Canadian Stroke Best Practices™

CANADIAN STROKE BEST PRACTICE RECOMMENDATIONS

Stroke Systems of Care

7th Edition, Update 2026

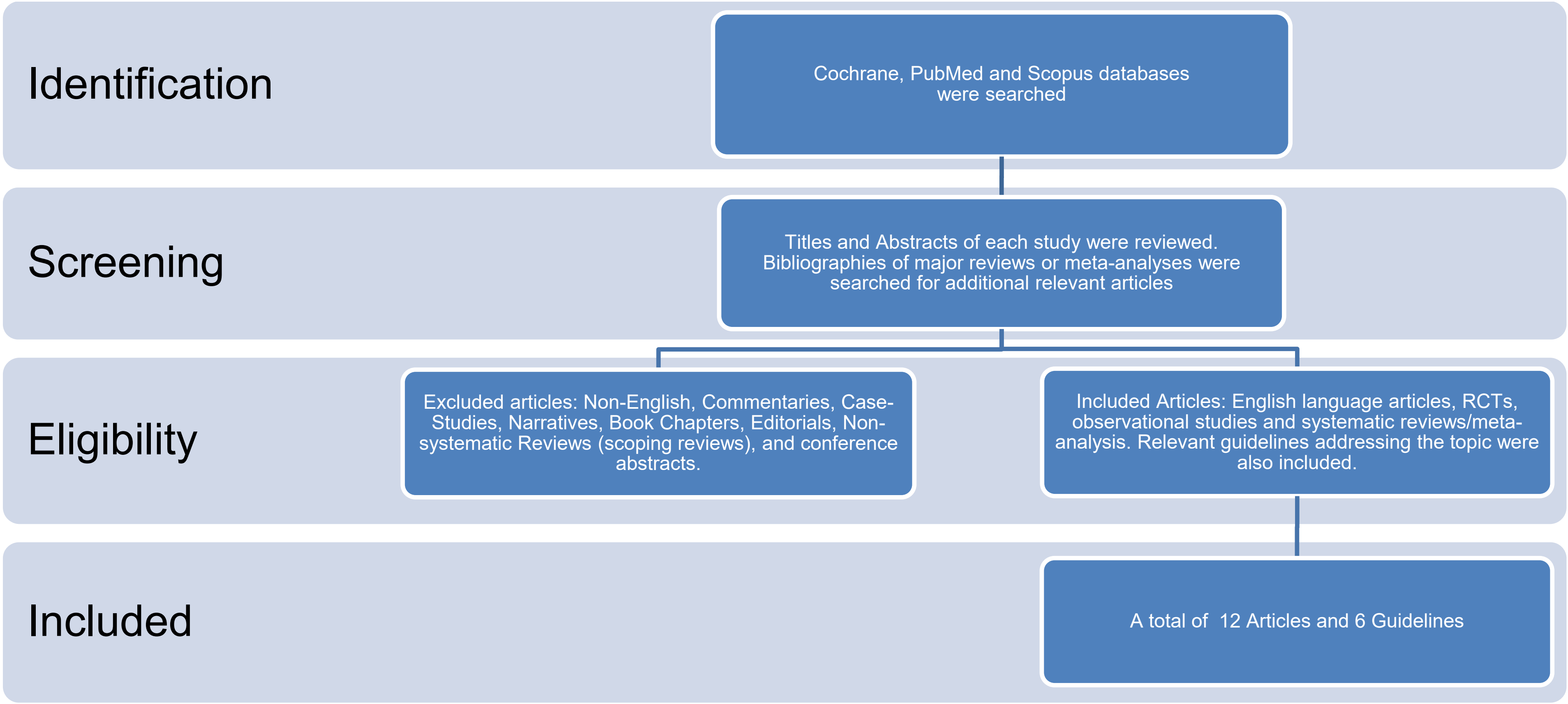
Evidence Tables

Advance Care Planning

Sacha Arsenault and Gary Hunter (Writing Group Co-Chairs)
on Behalf of the Canadian Stroke Best Practice Recommendations
Stroke Systems of Care Writing Group

Table of Contents

Search Strategy



Identification

Cochrane, PubMed and Scopus databases were searched

Screening

Titles and Abstracts of each study were reviewed. Bibliographies of major reviews or meta-analyses were searched for additional relevant articles

Eligibility

Excluded articles: Non-English, Commentaries, Case-Studies, Narratives, Book Chapters, Editorials, Non-systematic Reviews (scoping reviews), and conference abstracts.

Included Articles: English language articles, RCTs, observational studies and systematic reviews/meta-analysis. Relevant guidelines addressing the topic were also included.

Included

A total of 12 Articles and 6 Guidelines

Cochrane, PubMed and Scopus databases were searched using the terms such as (“Stroke” and “end-of-life” or “advance care planning”). Titles and abstract of each article were reviewed for relevance. Bibliographies were reviewed to find additional relevant articles. Articles were excluded if they were: non-English, commentaries, case-studies, narrative, book chapters, editorials, non-systematic review, or conference abstracts. Additional searches for relevant best practice guidelines were completed and included in a separate section of the review. A total of 12 articles and 6 guidelines were included and were separated into separate categories designed to answer specific questions.

Published Guidelines

Guideline	Recommendations
National Clinical Guideline for Stroke for the UK and Ireland. London: Intercollegiate Stroke Working Party; 2023 May 4. **Available at:** www.strokeguideline.org.	Services providing acute and long-term care for people with stroke should provide high quality end-of-life care for those who need it. [2016] Staff caring for people dying of stroke should be trained in the principles and practice of end-of-life care, including the recognition of people who are approaching the end of life. [2016] Decisions to withhold or withdraw life-prolonging treatments after stroke including artificial nutrition and hydration should, whenever possible, take the person's prior expressed wishes and preferences into account and should be taken in the best interests of that person. When withdrawing artificial nutrition and hydration, a recognised nutrition and hydration decision-making process should be considered. [2023] End-of-life (palliative) care for people with stroke should include an explicit decision not to have burdensome restrictions that may exacerbate suffering. In particular, following assessment this may involve a decision, taken together with the person with stroke, their family/carers, and the multidisciplinary team, to allow oral food or fluids despite risks including aspiration and choking. [2023] People with stroke with limited life expectancy, and their family where appropriate, should be offered advance care planning, with access to specialist inpatient and community palliative care services when needed. The multidisciplinary team should establish whether there is any existing documentation of the patient's wishes regarding management of risks associated with continued eating and drinking and whether it remains relevant, and agree with the patient and/or family/carers an advanced care plan where appropriate. [2023] People dying of stroke should have access to specialist palliative care, including the timely transfer of care to their home or to a hospice or care home according to the wishes of the person and their family/carers. This should also include timely communication and involvement of the primary care team. [2016]
McKenzie E & Couillard P. **Choosing Wisely: Canadian Neurological Society recommendations for advance care planning.** ***Can J Neurol Sci.* 2023 May;50(3):351-354.**	1. Don't wait for your patient to bring up ACP, initiate the conversation. 2. For patients with progressive illness that could impact cognition, initiate ACP conversations as early in the disease course as possible. 3. Encourage family and care partner involvement in ACP. 4. Use clear, direct language when discussing prognosis. 5. Use standardized, specific language to document ACP conversations. 6. Don't recommend or initiate aggressive care without establishing prognosis, preferences and goals of care. 7. Revisit advance care plans regularly and whenever there is significant change in a patient's status. 8. Patients who enquire about Medical Assistance in Dying should receive comprehensive information about care options.
Ferrell BR, Twaddle ML, Melnick A, Meier DE. **National Consensus Project Clinical**	Statements are made within each of 8 domains including Domain1. Structure and processes of care

Guideline	Recommendations
Practice Guidelines for Quality Palliative Care Guidelines, 4th Edition. ***J Palliat Med.* 2018 Dec;21(12):1684-1689.** **(selected)**	Domain 2: Physical aspects of care Domain 3: Psychological and psychiatric aspects of care Domain 4: Social aspects of care Domain 5. Spiritual, religious, and existential aspects of care Domain 6. Cultural aspects of care Domain 7. Care of the patient nearing the end of life Domain 8. Ethical and legal aspects of care Five key themes were added to each domain: • The elements of a comprehensive assessment are described • Family caregiver assessment, support, and education are referenced in numerous domains • The essential role of care coordination, especially during care transitions, is emphasized • Culturally inclusive care is referenced in all the domains and expanded in the cultural aspects of care domain • Communication (within the palliative care team, with patients and families, with other clinicians, and with community resource providers) is prerequisite for delivery of quality care for the seriously ill and is emphasized throughout
Royal College of Physicians, British Geriatrics Society, Royal College of Nursing, Royal College of Psychiatrists, Royal College of General Practitioners, British Society of Rehabilitation Medicine, Alzheimer's Society, Help the Aged and the National Council for Palliative Care. Advance care planning. RCP Concise Guidance for Good Practice No. 12. February 2009.	Detailed recommendations were made within the following categories: When and with whom should I be considering ACP discussions? The discussion Will ACP work? Individuals with progressive cognitive impairment Recommendations for training and implementation of ACP

Evidence Table

Knowledge of Advance Care Planning Among the General Public

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
Teixeira et al. 2015 **Canada** **Survey**	NA	1,021 Canadians, aged ≥18 years, randomly sampled from the general population. 48% were male, a plurality of participants was aged 45-54 years (33%) and were from Ontario (32%)	5 questions related to advance care planning (ACP) were posed using a short online survey: 1) had they ever heard of the term 'ACP'; 2) had they ever had a discussion with a family or friend or 3) a healthcare provider regarding healthcare treatments' preferences in the event that they would become too ill or too injured to speak for themselves; 4) had they written an ACP; and 5) if they had designated a person to be their healthcare decision maker in the event of incapacity. Associations between knowledge of ACP and 6 variables was also examined (age, sex, education, income, children living in household, born in Canada)	**Primary outcome:** Number of participants familiar with aspects of ACP	160 participants (16%) were familiar with the term ACP 530 participants (52%) had discussions with friends and family members regarding ACP 105 participants (10%) had discussions with healthcare professionals regarding ACP 204 participants (20%) had written an ACP 479 participants (47%) have a substitute decision maker. Increasing age was the only factor that was associated with all 5 ACP outcomes.

Advance Care Planning

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
Skolarus et al. 2022 **USA** **Subgroup of the PREPARE For Your Care (PREPARE) trial**	CA: ☑ Blinding: Patient ☒ Assessor ☑ ITT: ☑	91 persons recovering from stroke who were participants of the PREPARE trial. Total sample size for the trial was 986 English and Spanish speaking veterans recruited from 4 primary care centres, ≥55 years with ≥ 2 chronic or serious illnesses. In the stroke cohort, mean age was 64 years, 47% were women.	In the main trial, participants were randomized to the PREPARE plus group (an easy-to-read advance directive (PREPARE arm) or the advance directive arm alone.	**Primary outcome:** New ACP documentation in the electronic medical record after 12 months **Secondary outcomes:** Self-reported ACP completion measured with the Advance Care Planning Engagement Survey (ACPES) and helpfulness.	41% of participants had ACP before enrollment. There was no significant increase in ACP documentation at 12 months in the PREPARE arm (44.5% vs. 38.9%, p=0.63). There was significantly greater mean change in completion of elements of ACP in the PREPARE arm (1.28 vs. 0.57, adjusted OR=2.47, 95% CI 1.02–5.98). There was no significant change in mean ACPES score between groups (0.85 vs. 0.54, p=0.35). Perceived helpfulness was higher in the PREPARE arm (4.4 vs. 4.0, p<0.01).
Johnson et al. 2019 **USA** **Survey**	NA	219 patients attending an outpatient stroke clinic a median of 5 months following (any) stroke. Mean age was 60 years, 46% were women. 68% were ischemic stroke, 14% ICH. Median NIHSS score was 4.	Patients completed the Planning After Stroke Survival survey, designed to explore the prevalence, experiences, and influencing factors around goals-of-care and advance care planning (ACP) conversations	**Primary outcome:** Completion of an advance directive (AD), as reported by the patient, predictors of AD	Response was 78%. 45% of respondents reported having completed AD, 20% were unsure. Most patients (n=155; 73%) reported having previously discussed ACP with a physician. 123 (58%) patients were interested in having additional ACP conversations with their stroke doctor. 28 (53%) patients stated that they did not wish to discuss ACP with their stroke doctor, over half of whom (28/53; 53%) had already completed ADs. Predictors of completing ADs included age (≥65 years, white race, milder poststroke disability (mRS score ≤1), having previously discussed ACP with a physician and discussing risk of stroke recurrence.
Green et al. 2014 **Canada** **Qualitative study**	NA	14 patients ≥18 years, recruited from an acute stroke unit and 2 rehabilitation units ≤12 weeks previously; and 4 healthcare professionals (HCP) (3 nurses and 1	Participant observation and semi-structured interviews were used to gather information related to the communication processes regrading advance care planning between patients and HCPs, using grounded	**Primary outcome:** Key themes related to why/why not participants engaged in the ACP process.	1. Lack of perceived urgency by participants about the need for ACP, many of whom felt the physician and/or family members would make decisions in accordance with their wishes; another aspect was the patients' lack of information from HCPs regarding the severity of their stroke. In the rehabilitation phase, the focus was recovery.

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
		social worker). Patients with aphasia and cognitive impairment were excluded.	theory methodology.		2. Lack of initiation by HCPs to discuss issues around ACP. 3. HCPs expressed hesitation about initiating discussions related to ACP, and uncertainty as the best timing for such discussions. There was also a lack of awareness as to what ACP is, and thought it was outside their scope of practice. 4. Confusing ACP with advance directives, designation of care and living wills
Qureshi et al. 2013 **USA** **Retrospective study**	NA	28 patients who were admitted to a comprehensive stroke study over a 12-month period with ischemic stroke or ICH and those with advance care directives at the time of admission	A total of 28 treatment decision items were selected and categorized in three groups of decision making according to complexity and risk: i) routine complexity which included interventions that are done routinely and did not require informed consent (e.g., fever or hyperglycemia management); ii) moderate complexity that did not always require informed, but did require some discussion with family members (e.g., thrombolytic therapy or institution of intubation and mechanical ventilation); and iii) high complexity, requiring informed consent (e.g., craniectomy or hematoma evacuation). A summary of each patient's case, including a copy of the patient's advance healthcare directives (ACD) were reviewed and rated independently by 6 stroke physicians. Each rater indicated that they would or	**Primary outcome:** The proportion of treatment withheld and the percentage agreement to treat per patient for each of the items.	The decision to withhold treatment in all 3 treatment complexity categories was similar among raters, regardless of their knowledge of an ACD. One exception was intensive care monitoring where the treatment was withheld in 32% of patients with ACD vs. 8% without ACD. In routine complexity treatment decisions, the percentage agreement among raters as to whether to offer a specific treatment varied from 75%-100% in the presence of ACD and 78%-100% in their absence. In moderate complexity treatment decisions, the percentage agreement among raters as to whether to offer a specific treatment varied from 68%-79% in the presence of ACD and 67%-86% in their absence. In high-complexity treatment decisions, the percentage agreement among raters as to whether to offer a specific treatment varied from 74%-80% in the presence of ACD and 71%-85% in their absence. Treatment decisions were not influenced by the presence of ACDs.

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
			would not offer a therapeutic option. The review was performed twice by each rater one month apart, once with knowledge of the ACP and once without.		
Heyland et al. 2013 **Canada** **Prospective Study**	NA	278 patients with advanced pulmonary, cardiac, or liver disease, metastatic cancer, were ≥80 years of age and admitted for an acute condition or were not expected to survive 6 months. 225 family members of patients meeting the above criteria were also included.	Participating patients and family members were interviewed 2-5 days following admission. Medical records were reviewed immediately following the interview to identify any documentation of issues related to end-of-life care.	**Primary outcome:** Selected domains from the Canadian Health Care Evaluation Project (CANHELP) Questionnaire.	Prior to hospitalization, 76.3% of patients reported that they had considered end of life care, 73.3% had formally named a surrogate decision maker, and 47.9% had completed an advance care plan. Most patients (61.2%) expressed a preference for comfort care or a mix of comfort care and medical care that excluded resuscitation. Only 11.9% preferred life-prolonging care. For the 199 patients that expressed end-of-life care preferences and had a documented goals-of-care order, documented preferences crudely corresponded to the patient's stated preferences in 30.2% of cases. Lowest levels of satisfaction on the CANHELP Questionnaire were reported to be related to discussions of the location of end-of-life care and what to expect during end-of-life care.
Pearlman et al. 2000 **USA** **Prospective study**	NA	A convenience sample of 342 participants from 7 groups (younger and older well adults; persons with chronic illness, terminal cancer, AIDS; stroke survivors with residual impairments (n=45); and nursing home residents.	Treatment preferences (antibiotics, long-term mechanical ventilation (with tracheostomy), long-term hemodialysis, long-term jejunal tube feeding, short-term mechanical ventilation, and CPR) and health status data (functional status, depression, and personal experience with mechanical ventilation, CPR, dialysis, coma, severe memory loss, and paralysis) were collected during in person interviews. Responses were elicited for each participant's current	**Primary outcome:** % of participants willingness to accept/forgo the 6 treatments (antibiotics, short-term ventilation, CPR, long-term dialysis, long-term tube feeding and long-term mechanical ventilation). Summary scores.	Overall, participants chose to forego invasive or long-term treatments more often than less invasive, short-term treatments, and chose to forego treatments more often in seriously impaired health states (coma, and to a lesser extent severe dementia and severe stroke) than they did in their current health state. **For the subgroup of stroke survivors:** Current health state: the percentage of participants who chose to forgo the 6 treatments ranged from 5% (antibiotics) to 60% (long-term mechanical ventilation) Severe stroke: in this scenario, the percentage of participants who chose to forgo the 6 treatments ranged from 30% (antibiotics) to 80% (long-term mechanical ventilation)

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
			health state and three hypothetical health states representing severe dementia, permanent coma, and severe stroke. A 6-point summary scale was developed (0-6) as an indicator of a patient's willingness to accept all 6 treatments. Lower scores indicated greater likelihood to accept treatment.		Permanent coma: this health state was associated with the highest percentages of persons choosing to forgo treatment, ranging from 60% (antibiotics) to 80% (long-term mechanical ventilation). Summary scores for the different health states were 1.9 (current health), 3.5 (severe stroke), 2.9 (severe dementia) and 4.3 (permanent coma)

Interventions Associated with Advance Care Planning

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
Malhotra et al. 2022 **USA** **Systematic review**	PEDro scores ranged from 3 to 8. Median score was 6. 47 (36%) RCTs were classified as low-quality	132 RCTs published between 1992 and May 2021 that examined the efficacy of ACP interventions. Samples included healthy participants (95% were adults) and those with chronic disease (eg., cancer, infectious disease and dementia).	Narrative synthesis. Most interventions focused on communication. Examples of interventions: Caregiver ACP discussion vs attention control, ACP video decision aid vs usual care, Brief, physician-led explanation and leaflets about AD vs usual care	**Primary outcomes:** Patient (distal and proximal), healthcare use and process outcomes	RCTs were conducted in a variety of settings, including hospitals (54%), communities (16%), primary care clinics 12%), and nursing homes. 8% of RCTs were conducted in multiple settings. *Patient outcomes (distal)* End-of-life care consistent with preferences: Outcomes were positive in 3/12 (25%) trials. Quality of life: 0/14 RCTs that assessed this domain were positive. Mental health: 4/19 (21%) trials that assessed this outcome, were positive Place of death: Outcome was positive in ¼ trials (25%). *Patient outcomes (proximal)* Quality of patient–physician communication: 13/19 (68%) of trials assessing this outcome were positive.

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
					Treatment preference: 16/23 RCTs (70%) reported that the intervention increased the preference for comfort care. Decisional conflict: 9/14 trials (64%) reported that ACP reduced decisional conflict. Patient–caregiver congruence in preference: 18/22 RCTs (82%) reported a significant improvement in congruence. *Healthcare use/costs* 4/18 (18%) RCTs reported significantly reduced healthcare associated with the intervention. *ACP processes* Documentation of ACP/advance directives: 34/54 (63%) reported positive outcomes associated with the intervention. DNR orders: 0/5 RCTs reported a positive outcome
Kirchhoff et al. 2012 **USA** **RCT**	CA: ☑ Blinding: Patient ☒ Assessor ☒ ITT: ☒	313 patients (and their surrogate decision makers) with congestive heart failure or end-stage renal disease who were expected to experience serious complication or death within 2 years.	Participants and their surrogates were randomized to receive a patient-centered advance care planning intervention (n=160) or care as usual (n=153). The intervention involved a 60-90-minute interview with a trained facilitator that involved discussion of disease-specific end-of-life care issues and options. The facilitator also assisted in documenting treatment preferences.	**Primary outcome:** The Statement of Treatment Preferences (STP) was used to document patient preferences. For patients who died during the study period, telephone interviews with surrogates and medical records were used to identify end-of-life care received.	Of the 313 patients enrolled in the study, 110 died within the study period. 26% of these individuals required a surrogate decision maker at the end-of-life. 1 patient in the intervention group and 3 in the control group received care at the end-of-life that was contrary to their wishes for reasons other than medical futility. With respect to resuscitation preferences, fewer patients in the intervention group received care that was contrary to their wishes (1/62) than patients in the usual care group (6/48); however, between group comparisons were not significant.
Detering et al. 2010 **Australia** **RCT**	CA: ☑ Blinding: Patient ☒	309 patients' ≥ 80 years of age, who were admitted to internal medicine, cardiology, or respiratory medicine.	Participants were randomized to receive formal advance care planning from a trained facilitator (n=154) or care	**Primary Outcome:** The proportion of deceased participants whose end-of-life wishes were respected.	Of the 154 participants randomized to the intervention group, 108 completed a formal advance care plan, including end-of-life health care wishes and/or appointment of a surrogate. By the end of the study period, 56 participants were deceased (29 in the intervention group and 27 in

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
	Assessor ☒ ITT: ☑	Patients who were not competent, who had an existing advance care plan, or who were expected to die or be discharged within 24 hours were excluded. 35.5% of those assessed were eligible for inclusion	as usual (n=155). The intervention was based on the Respecting Patient Choices model which involves reflection on goals, values, and beliefs, documentation of future health care wishes, and appointment of a surrogate decision maker. Participants in the control group only received advance care planning if it was specifically requested.	**Secondary Outcomes:** Patient satisfaction of hospital stay (5-item survey) and the impact of death on a surviving family member (Impact of Events Scale and Hospital Anxiety and Depression Scale). Assessments were conducted 3 and 6 months after enrollment. For those who died during the 6-month study period, a final follow-up was conducted with a family member 3 month following the death.	the control group). Of those who died, end-of life wishes were significantly more likely to be known and respected for participants in the intervention group as compared to those in the control group (86% vs. 30%, $p<0.01$). Following the death of a relative, family members of those in the intervention group reported significantly less anxiety and depression and more satisfaction with the quality of their relative's death, as compared to control group family members (all at $p<0.05$).
Grimaldo et al. 2001 **USA** **RCT**	CA: ☑ Blinding: Patient ☒ Assessor ☒ ITT: ☒	200 elective surgery patients' ≥65 years of age attending an anesthesia preoperative evaluation clinic. 65% of eligible patients agreed to participate in the study.	Participants were randomized to receive the advance care planning intervention (n=99) or care as usual (n=99). The intervention consisted of a single 5-10-minute information session focusing on issues such as designation of surrogate decision-makers and end-of-life care.	**Primary outcomes:** A questionnaire (with items concerning advance care planning, quality of communication, and treatment preferences) and the SF-36. Assessments were conducted before and after the intervention.	Preoperatively, 70% of participants in the intervention group and 61% of participants in the control group had discussed end-of-life- care wishes with a family member. Post-operatively, an additional 15% of those who had received the intervention reported having discussed end-of-life care with a loved one, as compared to an additional 8% in the control group ($p<0.05$). Dropouts: 10 in the intervention group and 3 in the control group.

Advance Care Planning Regarding Thrombolysis and Endovascular Therapy

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
Flatharta et al. 2015 **Ireland** **Cross sectional survey**	NA	121 inpatients and outpatients attending geriatric and stroke services at a single hospital with at least one stroke risk factor. Patients who would not be candidates for thrombolysis treatment in a real-life situation were excluded.	Two scenarios for potential treatment with t-PA were presented: presentation within 3 hours and 3-4.5 hours of symptom onset. Risks and benefits of treatment were explained. Participants were asked to decide whether they would decide to have or not have the treatment if they were faced with the decision in real life. Participants were also asked if they would like for their choice to be documented in their medical notes (instead of having it recorded anonymously for research purposes) and in the event that they did have a stroke and couldn't speak for themselves, if they would prefer to have a close family member make the decision regarding treatment, or if they would prefer to have it be left to the treating physician	**Primary outcome:** Proportion of patients opting for treatment in both scenarios.	108 participants (89.3%) opted to receive thrombolysis within 3 hours. 100 participants (82.6%) opted to receive thrombolysis within 3-4.5 hours. 98 participants (81.0%) opted to receive thrombolysis in both scenarios. 11 participants (9.1%) opted not to receive thrombolysis in either scenario. Participants who agreed to treatment were more likely to have had a previous stroke or TIA and were more likely to want their decision documented in their medical chart. The majority of participants indicated that the doctor should decide whether they should receive treatment with thrombolysis.

Advance Directives

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
Liu et al. 2017 **USA** **Retrospective study**	NA	206 patients with neurological conditions referred to a palliative care service at a single institution from 2010-2014. Mean age was 70 years, 54% were women.	Chart review examining symptoms, prognosis, goals of care, discharge planning, and advance directives	**Secondary outcome:** Number of patients with an advance directive in place.	72% of patients were unable to communicate at the time of consultation. The diagnosis of 49% of patients referred to the service was stroke. 61 patients (30%) had an advance directive in place at the time of admission to hospital, including a living will (7%) medical durable power of attorney (4%) while 19% had both a living will and MDPOA. At the time of palliative care consultation, 130 patients (63%) had advanced directives, which increased to 190 (92%) after consolation.
Silveira et al. 2010 **USA** **Retrospective study**	NA	3,476 persons aged ≥60 years included in the Health and Retirement Study who died between 2000-2006, for whom a proxy had completed an exit interview after the participant's death, within 24 months. Mean age at death was 80.5 year, 53% were female.	Data was collected regarding whether the subject had completed a living will or durable power of attorney (DPOA) for health care, maintained decision-making capacity, or needed decision making at the end of life. For subjects who needed decision making, data were collected on the decisions made and on the person who made them. Predictors of and preferences for all care possible, limited care and comfort care, were examined	**Primary outcome:** Need for proxy end-of-life decision making and concordance of preferences in advance directives with care received.	25.6% of decedents had cerebrovascular disease at the time of death. Most proxy respondents were adult children or spouses. 70.3% of decedents who required decision-making in the last few days of life, lacked decision-making capacity. Among them, 67.5% had an advance directive, 6.8% had a living will only, 21.3% had appointed a DPOA for medical decision-making and 39.4% had prepared both a living will and appointed a DPOA for healthcare decisions. Living wills and DPOA were completed a median of 20 and 19 months prior to death, respectively. Among decedents who had living wills, 1.9% had requested all care possible, 92.7% had requested limited care, and 96.2% had requested comfort care. 83.2% of decedents who requested limited care and 97.1% who requested comfort care received care consistent with their preferences. Incapacitated subjects who had prepared a living will (regardless of preferences) were less likely to receive all treatment possible (adjusted OR= 0.33, 95% CI 0.19 to 0.56) and more likely to receive limited treatment (adjusted OR=1.79, 95% CI, 1.28

Study/Type	Quality Rating	Sample Description	Method	Outcomes	Key Findings and Recommendations
					to 2.50) than decedents without a living will. Living wills were associated with increased odds of receiving comfort care (adjusted OR=2.59, 95% CI 1.06 to 6.31). Decedents who had assigned a DPOA were less likely to die in a hospital or receive all care possible compared with those who had not assigned a DPOA.

Abbreviations

CA: concealed allocation	ITT: intention-to-treat	CI: confidence interval
NA: nor applicable/not assessed	OR: odds ratio	RCT: randomized controlled trial

References

Detering KM, Hancock AD, Reade MC, Silvester W. The impact of advance care planning on end of life care in elderly patients: randomised controlled trial. *BMJ* 2010; 340: c1345.

Green T, Gandhi S, Kleissen T, Simon J, Raffin-Bouchal S, Ryckborst K. Advance care planning in stroke: influence of time on engagement in the process. *Patient Pref Adherence.* 2014;8:119-126.

Flatharta TO, Khan A, Walsh T, O'Donnell M, O'Keefe ST. Advance preferences regarding thrombolysis in patients at risk for stroke: a cross-sectional study. *QJM* 2015;108(1):27-31.

Grimaldo DA, Wiener-Kronish JP, Jurson T, Shaughnessy TE, Curtis JR, Liu LL. A randomized, controlled trial of advanced care planning discussions during preoperative evaluations. *Anesthesiology* 2001; *95:* 43-50.

Heyland DK, Barwich D, Pichora D, Dodek P, Lamontagne F, You JJ, Tayler et al.; ACCEPT (Advance Care Planning Evaluation in Elderly Patients) Study Team; Canadian Researchers at the End of Life Network (CARENET). Failure to engage hospitalized elderly patients and their families in advance care planning. *JAMA Intern Med*. 2013 May 13;173(9):778-87.

Johnson PD, Ulrich A, Siv J, Taylor B, Tirschwell D, Creutzfeldt CJ. Planning after stroke survival: Advance care planning in the stroke clinic. *J Am Heart Assoc* 2019; 8: e011317.

Kirchhoff KT, Hammes BJ, Kehl KA, Briggs LA, Brown RL. Effect of a disease-specific advance care planning intervention on end-of-life care. *J Am Geriatr Soc*. 2012 May;60(5):946-50.

Liu Y, Kline D, Aerts S, Youngwerth JM, Kutner JS, Sillau S, Kluger BM. Inpatient palliative care for neurological disorders: lessons from a large retrospective series. *J Palliat Med* 2017;20(1):59-64.

Malhotra C, Shafiq M, Batcagan-Abueg AP. What is the evidence for efficacy of advance care planning in improving patient outcomes? A systematic review of randomised controlled trials. *BMJ open*. 2022 Jul 1;12(7):e060201.

Qureshi AI, Chaudhry SA, Connelly B, Abott E, Janjua T, Kim SH. Impact of advanced healthcare directives on treatment decisions by physicians in patients with acute stroke. *Crit Care Med* 2013;41:1468-1475.

Pearlman RA, Cain KC, Starks H, Cole WG, Uhlmann RF, Patrick DL. Preferences for life-sustaining treatments in advance care planning and surrogate decision making. *J Palliat Med* 2000;3(1):37-48.

Skolarus LE, Brown DL, Reynolds E, Shi Y, Volow AM, Burke JF, Sudore RL. Advance Care Planning Engagement May Increase Among Stroke Survivors: Results From the PREPARE for Your Care Trial. *Stroke*. 2022 Nov;53(11):e477-e478.

Silveira MJ, Kim SY, Langa KM. Advance directives and outcomes of surrogate decision making before death. *New Eng J Med* 2010;362(13):1211-1218.

Teixeira AA, Hanvey L, Tayler C, Barwich D, Baxter S, Heyland DK. What do Canadians think of advanced care planning? Findings from an online opinion poll. *BMJ Support Palliat Care* 2015;5(1):40-47.