PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Attitudes and perceptions of medical students about primary care and family practice in Spain: Protocol for a cross-sectional survey
AUTHORS	Alonso-Coello P, Josep Jiménez Villa, Antonio Monreal Hijar, Xavier Mundet Tuduri, Ángel Otero Puime, Amando Martín Zurr

VERSION 1 - REVIEW

REVIEWER	Dr Beverley Lucas Senior Lecturer Pharmacy Education, University of Bradford, West Yorkshire United Kingdom. No competing interests declared.
REVIEW RETURNED	08/07/2011

THE STUDY	None
RESULTS & CONCLUSIONS	None
REPORTING & ETHICS	None
GENERAL COMMENTS	**Manuscript ID bmjopen-2011-000231** This new protocol to test perceptions and knowledge of primary care and family medicine amongst Spanish medical student is an important study and will help to provide a better alignment between training and the growing future employment opportunities for doctors in family medicine in Spain. The comments below fall into two broad categories; there are substantive issues around protocol design and minor issues relating to syntax. **Background** Page 2 Line 2 Both the syntax and the intended meaning could be improved e.g. ‘taken root’ would be better expressed as ‘become established’ .

	Line 3. If 40% of students will work in primary care, this should be referenced. Line 4. 'An obligatory assignment' – I assume should be 'an assessed placement'. Line 5. 'Some optional course that offers few credits'. The nature of the courses and the value of academic credits would strengthen the background section. **Objectives** These need to be more clearly set out, the content of this section does not reconcile with the final paragraph under methods (1) p6, nor the first paragraph under methods (2)p6, or the final sentence of methods (2) on p7 which introduces a new objective relating to a systematic review; which should not be an objective of the study. P14 then restates the objectives in a General and Specific format which again uses different language and needs to align better with the content of p2. **Methods (1) p2** If the study design is a 'descriptive, repetitive cross-sectional survey' it would be helpful to know by reference if this is based on a published study design. It is not clear if the students are being surveyed for their attitudes or their opinions, and this should be presented consistently across the protocol design. The Professors appear to be being surveyed only about 'educational activities' (p8) and there is no questionnaire attached. Bearing in mind the Professors are often an influential presence in student education and by implication, have relevant opinions, this seems to be a lost opportunity to better understand the student cohort view. It would be helpful to understand the rationale for choosing 1st, 3rd and 5th year students (Questionnaire, Q2 says 3rd, 5th and 6th year). Is the questionnaire the same for all students (it is assumed so to be repetitive), but some questions will have little meaning to 1st year students only 4 months into education and training. Para 2 of methods (1) p2 appears to pre-empt the findings of the study 'so that they may adapt their curricula'. The final sentence 'it will also assist them in evaluating 'this' , presumably primary care and family medicine' but this does require clarification. **Article focus**

	P3. The first sentence does not include the key objective relating to attitudes and makes no references to the views of the educators (Professors). The second sentence assumes the curriculum (or lack of it) relating to primary care; is the opinion former, which is not known. **Strengths and limitations** Are the 'professionals' (L4) the 'professors?' Re: Para 2, this still appears to be an attitudinal survey, not an opinion survey? Re: Para 3, has the absence of family medicine in the curriculum been acknowledged by the Statutory Regulator (General Medical Council equivalent); if so this study would have significant authority. The acknowledgement and implementation of such educational reforms in other Western Countries needs to be better referenced. Page 4 L7 'is going' should read 'will go on' Page 4 L8 'assignment' should read 'assessed placement?' Page 4 L9 'Optional course', assumed to be a 'student selected component' carrying specific credit. Page 4 para 2 L2 'The presence of this subject is scarce' is this curricular presence or practice presence? If 40% of doctors will work in family medicine and primary care surely there is a postgraduate presence. L 6. 'Consults' should read 'consultation'. L10 The numbers are confusing, those Universities with obligatory assignments must have some dedicated teaching time devoted to this subject (how much?) How long is 'an optional course' and what is its credit rating including % of total. L 14 147+4 does not equal 153? Page 5 L1, the first part of this sentence is missing? It ends 'medicine in Spain are not presently well known?' L5, is first choice relating to career?' was' should be 'were'. L 7, where is the evidence of 'discordance', having not yet seen the students views on the importance of FM in the curriculum. L12 Escobar Rabadan et al.

	L15, Sociodemografic – should read socio-demographic. Last sentence, there is significant international literature to support this. Para 2 L2 'attitude' should read 'attitudes' L7. 'done' should read 'performed' L8. 'different studies have…….' needs a reference. P6. The final paragraph of 'strengths and limitations' does not align with the wording of the 'objectives' of the study; in particular no reference to 'attitudes'. (See earlier point, re: consistent approach). **Methods (2)** Why are methods split in this way? L1. How is this an 'observational' study, this appears to be a survey. L5. Now refers to attitudes rather than opinions but different wording to page 2. (See earlier point, re: consistent approach). L7 'asks them about teaching activity' should this be educational activity. L8. Not clear why this has to be a cohort evaluation when views are known by anonymised individuals. Page 7 L1. A systematic review of the literature seems to be an after thought and is not an objective of the study? **Subjects** Not clear about inclusion criteria re: repeat or intercalation students and whether students can opt-out. There is no reference to **ethical approval** of this study, which is a requirement of the journal and presumed to be a requirements of the Universities involved. This should therefore be addressed. **Student questionnaire** This should read a 'scaled response' questionnaire, and an explanation is needed in terms of why a six point Likert scale has been adopted which is atypical. This protocol is being based on a large scale survey and could have provided a key opportunity to capture qualitative data from students and Professors; why was this not done?

	Data collection It is not clear what constitutes 'specific cases' where internet data collection would be permitted and what the either/or, implications would be. If the student data is anonymised why are we not looking at individual changes? **Questionnaire for local co-ordinators** First sentence is not complete in my print version. Co-ordinators are perceived to be what has previously been described as the 'Professors'. This information would be available from the "Definitive Course Document", the questionnaire (not included) should also capture Professorial attitudes as they are key opinion formers. Last line (Para 1 p8) present should read current. **Data analysis** A descriptive analysis looks to be more likely to be quantitative; why individual if the reporting will be by cohort? The biennial cohort analysis supports the claim of repetitive but the cohort analysis of year 3 with new year 1 suggests that this is also cross cohort which is not how the study is laid out. The justification appears to be about the evolution of the questionnaire scores which suggests that the curriculum will be annually amended? If this is the case attribution would be difficult and would presumably vary by Medical School. Para 1 (page 9) also suggests that the Spanish context of medical education will be stable whereas the international literature suggests that the in-country 'Tomorrows Doctors' agendas and the expectations of additional student numbers and/or new Medical Schools may put targets on the curriculum exposure to PC and FM as was the case in the UK. It would be helpful to know the pedagogic context of medical education in Spain is likely to be stable or volatile. **Study limitations** L2. Reiterate that this appears to be an attitudinal survey not an opinion survey (see earlier point, re: consistent approach). Attitude: 'a feeling, emotion or mental position with regard to a fact' Opinion: 'a belief unsupported by positive knowledge'

	Using Professors to reduce the number of unanswered questionnaires requires the potential consequence of the 'power' relationship to be acknowledged. **Study strengths** A good response rate is expected but this is a 92 Q survey which will take at least 15 minutes to complete in the classroom. Not clear under what circumstances responses could be made by the internet. SurveyMonkey can assist with the problem of 'missed responses' (e.g. cannot submit until all items completed). **References** (page 12) The references (14-15) are somewhat dated– are there more contemporary sources available. **General Objectives** (page 14) Need to better reflect information presented on (GO2). The use of 'learn' may be better expressed as 'critique' or assess? (Comment as before: consistent approach - is it opinions or attitudes?) (G03) would be better expressed as to follow the changes in X of medical students over a six year period; and its relationship to information provided. Specific objective, 1.2. Is surely not the Medical School per se, but the information/curricular experience, it provides. Specific objective 2. The study appears to be only capturing factual curricular information from the Professoriate (which could be taken from the definitive course documentation); it is their opinion forming views and practices that are important? **Abbreviations** (p16) This would be better served with definitions of family practice and primary care. (E.g. within the UK primary care is broader than general practice – involves different health care professions). **Flowchart** (P17) Co-ordinating Professors (25), should this be 27? **Questionnaire for students** Q1.2. Wrong years?

	Q2. Why use a six scale Likert – requires justification. Q2.1.1. Has a 'sufficiently' high level status. Q2.1.8 Is attractive 'as a career choice'. Q2.2. None should be no 'influence' – much should be significant 'influence'. Q3. Comments are very vague. Now ' go to section B; no section B identified . Q4. Missing Q5. Missing Q6.13. Needs, e.g. education, social etc. Q4.3. How is this question different to Q1.3. Why no questionnaire included for Professors/co-ordinators, but they are identified as part of the study?

REVIEWER	Dr Geoff Wong GP Principal and Senior Lecturer in Primary Healthcare Healthcare Innovation and Policy Unit Barts and the Royal London School of Medicine and Dentistry Queen Mary University of London United Kingdom I have no competing interests to declare
REVIEW RETURNED	07/07/2011

THE STUDY	1) The research question is currently, "The study will explore the potencial influence of the Family Practice curriculum in the student's opinions?". This may be a bit too vague as the authors also wish to seek out students' "...attitudes, perceptions, specialty preference,...." (see METHODS). I appreciate that this is a protocol but it may be that refining the research question to include more detail may help. For example, "What is the influence of Spanish Family Practice curriculi on medical students' .....?" 2) Overall study design and 3) Description of methods. There are two aspects of the study design that probably needs more attention. a) The questionnaires. Whilst the authors are seeking to validate the questionnaires in pilots, they do not appear to have plans to test their reliability. As this study uses the same questionnaires again and again, it is important that readers know if any variation in responses is not due to realiability problems within the questionnaire itself but is a result of the actual influence of 'exposure' to family medicine curriculi. b) Whilst great efforts are made by the authors to recruit and

	increase responses from medical students, less attention seems to be paid to the questionnaire that will be completed by family medicine course directors (or of the like). The issues here are not only validity and reliability, but also about the nature of the information that is collected. As they plan to undertake logistic regression analyses later, the contents of the questionnaire that relates to the family medicine courses in each insitution needs to be not only highly detailed and informed by the literature (on what aspects of the curriculi might influence students) but also a true reflection of what the curriculum actually consists of. For example, how 'trustworthy' is having the opinion of say just two course directors? How will the authors know if there is a difference between what is written down in the questionnaire and what is delivered to students? Solutions to this problem may come in the form of (for example) asking not just directors but also actual tutors to fill in the forms, asking a random sample of students to verify course content and delivery, checking actual teaching timetables etc. 4) Statistical methods I am no statistician but care needs to be taken during the logistic regression to ensure that significant associations do not just occur by chance because too many tests of regressions have been undrtaken. Any testing of associations must be theory driven and not be a 'fishing expedition' that merely looks for signifanct associations.
RESULTS & CONCLUSIONS	N/A
REPORTING & ETHICS	There is no information about ethics approval for this study. Please can you include such information in your revised manuscript.
GENERAL COMMENTS	This is an important area of research and has the potential to uncover some interesting associations between aspects of family medicine courses in Spain and changes in students' opinions, attitudes etc. I would urge the authors to not just stop at elicitng associations, as demonstrating an association does not necessarily prove causation. In medical educational research, it is now widely accepted that educational context (in its widest sense) is very important in that it can influence outcomes. The authors may wish to consider using their study as part of research programme that seeks to understand and explain why some students chose family medicine whilst others do not. Research methods such as realist evaulation (for primary research) [1] or realist synthesis (for secondary research [2] may be of use and interest to the authors. References 1. Pawson, R. & Tilley, N. (1997). Realistic evaluation. London: Sage. 2. Pawson, R. (2006). Evidence-based policy: A realist perspective. London: Sage.

VERSION 1 – AUTHOR RESPONSE

Response to Reviewer #1:
Reviewer: Dr Geoff Wong
GP Principal and Senior Lecturer in Primary Healthcare
Healthcare Innovation and Policy Unit
Barts and the Royal London School of Medicine and Dentistry

Queen Mary University of London
United Kingdom

1) The research question is currently, "The study will explore the potential influence of the Family Practice curriculum in the student's opinions?". This may be a bit too vague as the authors also wish to seek out students' "...attitudes, perceptions, specialty preference,..." (see METHODS). I appreciate that this is a protocol but it may be that refining the research question to include more detail may help. For example, "What is the influence of Spanish Family Practice curricula on medical students' .....?"

Reply: we appreciate the reviewer's comment. However the study research question is not as concrete as suggested. The objective is to analyze the degree of information and the actual perceptions of students towards primary care and family practice. It also includes the evaluation of their expectations and preferences about the specialty they would choose after medial school.

2) Overall study design and 3) Description of methods.
There are two aspects of the study design that probably needs more attention.
a) The questionnaires. Whilst the authors are seeking to validate the questionnaires in pilots, they do not appear to have plans to test their reliability. As this study uses the same questionnaires again and again, it is important that readers know if any variation in responses is not due to reliability problems within the questionnaire itself but is a result of the actual influence of 'exposure' to family medicine curricula.

Reply: The questionnaire reliability will be evaluated in one of the participant medical schools. Students will be assigned and individual code to ensure confidentiality and will complete the survey twice with a 30 day difference. We have added this in the manuscript.

b) Whilst great efforts are made by the authors to recruit and increase responses from medical students, less attention seems to be paid to the questionnaire that will be completed by family medicine course directors (or of the like). The issues here are not only validity and reliability, but also about the nature of the information that is collected. As they plan to undertake logistic regression analyses later, the contents of the questionnaire that relates to the family medicine courses in each institution needs to be not only highly detailed and informed by the literature (on what aspects of the curricula might influence students) but also a true reflection of what the curriculum actually consists of. For example, how 'trustworthy' is having the opinion of say just two course directors? How will the authors know if there is a difference between what is written down in the questionnaire and what is delivered to students? Solutions to this problem may come in the form of (for example) asking not just directors but also actual tutors to fill in the forms, asking a random sample of students to verify course content and delivery, checking actual teaching timetables etc.

Reply: the coordinators' survey has been developed to collect information of each medical school curricula characteristics. We will collect the presence of educational activities about primary care and family practice. No logistic regression is planned with this questionnaire and the results will only be analysed per medical school size.

4) Statistical methods
I am no statistician but care needs to be taken during the logistic regression to ensure that significant associations do not just occur by chance because too many tests of regressions have been undertaken. Any testing of associations must be theory driven and not be a 'fishing expedition' that merely looks for significant associations.

Reply: the pre-specified linear regression objective is exactly this one, to account for several variables at the same time. Given that we have so many observations (thousands) we are not underpowered for the number of variables we will look into.

There is no information about ethics approval for this study. Please can you include such information in your revised manuscript?

Reply: we have included a sentence about this now.

This is an important area of research and has the potential to uncover some interesting associations between aspects of family medicine courses in Spain and changes in students' opinions, attitudes etc. I would urge the authors to not just stop at eliciting associations, as demonstrating an association does not necessarily prove causation.

In medical educational research, it is now widely accepted that educational context (in its widest sense) is very important in that it can influence outcomes. The authors may wish to consider using their study as part of research programme that seeks to understand and explain why some students chose family medicine whilst others do not. Research methods such as realist evaluation (for primary research) [1] or realist synthesis (for secondary research) [2] may be of use and interest to the authors.

References
1. Pawson, R. & Tilley, N. (1997). Realistic evaluation. London: Sage.
2. Pawson, R. (2006). Evidence-based policy: A realist perspective. London: Sage.

Reply: we are thankful for these insights and will consider them in the near future.

Reviewer 2 : Dr Beverley Lucas
Senior Lecturer Pharmacy Education,
University of Bradford,
West Yorkshire
United Kingdom.

Background
Page 2
Line 2. the syntax and the intended meaning could be improved e.g. ‘taken root’ would be better expressed as ‘become established’ .
Line 3. If 40% of students will work in primary care, this should be referenced.
Line 4. ‘An obligatory assignment’ – I assume should be ‘an assessed placement’.
Line 5. ‘Some optional course that offers few credits’. The nature of the courses and the value of academic credits would strengthen the background section.

Reply: we have accepted all suggestions and incorporated several changes to accommodate these.

Objectives
These need to be more clearly set out, the content of this section does not reconcile with the final paragraph under methods (1) p6, nor the first paragraph under methods (2) p6, or the final sentence of methods (2) on p7 which introduces a new objective relating to a systematic review; which should not be an objective of the study. P14 then restates the objectives in a General and Specific format which again uses different language and needs to align better with the content of p2.

Reply: We have made the objectives section clearer. The objective relating to the systematic review and Table 1 with the objectives in a General and specific format have both been deleted.

Methods (1) p2
If the study design is a ‘descriptive, repetitive cross-sectional survey’ it would be helpful to know

by reference if this is based on a published study design. It is not clear if the students are being surveyed for their attitudes or their opinions, and this should be presented consistently across the protocol design.
Reply: we did not base our study design in a previously published study design. We have tried to make it clearer that are their attitudes and not so much their opinions.

The Professors appear to be being surveyed only about 'educational activities' (p8) and there is no questionnaire attached. Bearing in mind the Professors are often an influential presence in student education and by implication, have relevant opinions, this seems to be a lost opportunity to better understand the student cohort view.

It would be helpful to understand the rationale for choosing 1st, 3rd and 5th year students (Questionnaire, Q2 says 3rd, 5th and 6th year). Is the questionnaire the same for all students (it is assumed so to be repetitive), but some questions will have little meaning to 1st year students only 4 months into education and training.

Reply: We have included the questionnaire for the faculty in an appendix. The questionnaire includes questions about the educational activities in their centres. The rationale for choosing those years is that in the 3rd one the students start clinical exposure in Spain. In the 5th year the students are in a more advance clinical situation. We have deleted the 6th year wherever it appears as it was a mistake. Some of the questions are not in the survey for the 1st year students as they are not applicable given the short time since entering university.

Para 2 of methods (1) p2 appears to pre-empt the findings of the study 'so that they may adapt their curricula'. The final sentence 'it will also assist them in evaluating 'this', presumably primary care and family medicine' but this does require clarification.

Reply: We have modified the methods section of the abstract accordingly.

Article focus
P3. The first sentence does not include the key objective relating to attitudes and makes no references to the views of the educators (Professors). The second sentence assumes the curriculum (or lack of it) relating to primary care; is the opinion former, which is not known.

Reply: Not sure exactly to what section the reviewer refers to.

Strengths and limitations
Are the 'professionals' (L4) the 'professors?'
Re: Para 2, this still appears to be an attitudinal survey, not an opinion survey?
Re: Para 3, has the absence of family medicine in the curriculum been acknowledged by the Statutory Regulator (General Medical Council equivalent); if so this study would have significant authority. The acknowledgement and implementation of such educational reforms in other Western Countries needs to be better referenced.
Page 4 L7 'is going' should read 'will go on'
Page 4 L8 'assignment' should read 'assessed placement?'
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Page 4 para 2 L2 'The presence of this subject is scarce' is this curricular presence or practice presence? If 40% of doctors will work in family medicine and primary care surely there is a postgraduate presence.
L 6. 'Consults' should read 'consultation'.
L10 The numbers are confusing, those Universities with obligatory assignments must have some dedicated teaching time devoted to this subject (how much?)
How long is 'an optional course' and what is its credit rating including % of total.
L 14 147+4 does not equal 153?

Page 5 L1, the first part of this sentence is missing? It ends 'medicine in Spain are not presently well known?'
L5, is first choice relating to career?' was' should be 'were'.
L 7, where is the evidence of 'discordance', having not yet seen the students views on the importance of FM in the curriculum.
L12 Escobar Rabadan et al.
L15, Sociodemografic – should read socio-demographic.
Last sentence, there is significant international literature to support this.
Para 2 L2 'attitude' should read 'attitudes'
L7. 'done' should read 'performed'
L8. 'different studies have…….' needs a reference.

P6. The final paragraph of 'strengths and limitations' does not align with the wording of the 'objectives' of the study; in particular no reference to 'attitudes'. (See earlier point, re: consistent approach).

Reply: we have modified the text to capture all suggestions made by the reviewer, including additional references. Given the large numbers of suggestions we have not replied one by one in this letter of reply.
Regarding the comment in L10 (The numbers are confusing; those Universities with obligatory assignments must have some dedicated teaching time devoted to this subject (how much?) How long is 'an optional course' and what is its credit rating including % of total.) the fact is that the study is exactly to tease out these details as they are actually unknown and the available official information from most Universities is scarce (e.g. web pages).
Regarding comment in Para 3 "…has the absence of family medicine in the curriculum been acknowledged by the Statutory Regulator (General Medical Council equivalent); if so this study would have significant authority.", there is no such a statement as far as we know.

Methods (2)

Why are methods split in this way?
L1. How is this an 'observational' study, this appears to be a survey.
L5. Now refers to attitudes rather than opinions but different wording to page 2. (See earlier point, re: consistent approach).
L7 'asks them about teaching activity' should this be educational activity.
L8. Not clear why this has to be a cohort evaluation when views are known by anonymised individuals.
Page 7 L1. A systematic review of the literature seems to be an after thought and is not an objective of the study?

Reply: we will be happy to structure methods differently if needed. We have defined the study as a survey across the manuscript. We have changed consistently across the protocol the term opinion to the term attitudes and perceptions. We include the term cohort as we will be able to follow a group of students during medical school (even if we will not be able to go to the individual level). We have deleted any mentioning of the systematic review.

Subjects
Not clear about inclusion criteria re: repeat or intercalation students and whether students can optout. There is no reference to ethical approval of this study, which is a requirement of the journal and presumed to be a requirement of the Universities involved. This should therefore be addressed.

Reply: we have edited the inclusion criteria to make it clearer and included a statement about the ethical approval and about the fact that the survey completion is voluntary.

Student questionnaire
This should read a 'scaled response' questionnaire, and an explanation is needed in terms of why a six point Likert scale has been adopted which is atypical.

Reply: we used the 6 point scale to avoid a middle option. This is a "forced choice" method since the middle option (e.g. Neither agree nor disagree) is not available

This protocol is being based on a large scale survey and could have provided a key opportunity to capture qualitative data from students and Professors; why was this not done?

Reply: we agree that this could be an important issue but has not been addressed in our study. We will consider it in the next survey iteration.

Data collection
It is not clear what constitutes 'specific cases' where internet data collection would be permitted and what the either/or, implications would be. If the student data is anonymised why are we not looking at individual changes?

Reply: we have changed to "if needed". In some schools it could be difficult to get the students together for months. The replies are anonymous but we are not identifying the individual replies so we are not able to track changes individually.

Questionnaire for local co-ordinators
First sentence is not complete in my print version. Co-ordinators are perceived to be what has previously been described as the 'Professors'. This information would be available from the "Definitive Course Document", the questionnaire (not included) should also capture Professorial attitudes as they are key opinion formers. Last line (Para 1 p8) present should read current.

Reply: we have changed the term professors to faculty and only used professors when we are actually referring to associate or full time professors. For the coordinators we are using the term "coordinating faculty". There are not "Definitive Course Documents" in most universities, or at least with the amount of detail one would expect. This is the reason we developed the coordinators survey.

Data analysis
A descriptive analysis looks to be more likely to be quantitative; why individual if the reporting will be by cohort? The biennial cohort analysis supports the claim of repetitive but the cohort analysis of year 3 with new year 1 suggests that this is also cross cohort which is not how the study is laid out. The justification appears to be about the evolution of the questionnaire scores which suggests that the curriculum will be annually amended? If this is the case attribution would be difficult and would presumably vary by Medical School.

Reply: The curriculum will not likely be amended annually. These changes typically take place slowly. The analysis will look into the change within cohorts as they progress in time. The survey will be anonymous and therefore we will not evaluate the evolution of answers individually.

Para 1 (page 9) also suggests that the Spanish context of medical education will be stable whereas the international literature suggests that the in-country 'Tomorrows Doctors' agendas and the expectations of additional student numbers and/or new Medical Schools may put targets on the curriculum exposure to PC and FM as was the case in the UK. It would be helpful to know the pedagogic context of medical education in Spain is likely to be stable or volatile.

Reply: The medical education in Spain is neither stable nor volatile. The study takes place in the context of the changes due to the Bologne Process (http://www.ond.vlaanderen.be/hogeronderwijs/bologna/). The overarching aim of the Bologna

Process is to create a European Higher Education Area (EHEA) based on international cooperation and academic exchange. There are changes taking place actually, due to Bolgne Process and to the general tendency in most medical schools to start introducing some more teaching activities in Family Practice. We have included a sentence in this paragraph to lay out this.

Study limitations
L2. Reiterate that this appears to be an attitudinal survey not an opinion survey (see earlier point, re: consistent approach). Attitude: 'a feeling, emotion or mental position with regard to a fact' Opinion: 'a belief unsupported by positive knowledge'

Reply: we have changed as suggested and kept just attitude and perceptions.

Using Professors to reduce the number of unanswered questionnaires requires the potential consequence of the 'power' relationship to be acknowledged.

Reply: thank you for your comment. We will take it into account when interpreting the results.

Study strengths
A good response rate is expected but this is a 92 Q survey which will take at least 15 minutes to complete in the classroom. Not clear under what circumstances responses could be made by the internet. SurveyMonkey can assist with the problem of 'missed responses' (e.g. cannot submit until all items completed).

Reply: we have made a more specific comment about the circumstances in which the Internet survey could be used. This Internet option will be used seldom.

References (page 12)
The references (14-15) are somewhat dated– are there more contemporary sources available.

Reply: these two references are important studies and there are more recent studies included (Wright 2004)

General Objectives (page 14)
Need to better reflect information presented on (GO2). The use of 'learn' may be better expressed as 'critique' or assess? (Comment as before: consistent approach - is it opinions or attitudes?)

Reply: thank you for this suggestion. We have modified accordingly.

(G03) would be better expressed as to follow the changes in X of medical students over a six year period; and its relationship to information provided. Specific objective,1.2. Is surely not the Medical School per se, but the information/curricular experience, it provides.

Reply: we have deleted this table completely.

Specific objective 2. The study appears to be only capturing factual curricular information from the Professoriate (which could be taken from the definitive course documentation); it is their opinion forming views and practices that are important?

Reply: we have not included the faculty views in this first study. We will consider them in the near future as part of our Research Programme.

Abbreviations (p16)
This would be better served with definitions of family practice and primary care. (E.g. within the UK primary care is broader than general practice – involves different health care professions).

Reply: we have included a definition of primary care and of family medicine.

Primary care: initial point of consultation for patients in a national health care organisation. The professionals involved usually include family physicians, nurses and pediatricians. Sometimes some primary care centres include other specialist like midwifes, gynaecologist, cardiologist, endocrinologist or others.

Family medicine: Family medicine is normally the point of first medical contact within the health care system, providing open and unlimited access to its users, dealing with all health problems regardless of the age, sex, or any other characteristic of the person concerned (Wonca Europe. The European Definition of General Practice/Family Medicine. 2002).

Flowchart (P17)
Co-ordinating Professors (25), should this be 27?
Reply: changed to 22 as this is the correct number.

Questionnaire for students

Reply: We are preparing a new questionnaire in English that will include all the suggestions of the reviewers.

VERSION 2 - REVIEW

REVIEWER	Dr Beverley Lucas Senior Lecturer Pharmacy Education University of Bradford West Yorkshire United Kingdom
REVIEW RETURNED	08/09/2011

No further comments. Reviewer completed checklist only.

REVIEWER	Dr Geoff Wong GP Principal and Senior Lecturer in Primary Healthcare Healthcare Innovation and Policy Unit Barts and the Royal London School of Medicine and Dentistry Queen Mary University of London United Kingdom
REVIEW RETURNED	18/08/2011

THE STUDY	Thank you for updating you manuscript. I have specific comments that relate to the following: Are the abstract/summary/key messages/limitations accurate? My main comments do relate to what inferences might be coherently and plausibly drawn from the findings that will come from this time-interrupted observational study. In the abstract (and also in the Limitations section later) the language / words used should perhaps clearly indicate the the difficulty in attributing causation. At best what this study will find are associations. As the authors have pointed out changes in the context in which family medicine (FM) training is taking place (the Bologna Process) is occuring in the background. My suspicion is that one of the underlying hyportheses (implicit as the authors

	have not mentioned this) is that (put simply) 'more FM training will improve attitudes and perceptions of students to FM'. So I accept that potentially a 'dose-reponse' relationship may emerge with changing context that may or may not include more FM training. If this association occurs then then it is more plausible that FM training is changing attitudes and perceptions. But this would only still be one small piece of data that would allow attribution of causation to be related to FM training 'dosage'. I mention this as it maybe worth mentioning such a challenge in the Limitations section and also moderating the wording used in the abstract and Key Messages Section. Is the standard of written English acceptable for publication? There are still a considerable number of grammatical errors that need correcting in this manuscript. Are the references up to date and relevant? (If not, please provide details of significant omissions below.) More an issue that one of the references in the manuscript appeared to be missing? Do any supplemental documents e.g. a CONSORT checklist, contain information that should be better reported in the manuscript, or raise questions about the work? This is not applicable in this manuscript.
RESULTS & CONCLUSIONS	None
REPORTING & ETHICS	Are research ethics (e.g. consent, ethical approval) addressed appropriately? I haave mentioned this before, but I was not able to find the relevant statement about ethics clearance or requirements in this manuscript.
GENERAL COMMENTS	None

VERSION 2 – AUTHOR RESPONSE

Comment 1: Are the abstract/summary/key messages/limitations accurate?
My main comments do relate to what inferences might be coherently and plausibly drawn from the findings that will come from this time-interrupted observational study. In the abstract (and also in the Limitations section later) the language / words used should perhaps clearly indicate the the difficulty in attributing causation. At best what this study will find are associations. As the authors have pointed out changes in the context in which family medicine (FM) training is taking place (the Bologna Process) is occuring in the background. My suspicion is that one of the underlying hyportheses (implicit as the authors have not mentioned this) is that (put simply) 'more FM training will improve attitudes and perceptions of students to FM'. So I accept that potentially a 'dose-reponse' relationship may emerge with changing context that may or may not include more FM training. If this association occurs then then it is more plausible that FM training is changing attitudes and perceptions. But this would only still be one small piece of data that would allow attribution of causation to be related to FM training 'dosage'. I mention this as it maybe worth mentioning such a challenge in the Limitations section and also moderating the wording used in the abstract and Key Messages Section.

Reply: we agree with the reviewer perception and have modified all sections accordingly to capture his insights.

Comment 2: Is the standard of written English acceptable for publication?
There are still a considerable number of grammatical errors that need correcting in this manuscript.

Reply 2: we have reviewed and edited the manuscript in greater detail. Hope it is of better quality now.

Comment 3: Are the references up to date and relevant? (If not, please provide details of significant omissions below.)More an issue that one of the references in the manuscript appeared to be missing?

Reply 3: we have searched again for more recent studies and included them in the manuscript. We have corrected the mistake with the missing reference.

Comment 4: are research ethics (e.g. consent, ethical approval) addressed appropriately? I haave mentioned this before, but I was not able to find the relevant statement about ethics clearance or requirements in this manuscript.

Reply 4: we have made this more clear in the methods section. It now reads ". The protocol was approved the Research Ethics Board at IDIAP Jordi Gol, Barcelona."