Supplementary Materials

Table 2. Critical Appraisal Skills Programme (CASP) Qualitative Checklist Assessing 13 Studies with a Qualitative Approach

Reference	Boyd et al. (2010)	Minto F., and Stricklan d K (2011)	Rhee J.J., Zwar N. A., and Kemp L. A. (2013)	De Vleminc k et al. (2014)	Hajizade h N., Uhler L.M., and Perez Figueroa R.E. (2014)	You et al. (2015)	Brazil et al. (2015)	Fletche r et al. (2016)	De Vleminc k et al. (2016)	Fan E., and Rhee J.J. (2017)	Howar d et al. (2018)	Scholte n et al. (2018)	Wichman n et al. (2018)
Clear statement of aims?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Methods appropriat e?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Research design appropriat e?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recruitme nt strategy appropriat e?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Data collection appropriat e?	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Relationshi p bias minimized ?	Unknow n	No	Yes	Yes	Unknow n	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethical?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sufficient data analysis?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clear statement of findings?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Valuable findings?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 3. Critical Appraisal Skills Programme (CASP) Systematic Reviews Checklist Assessing Two (2) Studies with a Systematic Review Approach.

Reference	Clearly focused question?	Right papers?	All relevant studies included?	Quality of included studies?	Result combination reasonable?	Overall results?	Precision of results?	Application of results?	Important outcomes considered?	Benefits vs. harms?
De Vleminck et al. (2013	Yes	Yes	Yes	U	No	Yes	Yes	Yes	Yes	Yes
De Vleminck et al. (2016)	Yes	Yes	Yes	U	Yes	Yes	Yes	Yes	Yes	Yes

Table 4. Summary of Studies Included in the Review.

Author, (Year), Location, Title	Objective(s)	Study Design, Sample Size	Key Findings (relevant to current study)	Strengths	Limitations
Boyd et al. (2010) Scotland, UK Advance care planning for cancer patients in primary care: a feasibility study[12]	To assess the feasibility of implementing ACP in general practice	Mixed methods (including semi-structured Interviews and telephone interviews) 20 GPs and 8 community nurses N=32	• Younger doctors had no experience of ACPs compared to older doctors • GPs keen to undergo training regarding EOL discussions • GPs considered experience with ACPs more beneficial than knowledge about ACPs Barriers for ACP discussions: • Fear of destroying coping strategies and eliciting fear in patients • Unclear understanding of ACPs • Paper-based documents	• Considered a diverse group of primary care professionals not just solely GPs • Same researcher conducted all interviews	• Workshops discussed slightly different topics • All participants initially had no understanding of ACPs • GPs with experience with oncology only enrolled • Different interview environments as Interviews were conducted at each GPs practice, or over the phone, • Only considered 4 GP practices
Minto F., and Strickland K. (2011) Scotland, UK Anticipating emotion: a qualitative study of advance care planning in the community setting[16]	To explore experiences of GPs and direct nurses involved in EOL care and ACP To find factors that hinder or assist ability to engage in ACP and EOL discussions	Semi-structured interviews 3 GPs and 3 direct nurses N=6	• Mixed results on the impact of GP-patient relationship dynamics and ease of ACP discussions Barriers for ACP discussions • Emotional impact on GP • Inability to meet patient's expectations regarding treatment and EOL care based on the resources available • Availability of equipment was a bigger issue than time constraints and workload • Sense of guilt if unable to deliver care that patient desired • Difficult to support family members	• The same lead researcher transcribed and conducted each interview • Interview recordings were verified and edited by participants to ensure no loss of meaning	• Unknown if having a nurse conduct ACPs would allow for better care due to their relationship dynamics with the patient • Different interview environments as Interviews were conducted at each GPs practice • Small sample size (n=6) • Lead researcher was a clinical nurse specialist which could have led to biases in the results
De Vleminck et al. (2013) Flanders, Belgium Barriers and facilitators for general practitioners to engage in advance care planning: a systematic review[14]	To determine the factors that hinder or facilitate GPs in engaging in ACPs	Systematic review 16 articles	Barriers for ACP discussions: • Unaware of when to initiate discussion + whom to approach • GP's ack of knowledge and skills • Vague requests made by patients • Belief that GPs role is to cure • Fear of upsetting patient • GP's uncertainty of disease trajectories • No initiation by the patient • Patients' knowledge of illness diagnosis/prognosis/trajectory Facilitators for ACP discussions: • GPs having a living will themselves • Attitude that a GP should initiate EOL discussions • Longstanding relationship with patient • Consultation with other HCWs • Younger GPs more likely to initiate discussion • Legal support • Financial compensation for time spent on ACPs	• Articles included came from diverse countries • Considered barriers from the perspective of the physician and the healthcare system itself • Systematic steps conducted twice by two different reviewers	• All studies used different methods thus unable to combine for meta-analysis • Biases in articles chosen and their findings

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Rhee J.J., Zwar N. A., and Kemp L. A. (2013) Australia Why Are Advance Care Planning Decisions Not Implemented? Insights from Interviews with Australian General Practitioners[17]	To determine factors that influence ACP implementation from the GPs perspective	Semi-structured interviews N=17	• Mixed feelings on legal status of ACPs and ease of implementation Barriers for ACP discussions: • Accessibility/ease of ACP documents, especially in after-hours and emergencies • Patients' knowledge of illness diagnosis/prognosis • Patient's being in denial • Patient's family dynamics • Not being able to meet patients' wishes due to over-investigations	• Interviews conducted by the same person • Asked exact same questions • Transcribed by a professional agency • Participants recruited through various manners, thus representative	• Use of open-ended questions makes it difficult to analyse the data • Small sample size • Interview was conducted by a GP (response bias)
De Vleminck et al. (2014) Flanders, Belgium Barriers to advance care planning in cancer, heart failure, and dementia patients: a focus group study on general practitioners' views and experiences[11]	To identify barriers for GPs in initiating ACPs To determine the different barriers for GPs between health conditions	Focus groups N =36	• Many were not familiar with the term ACP • Many GPs had conducted ACPs previously but in an informal manner with no documentation • Previous positive experiences facilitated ACP discussions Barriers for ACP discussions: • Lack of communication between specialists and GPs • Decreased contact between GPs and cancer patients due to transfer of care • GP's knowledge and confidence levels • Lack of time • Uncertainty of when to initiate discussions • GP's personal beliefs • Uncertainty of disease trajectories • No initiation by the patient • Patients' knowledge of illness diagnosis/prognosis/trajectory • Change in preferences by patients over time	• Considered various illnesses (cancer, heart failure, and dementia) and barriers for initiating ACPs individually • Had rural and urban focus groups to determine if any differences were present • Translated by two researchers • Considered barriers from the perspective of the physician and the healthcare system itself	• Focus groups did not consist of equal number of participants • Mainly male and older GPs in study • GPs with experience in palliative care • Changed topic of focus group after the first two groups were completed • Small sample size
Hajizadeh N., Uhler L.M., and Perez Figueroa R.E.. (2014) New York City, USA Understanding patients' and doctors' attitudes about shared decision making for advance care planning[15]	To determine the current use and attitudes regarding shared decision making and ACPs	Semi-structured Interviews 11 Patients and 5 doctors N =11	• Most doctors prefer SDM, yet they ultimately seem to be making the final decision for the patient • Doctors strongly believe that they should be involved and initiate EOL discussions • Doctors believe that ACPs should be conducted in the community and not hospitals, mainly with their GPs Barriers for shared decision making: • Different cultural backgrounds • Language barriers • Lack of patient empowerment • Patients' knowledge of illness diagnosis/prognosis • Lack of time • GP's understanding of illness prognosis	• Interviews were closed-ended questions and easy to quantify • Interviewers were all trained in a similar manner • Transcribed via a constant comparative analysis	• Only 5 doctors were interviewed (small sample size) • Interviews were conducted by different people • Participants were largely white middle-aged males • Difficult to interpret interviews

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You et al. (2015) Canada (British Columbia, Alberta, Ontario, Manitoba, and Newfoundland and Labrador) Barriers to Goals of Care Discussions with Seriously Ill Hospitalized Patients and Their Families	To determine hospital-based physicians' perspectives about: • Barriers impeding communication and decision-making regarding goals of care with terminally ill patients and their families • Their willingness and acceptability to engage in this process	Cross-sectional Self-administered web and paper questionnaires N=1256	Barriers for ACP discussions: • Patient and family's difficulty in prognosis acceptance • Patients and family's' knowledge of illness diagnosis/ prognosis/trajectory • Lack of agreement amongst families regarding EOL care • Lack of patient's capacity Minor barriers for ACP discussions • Legal concerns • Lack of knowledge and skills • Lack of time	• Survey developed in 3 stages • Both web and paper surveys • Very large sample size • Variety of HCWs enrolled (nurses, residents, and physicians) • 13 hospitals enrolled • 77.7% response rate • Physicians in 5 different provinces enrolled • Questionnaires were specific to each HCWs role • French and English surveys used and translated by bilingual members for accuracy	• Only considers hospital-based clinicians not GPs • Did not consider all hospital HCWs that could possibly take part in ACPs • Response bias • Recall bias • HCWs were all from teaching hospitals
Brazil et al. (2015) Northern Ireland, UK General practitioners' perceptions on advance care planning for patients living with dementia[1]	To determine preferences and attitudes of GPs regarding decision-making for patients with dementia	Cross-sectional posted survey N=133	• GPs require training on discussing ACPs with families • GP's relationship with the patient and their family facilitates discussions Barriers for ACP discussions: • Uncertainty of when to initiate conversation • Uncertainty of disease prognosis • Early discussions triggered anxiety in patients • Lack of family's understanding of therapies and prognosis	• 61% of the surveyed practices provided a response • Mean years of practice was 24.7 years	• Mixed reviews on when EOL discussions should be held • Did not consider how to provide information and understanding to families • Only considered GP practices with registered dementia patients • Responder bias
Fletcher et al. (2016) Western Australia Rural health professionals' experience in implementing advance care planning: a focus group study[2]	To identify the: • Perceptions of HCWs with ACP • Systemic issues regarding ACP • Training needs for ACP	10 focus groups consisting of GPs, GP registrars, and nurses N=55	• Different HCWs have a different understanding of ACPs • ACPs are conducted differently in hospital and community-based practices • Rural and urban GPs have differences in opinion on whether or not to document ACP discussions Barriers for ACP discussions: • Lack of knowledge and confidence • Lack of time • Unable to preserve hope in patients • Complexity of ACPs • No single system on how to develop ACPs • Interprofessional teams and lack of role understanding Facilitators for ACP discussions: • Previous positive experience with ACPs	• Used intra-professional focus groups instead of interprofessional to eliminate power relationships from playing a role • Data analysed by the same researcher	• Only considered rural HCWs • Qualitative study – interpretation methods • Small sample size

Author, (Year), Location, Title	Objective(s)	Study Design, Sample Size	Key Findings (relevant to current study)	Strengths	Limitations
De Vleminck et al. (2016) Brussels, Belgium Development of a complex intervention to support the initiation of advance care planning by general practitioners in patients at risk of deteriorating or dying: a phase 0-1 study[9]	To develop an intervention to support ACP in general practice To identify the barriers and facilitators for GPs to engage in ACPs To identify the attitudes and concerns of GPs regarding initiating ACPs	literature review and focus groups n = 36	Barriers for ACP discussions: • Lack knowledge/confidence • Lack of time • Unsure of components of ACPs • Uncertainty of when to initiate conversation • Worry of creating anxiety or decreasing hope in patients • Uncertainty of disease trajectories • Patients' knowledge of illness diagnosis/prognosis • No central system to document patient's wishes • Inability to determine capacity • Legal implications • Uncertainty about the usefulness of ACPs Facilitators for ACP discussions: • Positive experiences in past • Patient brings up topic • Long-term relationship with patient	• Considered diverse barriers and implemented interventions to overcome • Considered barriers from the perspective of the physician and the healthcare system itself	• Small sample size • Unknown if interventions implemented would be used widely or how feasible they are to implement into everyday practice
Fan E., and Rhee J.J. (2017) New South Wales, UK A self-reported survey on the confidence levels and motivation of New South Wales practice nurses on conducting advance-care planning (ACP) initiatives in the general-practice setting[3]	To understand practice nurses' beliefs, attitudes, and confidence regarding ACPs To identify the potential barriers and challenges regarding ACPs	Online cross-sectional survey N=147	• ACPs should not be solely done by GPs • ACPs should be conducted in the community and not hospitals Barriers for ACP discussions: • Uncertainty of patient's capacity • Lack of funding and time • Uncertainty if wishes will be met • Uncertainty of disease prognosis and trajectory • Personal discomfort • Patients knowledge of ACPs • Lack of information regarding ACPs for patients Facilitators for ACP discussions: • The Patient-nurse relationship dynamics influence ease of discussion • Perceived knowledge of ACPs correlated with discussion confidence • Training enhances confidence	• Survey was created by a team with expertise in ACP and palliative care, that consisted of GPs and registered nurses • 82% completion rate of survey	• Most nurses were female • Mainly consisted of rural nurses • Actual knowledge about ACPs was not tested • Responder bias
Howard et al. (2018) Canada (Ontario, Alberta, and British Columbia) Barriers to and Enablers of advance care planning with patients in primary care: survey of health care providers[18]	To identify barriers to and enablers of ACP perceived by physicians and other primary health care professionals	Cross-sectional Self-administered survey 117 GPs and 64 other HCWs N=181	• Perception that it is the GPs job to cure patients, that patients should initiate discussions were not barriers • GPs had no fear that discussing ACPs would interfere with their relationship with the patient Barriers for ACP discussions: • Lack of time • No electronic ACPs • Decreased interaction with patients near EOL • Patients' knowledge of illness diagnosis/prognosis/trajectory Facilitators for ACP discussions: • Long-term patient-physician relationship • Interprofessional role allocation regarding ACPs	• Survey originated from previous validated study and further developed on by GPs and HCWS • Open-ended questions included at the end of the questionnaire • 2 analysts coded all comments made • GPS in 3 different provinces enrolled • Large sample size (n=181)	• Considered patients older than 50 • Responder bias

Author, (Year), Location, Title	Objective(s)	Study Design, Sample Size	Key Findings (relevant to current study)	Strengths	Limitations
Scholten et al. (2018) Flanders, Belgium Advance Directive: Does the GP Know and Addresses What the Patient Wants? Advance Directive in Primary Care[19]	To determine what barriers GPs and patients identify regarding ACP discussions	Cross-sectional 502 citizens and 117 GPs N = 619	• Most GPs make less than 5 ACPs a year • Individuals like to be in control of ACPs and initiate discussions Barriers for ACP discussions: • Lack of time • Lack of experience and knowledge • Complexity of ACP documents • Personal discomfort	• Large sample size • Considered well individuals not terminally ill • Citizens were over the age of 64, which is younger than similar previous studies conducted	• Not a validated survey • Responder bias • Survey only provided in Dutch
Wichmann et al. (2018) Netherlands Advance care planning conversations with palliative patients: looking through the GP's eyes	To determine GPs experiences with ACP discussions and the factors influencing these discussions	Semi-structured interviews N=17	• Mixed results regarding utilization of ACP guidelines • Easier to implement ACPs for cancer patients than other types of patients Barriers for ACP discussions: • Difficult topic to bring up • Emotional impact on GP • Lack of time • Uncertainty of when to initiate conversation, especially if patients still being treated in the hospital • Anxious patients • GPs personal beliefs conflict with patients • Lack of communication between GPs and specialists	• Transcribed via an official agency • Constant comparative method used for data analysis • Participants had strong knowledge regarding ACPs	• GPs were recruited from an ACP training program, thus not representative of the wider population • Different interview methods used (face-to-face, or telephone) • Interviews conducted in Dutch • Various interview locations could cause confounders • Small sample size • Use of open-ended questions makes it difficult to analyse the results