

RESPACC O4 ABC Research methods Lesson plans

<i>Lesson Plan</i>	
Title	What is research? Background: Clinical problem; Research question
Learning Outcome	The student will be able to develop a research question and study hypothesis, and identify associated study objectives to address a clinical issue in palliative care
Summary	This session provides an introduction and overview of the research
Learning Objectives C- Cognition S – Skills A – Attitudes	Cognitive 1. Identify what research is and why it is important 2. Understand how to formulate a research question, for instance, using the PICO process describing: Population, intervention, comparison and outcome Skills 1. Identify the research hypothesis in a clinical study 2. Develop the ability to accurately formulate and understand a research question
Learning Methods	We will use PowerPoint presentations to introduce the students in research: 1) How to develop research questions. These will be followed by facilitated discussion, using interactive examples. <ul style="list-style-type: none"> - Examples from participants' experience - Selection of 2-3 topics for working groups
Timing	90 minutes session
Bibliography /Resources	https://bestpractice.bmj.com/info/toolkit/learn-ebm/how-to-clarify-a-clinical-question/

<i>Lesson Plan</i>	
Title	Using literature review as a research method
Learning Outcome	The student will be able to accurately formulate a literature review question and understand how to select an appropriate method to undertake a review
Summary	This session provides an introduction and overview of the process of undertaking a literature review.

Learning Objectives C- Cognition S – Skills A – Attitudes	Cognitive 1. Identify what a review is and why it is important 2. Understand the basic requirements in conducting a review 3. Develop an understanding of which review methods to use for different questions 4. Recognise key databases 5. Understand how to create a search strategy 6. Understand the importance of synthesising data from literature reviews 7. Critically appraise different synthesis methods Skills 1. How to access the papers
Learning Methods	We will use PowerPoint presentations to introduce in literature review methods: 1) How to develop review questions and the process of undertaking a review, 2) introduction to data synthesis methods. These will be followed by facilitated discussion, using interactive examples.
Timing	2 x 90 minutes sessions
Bibliography /Resources	Aveyard, H., Payne, S. A., & Preston, N. J. (2021). A post-graduate's guide to doing a literature review in health and social care. 2 nd edition Oxford University Press: Oxford.

Lesson Plan	
Title	What are, when and how to use quantitative methods?
Learning Outcome	The student will be able to identify and articulate the core principles and processes in the application of quantitative research methods within health care.
Summary	This session provides an overview of the quantitative research process with an applied healthcare setting, from theory to analysis.
Learning Objectives C- Cognition S – Skills	Cognitive 1. To identify and examine the key steps within quantitative research study design - The study hypothesis - Selecting and operationalising variables

A – Attitudes	<ul style="list-style-type: none"> - Measurement and assessment tools - Settings and Sampling - Making sense of the data <p>2. To describe core concepts for consideration of quantitative research</p> <ul style="list-style-type: none"> - Control / Causality / Probability /Reliability / Validity / Bias / Errors <p>3. Understand the use of Reporting Guidelines</p> <p>4. To discuss the strengths and weaknesses of quantitative research on shaping clinical practice</p> <p>Skills</p> <p>1. To apply learning with examples from practice</p>
Learning Methods	Supervised small groupwork / Presentation / Facilitated Discussion Students will work in small groups to develop knowledge on quantitative research methods. Students will reflect and discuss their existing understanding, and this will be supplemented with a presentation on the core components of quantitative research, which will engage students through questioning and opportunities for discussion.
Timing	90 minutes session
Bibliography /Resources	Bailey, D. M., Hissong, A. N., & Lape, J. E. (n.d.). Bailey’s research for the health professional (3rd ed.). F.A. Davis Company.

Lesson Plan	
Title	Quantitative research approaches and study design
Learning Outcome	Students will be able to identify and explain the rationale behind the use of different quantitative study designs with palliative care.
Summary	These two sessions will outline the differing approaches used in quantitative research methods, building on the concepts outlined in the session “What are, when and how to use quantitative methods” and engage in practical exercises to explore the merits of varying approaches to quantitative research in Palliative Care.
Learning Objectives C- Cognition	Cognitive 1. To recognise and identify common quantitative research designs in health care studies

S – Skills A – Attitudes	<ul style="list-style-type: none"> - Experimental Design - Quasi Experimental Design - Non-experimental designs <p>Skills</p> <ol style="list-style-type: none"> 1. Explore and appraise the strengths and weakness of quantitative research design for palliative care 2. Apply Quantitative study designs to clinical problems
Learning Methods	The interactive session will engage a mixture of approaches to address the learning objectives. Students will be primed with a didactic presentation, and then review examples of published studies. The second session 2-3 will explore the application of quantitative research designs through facilitated small groupwork.
Timing	90 minutes sessions
Bibliography /Resources	Bowling, A. (n.d.). Research methods in health: investigating health and health services (Fourth edition.). Open University Press.

Lesson Plan	
Title	Making Sense of Data: Understanding the principles of statistical analysis
Learning Outcome	The student will be able to identify the principles behind the analysis of quantitative data.
Summary	This session introduces approaches to the use and reporting of data in health care, covering descriptive and inferential approaches, and introducing computational analysis tools.
Learning Objectives C- Cognition S – Skills A – Attitudes	<p>Cognitive</p> <ol style="list-style-type: none"> 1. To understand the core principles within descriptive presentation of research data 2. To recognise common statistical tests used in quantitative research 3. To understand the principles behind bivariate and multivariate analysis 4. To identify common errors in the reporting of statistical findings <p>Skills</p> <ol style="list-style-type: none"> 1. To explore the relationship between statistical significance and clinical significance

Learning Methods	We will explain differing approaches to the analysis of data and allow students the opportunity to work in small groups to explore the reporting of model data.
Timing	90 minutes sessions
Bibliography/Resources	Sarah G. Brearley, & Catherine Walshe. (2020). Introduction to the Handbook of Theory and Methods in Applied Health Research. Edward Elgar Publishing. (Chap 13)

Lesson Plan	
Title	When and how to use qualitative research?
Learning Outcome	Increase knowledge about key characteristics of qualitative research and when to apply this research approach.
Summary	The idea is that the 30' video tackles these questions: <ul style="list-style-type: none"> - Why choose a qualitative approach? What does it offer to palliative care? - What makes for a strong qualitative study?
Learning Objectives C- Cognition S – Skills A – Attitudes	The overall objective is to reflect on the principles and significance of qualitative research in palliative care. Cognitive 1. To know the characteristics of qualitative research 2. To reflect on the contribution of qualitative research to palliative care 3. To know what makes a strong qualitative research Skills 1. To learn how to frame a qualitative research question
Learning Methods	- The students will watch the pre-recorded session (30'). Afterwards we will discuss further key characteristics of qualitative research and clarify doubts (20'). - Group work to frame a qualitative research question and share with the whole class (15'). - Sharing the different proposed research questions and provide feedback to improving its (15') framing. -Closing remarks: summary of key messages (5')
Timing	30 minutes (video)

Bibliography /Resources	<p>Richards, L., & Morse, J., M. (2013). Readme first for a user's guide to qualitative methods, (3rd ed.) Thousand Oaks: Sage.</p> <p>Walshe, C. & Brearley, S. (2020). Handbook of Theory and Methods in Applied Health Research: Questions, Methods and Choices. Edward Elgar. Cheltenham: United Kingdom.</p> <p>Creswell, J. W. (2012). Qualitative inquiry and research design: Choosing among five approaches. Sage: Thousand Oaks, CA.</p> <p>Hole, R. (2014). Qualitative health research. In K. Bassil & D. Zabkiewicz (Eds.), Health Research Methods (pp. 165-189). Don Mills, ON: Oxford University Press.</p> <p>Macphee, R. S., & Robertson-Wilson, J. (2014). The research process: Ask the right question, get the right answers. In K. Bassil & D. Zabkiewicz (Eds.), Health Research Methods: A Canadian Perspective (pp. 33-61). Oxford University Press: Don Mills, ON. □</p> <p>Arantzamendi, M.; Lopez-Dicastillo, O., Robinson, C, Carrasco, JM. Investigación cualitativa en Cuidados Paliativos. Un recorrido por los enfoques más habituales, Medicina Paliativa 2007; 24 (4): 219-226.</p>
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Lesson Plan	
Title	Methodology and data collection coherence. How to select the appropriate data collection technique
Learning Outcome	Increase knowledge about qualitative data collection and its development.
Summary	<p>The idea is that the 30' video mentions key aspects to different data collection methods, such as:</p> <ul style="list-style-type: none"> - Observations: observing the real world - Interviews: understanding people's experiences - Focus group: building meaning on social interaction
Learning Objectives	The overall objective is to reflect on key aspects to different data collection methods.
C- Cognition	Specific objectives:
S – Skills	Cognitive
A – Attitudes	1. To understand peculiarities of different qualitative data collection methods

	2. To reflect on the importance of coherence between research question and data collection Skills 1. To practice how to develop the methodology based on a qualitative research question
Learning Methods	- The students will watch the pre-recorded session (30'). - - Group work: Based on their previous work of writing a qualitative research question, the students will continue working. They will have to design studies using different data collection methods. We will provide some guideline (20') - Group feedback and discussion (30') -Closing remarks: summary of key messages (5')
Timing	30 minutes
Bibliography /Resources	Creswell, J. W. (2012). Qualitative inquiry and research design: Choosing among five approaches. Sage: Thousand Oaks, CA. Kristjanson, L. & Coyle, N. (2003). Qualitative research in palliative care. In D. Doyle, G. Hanks, N. McDonald (Eds.) Oxford Textbook of Palliative Medicine, Oxford University Press, Oxford.

Lesson Plan	
Title	Qualitative analysis: common aspects of making meaning of data
Learning Outcome	Initiate on doing qualitative data analysis
Summary	The idea is that the 30' video tackles these questions: <ul style="list-style-type: none"> - What is analysis in qualitative research? - What are common aspects on qualitative data analysis?
Learning Objectives C- Cognition S – Skills A – Attitudes	The overall objective is to reflect on the definition and meaning of data analysis in qualitative research. Specific objectives: Cognitive 1. To know the common aspects of qualitative data analysis process 2. To understand that there are different types of data analysis

	Skills 1. To practice conducting some data analysis
Learning Methods	<ul style="list-style-type: none"> - The students will watch the pre-recorded session (30'). Afterwards we will discuss further key characteristics of qualitative research and clarify doubts (10'). - Group work analysing data qualitatively: Based on their previous work of writing a qualitative research question, the students will continue working. They will have to design studies using different data collection methods. We will provide some guideline (20') - Sharing the group process on data analysis (20') - Closing remarks: summary of key messages (10')
Timing	30 minutes
Bibliography /Resources	Richards, L., & Morse, J., M. (2013). Readme first for a user's guide to qualitative methods, (3 rd ed.) Thousand Oaks: Sage. Payne, S. Qualitative methods of data collection and analysis. IN: Addington-Hall, J.M., Bruera, E., Higginson, I.J., Payne, S. Research Methods in Palliative Care. (2007) Oxford: Oxford University Press. Lyons, E., & Coyle, A. (2016) Analysing Qualitative Data in Psychology. (3 rd ed.) London. SAGE Publications Ltd.

Lesson Plan	
Title	When and how to use mixed methods
Learning Outcome	The student will be able to accurately articulate a research question that is appropriate for a mixed methods research design
Summary	This session introduces mixed methods with a focus on the use of case study methods in palliative care contexts
Learning Objectives C- Cognition S – Skills A – Attitudes	Cognitive 1. To introduce the rationale and purpose of case study methods 2. To describe indications for when this might be a suitable research design 3. To explain the different types of case study design 4. To discuss two examples of research using organisational case study methodology 5. To highlight the strengths and weaknesses of this methodology

Learning Methods	We will use a PowerPoint presentation to deliver information on mixed methods. This will be followed by facilitated discussion, using two examples of case studies conducted in palliative care contexts.
Timing	90 minutes sessions
Bibliography /Resources	<p>Yin, R.K. (ed.) (2014). <i>Case Study Research: design and methods</i> (5th edition) Thousand Oaks, CA: Sage.</p> <p>Walshe, C.E., Caress, A.L., Chew-Graham, C. and Todd, C. (2005) Case studies: A research strategy appropriate for palliative care? <i>Palliative Medicine</i> 18: 677-684.</p> <p>Payne S, Field D, Rolls, L, Hawker S and Kerr C. Case study research methods in end of life care: reflections on three studies. <i>Journal of Advanced Nursing</i>, 2007, 58(3), 236-245.</p>

Lesson Plan	
Title	Assessing the quality of research
Learning Outcome	The student will be able to identify how to assess the quality of research
Summary	This session introduces critical appraisal strategies within a practical session
Learning Objectives C- Cognition S – Skills A – Attitudes	<p>Cognitive</p> <ol style="list-style-type: none"> 1. To introduce the importance of identifying the strengths and weaknesses of research methods 2. To describe considerations to make when appraising quantitative and qualitative research 3. To explain the different tools that might assist with the process of critical appraisal <p>Skills</p> <ol style="list-style-type: none"> 4. To discuss two examples of critical appraisal with different research designs
Learning Methods	We will explain different critical appraisal tools, followed by asking students working in small groups to undertake an appraisal of two examples of studies conducted in palliative care contexts, with feedback during a facilitated discussion.
Timing	90 minutes sessions

Bibliography /Resources	Aveyard, H., Payne, S. A., & Preston, N. J. (2021). A post-graduate's guide to doing a literature review in health and social care. 2 nd edition Oxford University Press: Oxford.
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Lesson Plan	
Title	Research Ethics
Learning Outcome	Understands how to apply ethical principles and regulatory procedures in the context of clinical research design and operations, balancing benefits and risks while considering participants' clinical situation and interests.
Summary	<p>Research Ethics determine the application of ethical principles and legislation in the conduct of clinical research, aiming to protect participants, especially the more vulnerable. Moreover, ethical considerations ensure that the study will likely contribute to improving standard clinical and social work practice, as well as safeguard the validity and quality of the scientific process per se.</p> <p>Participants' vulnerability, such as cognitive impairment, terminal illness, frailty etc must be considered during recruitment in a study, while autonomy and the wish of patients to participate must be respected. The likely risks and benefits of the study to participants, especially to those among them who may be vulnerable, need to be balanced, addressed, understood and voluntarily agreed through the process of informed consent, without coercion, or undue influence. Ethical opinion and governance approvals of a research study need to be obtained through a structured format and these vary in the different countries, i.e. application submission and approval procedure. Confidentiality and data protection issues need to be considered, implemented, and monitored throughout the study steps, while violations must be avoided or if present, reported.</p>
Learning Objectives C- Cognition S – Skills	<p>Cognitive:</p> <ol style="list-style-type: none"> 1. Understands how to apply ethical principles in the context of clinical research design and operations 2. Understands the rationale and value of research considering participants' particular situation and interests

<p>A – Attitudes</p>	<ol style="list-style-type: none"> 3. Is aware that palliative care populations may be vulnerable and why 4. Has knowledge of Research Ethical Committees and their functions 5. Is aware of the regulations that apply to the studies (research registry, regulatory, ethics, and anyothers such as national or local requirements) 6. Understands the application process for ethical/regulatory approvals 7. Is aware of data protection regulations <p>Skills:</p> <ol style="list-style-type: none"> 1. Understands that palliative care patients are a potentially vulnerable group and accurately describes additional safeguards that are put in place for them 2. Identifies the inclusion and exclusion criteria in a clinical study 3. Knows how to correctly obtain informed consent from patients and families who are 4. invited to be part of the research project 5. Reports any concerns that arise during research activities with patients or other participants 6. Recognises the need to ensure that appropriate ethical opinion and governance approvals are obtained before any research activities are undertaken 7. Is aware of the requirements of an ethical submission to a 8. Research Ethical Committee 9. Maintains the required documents and provides appropriate updates 10. Keeps written records of the relevant approvals, the ethical review and the decisions of the submission and communicates clearly to those involved regarding those decisions. <p>Attitudes:</p> <ol style="list-style-type: none"> 1. Ensures that the likely harms and benefits of a research project on the participant are properly addressed 2. Considers that vulnerable participants should not be submitted to coercion or undue influence especially patients who have advanced
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	<p>disease, children, patients living in low-resource settings or experiencing distress</p> <ol style="list-style-type: none"> 3. Safeguards participants' confidentiality 4. Ensures that research integrity is maintained
<p>Learning Methods</p>	<ul style="list-style-type: none"> • Lecture (Power point) Research Ethics A & B • Exercise 1: Example about Informed Consent • Exercise 2: Case study on collusion
<p>Timing</p>	<p>PPT Lecture (30 min x 2 times) Exercises (30 min x 2 times)</p>
<p>Bibliography /Resources</p>	<p>Real-world ethics in palliative care: A systematic review of the ethical challenges reported by specialist palliative care practitioners in their clinical practice. Schofield G et al, Palliative Medicine 2021;35(2):315-334</p> <p>Ethical research in palliative care: a guide through the human Research Ethics Committee process. Masso M et al https://apo.org.au/sites/default/files/resource-files/2004-10/apo-nid75930.pdf</p> <p>Informed Consent in Palliative Care Clinical Trials: Challenging but Possible. Agar M. Et al , J Palliat Med 2013;16(5):485-491</p> <p>Ethics and data protection. 2021. https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ethics-and-data-protection_he_en.pdf</p> <p>FURTHER READING</p> <p>Good Record Keeping for Conducting Research Ethically Correct Research Ethics Cong Peng https://www.diva-portal.org/smash/get/diva2:1355705/FULLTEXT01.pdf</p> <p>Introduction. Research Ethics. Addington-Hall JM, in Research Methods in Palliative Care. Addington-Hall JM, Bruera E, Higginson I, Payne S eds, Oxford University 2007, Ch1, p.1-9</p> <p>Ethical and practical issues in designing and conducting clinical trials in palliative care. Zuriarrain Reyna Y, Bennett MI, Bruera E., in Research Methods in Palliative Care. Addington-Hall JM, Bruera E, Higginson I, Payne S eds, Oxford University 2007, Ch3,p.27-41</p>

Ethical and practice issues in qualitative research. Sheldon F, Sargeant A., in Research Methods in Palliative Care. Addington-Hall JM, Bruera E, Higginson I, Payne S eds, Oxford University 2007, Ch10, p.163-179

How to gain research ethics approval. Speck P,. in Research Methods in Palliative Care. Addington-Hall JM, Bruera E, Higginson I, Payne S eds, Oxford University 2007, Ch17 ,p.276-282

Beauchamp & Childress' 'Four Principles' approach. Beauchamp TL and Childress JF. Principles of biomedical ethics. New York: Oxford University Press, 1979

Informed Consent. Guidance for applicants. European Commission - Research Directorate-General Directorate L - Science, Economy and Society Unit L3 - Governance and Ethics
https://ec.europa.eu/research/participants/data/ref/fp7/89807/informed-consent_en.pdf

Brief Guide to Ethics Committees and Consultation for Hospice.
[https://nhpco.com/MAID-Brief-Guide-Ethics-Committees-for-Hospice%20\(4\).pdf](https://nhpco.com/MAID-Brief-Guide-Ethics-Committees-for-Hospice%20(4).pdf)

Schuster E. Fifty years later: The significance of the Nuremberg Code. N Engl J Med 1997; 337:1436-1440

Sokol DK. The "four quadrants" approach to clinical ethics case analysis; an application and review. J Med Ethics 2008;34:513-516.

Operational Guidelines for Ethics Committees That Review Biomedical Research World health Organization. Geneva 2000.
<https://www.who.int/tdr/publications/documents/ethics.pdf>

WMA Declaration of Helsinki Ethical principles for medical research involving human subjects. <https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>

Sandra Martins Pereira and Pablo Hernández-Marrero. Research ethics in palliative care: A hallmark in Palliative Medicine. Editorial Palliative Medicine.
<https://journals.sagepub.com/doi/full/10.1177/0269216319827178>

	<p>Ethical Conduct of Palliative Care Research: Enhancing Communication Between Investigators and Institutional Review Boards. Abernethy AP, et al, J Pain Symptom Manage. 2014 December ; 48(6): 1211–1221</p> <p>The European Code of Conduct for Research Integrity. ALLEA. https://allea.org/code-of-conduct/</p> <p>MORECare research methods guidance development: Recommendations for ethical issues in palliative and end-of-life care research. Gysels M et al, Palliative Medicine 27(10) 908–917</p> <p>Research and ethical scrutiny: an editor’s dilemma? Speck P. Palliative Medicine 2001; 15: 89–90</p> <p>Horizon 2020 Online Manual- Ethics. https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cuttingissues/ethics_en.htm</p> <p>Methodological considerations in ethical review – 1. Scientific reviews: what should ethics committees be looking for? <i>Bradin L et al</i>, Research Ethics Review (2009) Vol 5, No 1 p27</p> <p>Ethics By Design and Ethics of Use Approaches for Artificial Intelligence. European Commission , November 2021. docs > horizon > guidance >">https://ec.europa.eu > docs > horizon > guidance ></p>
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Lesson Plan	
Title	How to implement a project
Learning Outcome	The student will be able to demonstrate the steps required to implement and manage a project
Summary	This session introduces strategies required to implement a research project within a practical session
Learning Objectives	Cognitive
C- Cognition	1. To introduce the various steps required before the start and during a project
S – Skills	2. To describe considerations to ensure that projects are well managed and run on time and within budget
A – Attitudes	3. To explain the different requirements of project management
	Skills
	1. To discuss two examples of preparation for project initiation

Learning Methods	We will explain different aspects of planning required before starting a project and the principles of project management and monitoring of deadlines, outputs and risk mitigation, followed by asking students working in small groups to undertake a detailed plan of two examples of pre-project set-up conducted in palliative care contexts, with feedback during a facilitated discussion.
Timing	90 minutes sessions
Bibliography /Resources	Aveyard, H., Payne, S. A., & Preston, N. J. (2021). A post-graduate's guide to doing a literature review in health and social care. 2 nd edition Oxford University Press: Oxford.

Lesson Plan	
Title	What does impact and dissemination mean?
Learning Outcome	The student will be able to identify what are potential impacts and benefits and research. The student will be able to recognize appropriate strategies for research dissemination.
Summary	This session introduces the notion of research impact and how it can be measured. It will also introduce a range of strategies for research dissemination.
Learning Objectives C- Cognition S – Skills A – Attitudes	Cognitive 1. To introduce the importance of identifying potential impacts of research methods 2. To describe a model of research dissemination 3. To explain the different approaches to research dissemination
Learning Methods	We will explain what is meant by research impact and how to assess the potential benefit of research outcomes in palliative care contexts. We will use small group discussion to consider opportunities and barriers to research dissemination.
Timing	90 minutes sessions
Bibliography /Resources	Evidence-based Model for the Transfer & Exchange of Research Knowledge (EMTReK) (www.knowledgetransfer.ie)

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