitative study and national survey."

General
This is a good study which is well written and very relevant as heart failure care remains an issue which affects a large number of patients and consumes a large amount of heath care resources. I have only a few suggestions as on the whole I thought this was an interesting paper of high quality.

Many thanks for the positive comments.

The finding that end-of-life care is difficult is interesting and warrant further study BUT why is this a new finding?? Is it just that the authors specifically asked about it this time and didn't in their last study or has something changed?

We acknowledge the need for further clarity about new findings and have added the following statement to the discussion section (p.17):

'In the previous study,2 participants were given the opportunity during each focus group to identify and discuss any sources of variation or difficulty in diagnosing and managing heart failure. End of life care for heart failure was not identified during these focus groups, perhaps reflecting a lack of focus on this issue within the NHS. In the current study, end of life was a pre-agreed topic for discussion but most participants highlighted the issue without prompting from the facilitator, thus demonstrating its increasing relevance and importance to clinicians today.'

The limitations are noted.

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The paper would be strengthened by including a copy or link to the actual questionnaire used.

Many thanks for the opportunity to attach a link to the questionnaire which we have added to the methods section as follows (p.5):
'the survey can be viewed here: https://www.survey.bris.ac.uk/durham/hf_survey.'

Specific points
I would add the number of respondents to the abstract.

Many thanks for this suggestion. The abstract has been amended accordingly:
'Setting and Participants: Focus groups (n=8 with a total of 56 participants) were conducted in the North East of England using a phenomenological framework and purposive sampling, informing a UK online survey (n=514).'

In the summary box (page 3) in the last comment the authors claim that the study provides new understanding – they need to be more specific about what this actually is.

The findings are summarised in the key messages section. The final summary statement has been amended to read:

'Nonetheless this study provides new understanding of the reasons behind the evidence-practice mismatch for heart failure diagnosis and management in the UK; in particular, findings highlight the difficulties faced by clinicians in implementing current guidelines.'

The introduction was succinct and well written. The methods and results sections were similarly good.

The discussion section needed more work and more analysis. There is scope to add some opinion or suggestion about how the situation can be improved rather than just repeat the findings of the study – perhaps draw from the wider literature about what has been done in other areas or countries to improve the 'categories or themes' that they have identified? Overall a good and interesting piece of work.

Many thanks for the opportunity to add to the discussion section which now reads:
'Potential solutions to the difficulties highlighted by this paper lie in improved service availability, access, co-ordination of care and education. Previous national and international research has demonstrated the value of a co-ordinated, multidisciplinary approach to care in reducing hospital admissions, reducing treatment variability, and improving quality of life for people with HF.27-30 Thus, specialist heart failure clinics are available in many centres across the UK. However, these services may not provide end-of-life care or address some of the other issues raised by this study, such as the education needs of GPs. One innovative solution to the variability of heart failure care, recently implemented by study team members, demonstrated the acceptability and feasibility of an on-site specialist HF service for people in UK care homes.31-34 Other research has evaluated cardiology-palliative care teams, demonstrating their potential to address some of the uncertainty around care for these patients.35 Given the aging population and the increasing burden of heart failure, implementing more innovative solutions is key to addressing the challenges of HF care.'

References have been amended accordingly.
Reviewer Name Dr Abdallah Al-Mohammad
Institution and Country South Yorkshire Cardiothoracic Centre,
Chesterman Wing,
Northern General Hospital,
Herries Road,

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England, UK
Please state any competing interests or state ‘None declared’: None declared

This is an excellent exercise that needs to be refined to deliver a stronger message
1. The implication from the title and the conclusion as well as from the abstract is that a comparison with the results of the previous survey had been made. However, there is no indication in the methods and the results sections of any real comparison being made. There is a mention of the statistics but the details are inadequate. Had there really been a comparison made?

Many thanks for the opportunity to clarify the differences between the current and previous study. The previous study (Fuat et al, 2003) employed purely qualitative methods (focus groups) with general practitioners in the North East of England. The current, national, study sought to replicate and expand this to include focus groups, not just with GPs but all relevant clinicians including HF nurses and hospital physicians. In addition, the current study used the results of the focus groups to develop a national survey of specialist and non-specialist clinicians. Thus there was no statistical comparison to be made between the current and previous study. The introduction section now reads (p.4):

‘The previous study2 employed purely qualitative methods (focus groups) with general practitioners in the North East of England. The current (national) study sought to replicate and expand this to include focus groups with GPs and other relevant clinicians, and a national survey of specialist and non-specialist clinicians.’

2. Although the very low response to the survey is acknowledged (less than 5%); it is not really safe to assume that the responding section of the sampled cohort is representative of the cohort. Therefore, while the concerns expressed are important and real, we are still left with the question of whether the bias of sampling had been avoided. Self selection through unifying frustration with the subject in question may be an issue here. It would be nice if the authors were able to address this issue.

We acknowledge this concern and have amended the discussion section to read (p.18):

‘It is possible that the respondents agreed to participate in the survey as a result of shared frustration with the issues raised, and that findings are not representative of the current clinical view. Although bias as a result of self-selection is a possibility, findings from this research mirror themes from other research both nationally and internationally suggesting that the challenges and problems are universal. Nonetheless Thus this study provides further understanding of the reasons behind the evidence-practice mismatch for heart failure in the UK.’

3. The paper uses interesting methodology that allowed practitioners to express in free text their frustrations and impressions. However, it would have been helpful to control for the circumstances that differed between their practices; such as access to services and availability of specialist support.

We agree it would be interesting to conduct sub-group analysis to understand the potential relationship between respondents’ own service configuration and patterns of response. However, the relatively broad nature of questions posed prevents this level of analysis.

4. It would have been nice if solutions to the reported difficulties were proposed in the discussion.

Many thanks for the opportunity to add to the discussion section which now reads:
‘Potential solutions to the difficulties highlighted by this paper lie in improved service availability, access, co-ordination of care and education. Previous national and international research has demonstrated the value of a co-ordinated, multidisciplinary approach to care in reducing hospital

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admissions, reducing treatment variability, and improving quality of life for people with HF.27-30 Thus, specialist heart failure clinics are available in many centres across the UK. However, these services may not provide end-of-life care or address some of the other issues raised by this study, such as the education needs of GPs. One innovative solution to the variability of heart failure care, recently implemented by study team members, demonstrated the acceptability and feasibility of an on-site specialist HF service for people in UK care homes.31-34 Other research has evaluated cardiology-palliative care teams, demonstrating their potential to address some of the uncertainty around care for these patients.35 Given the aging population and the increasing burden of heart failure, implementing more innovative solutions is key to addressing the challenges of HF care.'

References have been amended accordingly.

5. The authors assumed that the 2010 guidelines placed the responsibility for the package of care for HF patients in the hands of the specialist as HF MDT is the vehicle to deliver care. The authors are gently reminded that the specialist is tasked with leading the MDT, but the MDT is composed of many professionals and a major component of the MDT is the primary care physician. Thus the assertion by the authors in this regard is inaccurate. The guidelines defined both the specialist and the MDT as follows: [Throughout this guideline the term "specialist" denotes a physician with sub-specialty interest in heart failure (often a consultant cardiologist) who leads a specialist multidisciplinary heart failure team of professionals with appropriate competencies from primary and secondary care. The team will involve, where necessary, other services (such as rehabilitation, tertiary care and palliative care) in the care of individual patients.]

We are unsure where this assumption is evidenced given that the discussion section states:
'There appeared to be a lack of consensus about who is responsible for heart failure care, from diagnosis, through management to palliative care. This is despite the fact that NICE guidelines recommend specialist care by multidisciplinary heart failure teams for patients with suspected heart failure, and in-patients with heart failure.' If we have missed this, we would be happy to review this again.

I have concern that a 3% uncontrolled sample was taken as necessarily representative of the health professionals' opinions.

Please see response to point 2 above.

Some of the comments clearly reflect that the respondents did not even attempt to read the guidelines. Therefore, to assert that the guidelines had failed to break the barriers as an explanation to the reported difficulties is unproven.

Many thanks for this thought provoking comment. The discussion section now reads:
'Comments from focus group respondents highlighted the lack of awareness among some clinicians about the existence or content of relevant guidelines. Thus, it is possible to suggest that while the guidelines themselves may have utility, variations in perceptions and awareness of their content may have been a barrier to optimum care.'

Reviewer Name Frans H Rutten
Institution and Country Julius Centre for Health Sciences and Primary Care, University Medical Centre Utrecht, the Netherlands.
Please state any competing interests or state 'None declared': None declared

In the Discussion paragraph the authors could possibly provide some more information about studies outside the UK.

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Many thanks for the opportunity to add national and international evidence to the discussion section which now reads:
'Potential solutions to the difficulties highlighted by this paper lie in improved service availability, access, co-ordination of care and education. Previous national and international research has demonstrated the value of a co-ordinated, multidisciplinary approach to care in reducing hospital admissions, reducing treatment variability, and improving quality of life for people with HF.27-30 Thus, specialist heart failure clinics are available in many centres across the UK. However, these services may not provide end-of-life care or address some of the other issues raised by this study, such as the education needs of GPs. One innovative solution to the variability of heart failure care, recently implemented by study team members, demonstrated the acceptability and feasibility of an on-site specialist HF service for people in UK care homes.31-34 Other research has evaluated cardiology-palliative care teams, demonstrating their potential to address some of the uncertainty around care for these patients.35 Given the aging population and the increasing burden of heart failure, implementing more innovative solutions is key to addressing the challenges of HF care.'

References have been amended accordingly.

They could also elaborate somewhat more on the fact that especially cardiologists from the UK are hesitant about heart failure with preserved ejection fraction. This could 'translate' in an uncertainty by GPs.

Many thanks for the opportunity to elaborate on this interesting issue. The discussion section now states (p.15):
'Of note was the fact that 9% of cardiologists remained unconvinced about the existence of HFpEF, which may have influenced the confidence of other clinicians when considering a diagnosis of HFpEF.'

Finally, the NICE guidelines on heart failure do differ from the ESC guidelines on heart failure. The latter one from 2012 provides clear guidance on how to use natriuretic peptides applying 'rule-out cut points for both patients with acute and slow onset symptoms.

Many thanks for your comment. We have acknowledged that 'Despite NICE guidance recommending natriuretic peptide testing when diagnosing heart failure, availability and use remains variable.'

Finally, the role of chest x-rays is over-rated. The ESC guidelines on heart failure 2012 also state that the role of chest x-ray in patients suspected of non-acute onset of heart failure (generally the case in primary care) is marginal. Adequate use of history taking, physical exam, ECG, and measurement of natriuretic peptides are key. Chest x-ray is, in general, unnecessary to select those who need echocardiography to confirm (or exclude) the diagnosis of heart failure.

Many thanks for your comment. We were interested to examine the importance to clinicians of chest x-rays in the survey to determine whether they shared this view.

VERSION 2 – REVIEW

REVIEWER	Dr Abdallah Al-Mohammad Sheffield Teaching Hospitals NHS Foundation Trust Sheffield United Kingdom
REVIEW RETURNED	02-Feb-2014

GENERAL COMMENTS	This is an interesting report on the perceptions of interested groups

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	of health care professionals crossing the current boundaries between disciplines and employers. They highlight the difficulties faced by the health professionals caring for patients with heart failure and describe the barriers against implementing clinical guidelines in heart failure

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