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Goals of patient care system change with video-based education increases rates of advance cardiopulmonary resuscitation decision-making and discussions in hospitalised rehabilitation patients

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INTRODUCTION

Cardiopulmonary resuscitation (CPR), developed to treat patients with ‘hearts too good to die’,¹ has become the standard of treatment for all hospitalised patients experiencing cardiac arrest, unless a not-for-resuscitation (NFR) order has been completed.² Estimates of survival to discharge after in-hospital CPR range from 0 to 32%³ and survival rates decline with advancing age.⁴ A significant proportion of those who survive to hospital discharge die within the first post-discharge month and up to half will have a spectrum of cognitive and functional impairment.^{5,6} Concerns have been raised regarding the exposure of frail elderly patients to potential harm from non-beneficial or unwanted CPR when there is little or no likelihood of benefit.⁷ A NFR order requires advance decision-making as cardiac arrest may occur without warning or during clinical deterioration when there is inadequate time for considered clinical decision-making.

Patients whom are in the deteriorating phase of an illness are rarely systematically identified,⁸ and discussions with at-risk patients about what treatments they want and what is appropriate are not routine in most health settings.⁹ Providers often discuss resuscitation without adequately explaining the procedure or its potential benefits and risks.¹⁰ A lack of advance planning regarding CPR is contributing to poor care for patients dying in hospital.^{11,12} Models for end-of-life and escalation of care, and communication that provide realistic information and seek patients’ preferences, often lead to care plans that appropriately limit the extent of intervention and resuscitation and opt for comfort care.¹³ With the introduction of Rapid Response Teams (RRT) these decisions are often left to non-treating teams at times of crisis.

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Internationally, attempts to embed advance CPR decision-making and escalation of care discussions into routine clinical practice have had variable success.⁷ In Australia, an approach which encourages routine discussions and seeks to identify and document the medical goals of patient care (GoPC) using a standardised form (replacing the NFR form) has been proposed.¹⁴ Although improvements in documentation have been demonstrated when trialled in targeted groups (medical patients and some surgical patients) and hospital-wide,^{14,15} it is not known whether such changes will be reproduced in other clinical settings or the effect on clinical decision-making and patient care.

We conducted a pilot study on a rehabilitation ward to evaluate two interventions to improve routine advance CPR decision-making and to assess the effect on patient engagement and clinical care escalation.

MATERIALS AND METHODS

A three-phase pre/post study tested two interventions: i) standard ward-based education forums with CPR content; and ii) a two-pronged change strategy involving the introduction of the GOPC form and process change with a structured workshop using video-based education; against usual practice (ie no formal CPR-decision-making training). The research was conducted between September 2013 and November 2014 and was assessed as quality improvement by local hospital governance—reference CRHDGo1A27.2.

Interventions

Phase 1 was the 20-week **baseline period** of usual practice during which CPR decision-making was not routinely taught.

Phase 2 was the **standard education** intervention which utilised the existing ward-based weekly journal club to increase awareness of CPR decision-making as an important aspect of routine clinical care. Three one-hour education sessions introduced CPR decision-making as an explicit part of patient care and were conducted with ward medical staff. Session topics included a CPR decision-making framework,¹² futility and a national report on CPR practice from the United Kingdom entitled “Time to intervene.”¹¹ Discussion about the goals of patient care concepts and reflection on existing CPR decision-making formed part of the education.

During Phases 1 and 2, there was no change to ward policy to increase documentation of resuscitation plans with medical staff completing NFR forms as they felt clinically indicated.

Phase 3 was a **two-pronged** strategy, which involved a locally adapted version of Brimblecombe et al’s GoPC form that replaced the existing NFR form. The GoPC form included a “for resuscitation” option (ie Goal A: all life-sustaining treatment). Those deemed NFR were categorised into one of three goal options—ie Goal B: life extending

intensive treatment—with treatment ceiling, Goal C: Non-burdensome treatment and symptom management, or Goal D: Comfort care during dying. Each Goal identified a proportionate escalation pathway, including transfers within the health service (eg for MET/RRT calls, for ICU admission, etc). Associated documentation of discussions should occur in the case notes.

The second part of the two-pronged strategy was a structured 2-hour workshop for ward medical staff. The workshop utilised locally developed videos during a draft phase¹⁶ and a) focused on clinical issues related to CPR decision-making, b) promoted the use of an ethical decision-making framework¹² and c) explored clinical communication using the video scenarios. The content focused on patients with progressive, deteriorating illness. Further development of the GoPC form and video material are described elsewhere.¹⁶ The finalised training resources are available online at:

http://ww2.health.wa.gov.au/Articles/A_E/Advance-CPR-decision-making-in-the-hospital-setting

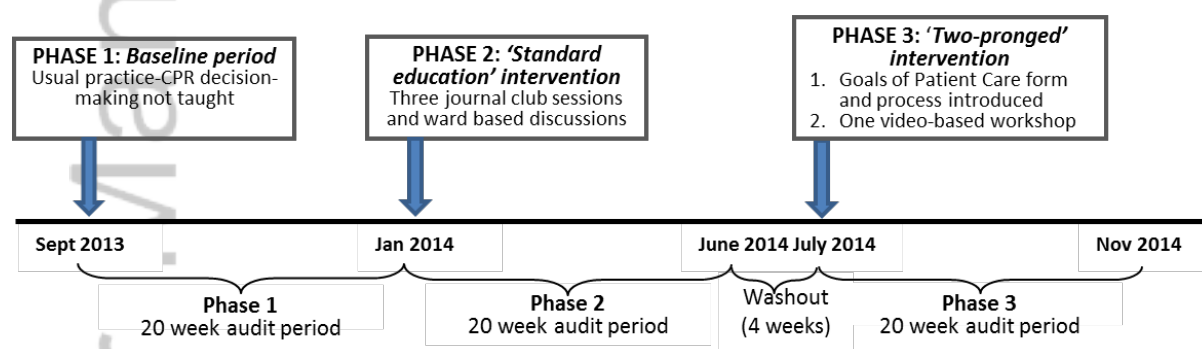
The introduction of the GoPC form and education occurred at the beginning of Phase 3 with a new rotation of junior doctors. During the workshop, a ward-consensus was reached that consultants would aim to complete forms for all patients and undertake routine discussion about treatment escalation and CPR. A policy was introduced which outlined the intent and a

procedure where all patients would have the form completed. The intent of the intervention was that patients would only receive treatment that had potential benefit and was consistent with the patient's treatment preferences..

A four-week 'washout' period was allowed between phases 2 and 3 for the changeover from the use of the NFR form to GOPC form and to embed the new procedures. (Figure 1)

Figure 1

Timeline of the three phase project: Phase 1 (baseline), Phase 2 (usual education intervention) and Phase 3 ('two-pronged intervention') with audit periods identified.



Setting and participants

All patients admitted to a 40-bed rehabilitation unit in a 290-bed general hospital in Perth were eligible for the study. The rehabilitation ward has a multi-disciplinary allied health team and is managed by three medical teams, each with a geriatrician, registrar and resident

medical officer. Most patients were referred from other hospital wards, with a small number of Emergency Department and external referrals. An audit of the patient records was undertaken for a randomly selected 40% of patients admitted during each of the three phases.

Resident doctors and registrars move through the rehabilitation ward on varying rotations. In *Phase 2*, three residents and three registrars attended the ‘standard education’ forums. In *Phase 3*, three new residents, one new registrar and two of the previous registrars received the ‘two pronged’ education intervention. All education was delivered by author, NW—Head of Geriatric Medicine at the site. Author JC was a senior member of a second team.

Data collection and measures

An audit tool with standardised coding was developed and the following data collected from the ward database and patient record: demographic variables (eg age, gender, residence prior to admission); measures of cognitive and functional impairment (ie Abbreviated Mental Test Score (AMTS—impairment defined as a score of $<8/10$),¹⁷ and the Functional Independence Measure (FIM)¹⁸); diagnosis; length of stay; and data related to advance-CPR decision-making. Data detailing the escalation/resuscitation plans (eg NFR status and whether the patient was for RRT calls), documentation of the decision-making process (eg documentation of discussions with patients and family/medical guardian on the NFR/GoPC form/patient notes), decision-making rationale were collected. To determine the appropriateness of end-of-life discussions, data for The Supportive and Palliative Care Indicators Tool status (SPICT, appendix 1) tool¹⁹ was collected and defined as positive if they had at least two items from criteria A items (eg performance status, hospitalisations, weight loss, receipt of care) and 1 item from criteria B items

(eg comorbidities, activities of daily living, incontinence, falls), denoting those patients most likely to clinically deteriorate during their hospital stay. Data collection was conducted by author JC with two junior doctors who completed a minimum of five records reviews under the supervision of JC to ensure consistency of coding.

Primary and secondary outcomes

The primary outcome was the proportion of patients documented as NFR on either the NFR or new GoPC form. Secondary outcomes were: i) the proportion of patients eligible for RRT calls; ii) documented evidence of patient engagement and communication. This outcome included: a) whether any discussion with the patient, family members and/or medical guardian was documented in the medical records, on the NFR form or on the GoPC form (yes/no); b) the number of lines of text used to report discussions ; and, c) documented rationale for decisions about escalation/NFR on the NFR/GoPC form—determined by auditing the form tick boxes and documented discussion to determine if the decision was: a unilateral medical decision (treatment limitation based on a medical judgement of futility or non-benefit); patient's wishes (a patient's request for treatment limitation without necessarily having the medical assessment noted or evident); or, shared decision making—determined when a negotiated decision and consensus between the doctor and patient/family was reached. If documentation was lacking or inadequate to make a determination, this was categorised as 'no documentation'.

Statistical analysis

Descriptive analyses were conducted using means (*M*) and standards deviations (*SD*) for continuous variables and frequencies and percentages for categorical variables. Between groups comparisons were made using Chi square and Fisher's exact tests (where appropriate) for categorical variables and analysis of variance and Mann-Whitney U test for continuous variables. Binomial logistic regressions were used to compare relevant outcomes between phase one and phase two, and between phase one and phase three, after adjustment for age, gender and functional status. A *p*-value of 0.05 was used to indicate significance. SPSS Version 23 was used for statistical analysis.

RESULTS

Medical records audits were conducted for 286 patients. Complete data were available for 263 patients—99 for Phase 1, 94 for Phase 2 and 84 for Phase 3. There were no differences in patient socio-demographic or clinical characteristics between the three groups (table 1). Only three deaths occurred—all of these patients were identified as having severe medical illness, commenced on 'care of the dying' pathways and had NFR status documented.

(Table 1)

Resuscitation plan

No change was observed in the odds of patients having a resuscitation plan available between Phases 1 and 2, but increased in Phase 3 ($p<.001$). Similarly, the odds of patients being

documented as NFR increased in Phase 3 ($p<.001$). The odds of patients being eligible for RRT calls did not change. (Table 2)

(Table 2)

Discussion with patients and family

The odds of advance-CPR discussions with the patient being recorded in Phase 3 increased when compared to Phase 1 ($p<.001$), but no increase in discussions with families or medical guardians was observed. The odds for any discussion about resuscitation planning with the patient, family or medical guardian being documented also increased in Phase 3 ($p<.001$) (table 3).

(Table 3)

Documentation of discussions

The number of lines written to document CPR discussions on the NFR or GoPC form increased in Phase 3 compared to Phase 1 ($M .6 [.3; .9]$ versus $M 2.1 [1.7; 2.5]$; $p<.001$). The number of lines documenting discussion in progress notes did not change.

Documented rationale for the medical escalation plan improved in Phase 3 when compared to Phase 1 ($p<.001$) but not in Phase 2. The rationale was still most commonly medically driven while the proportion of patient driven and shared decisions increased in Phase 3 (table 4).

(Table 4)

Subset Analysis: NFR Patients by Phase of Project

In an analysis of the subset of patients documented as NFR, there were no differences in patients' age, mental state, functional state, prognosis or length of stay across the three phases, indicating that the patient group who were designated NFR in Phase 3 did not differ in terms of health status and likelihood to survive CPR compared to phases 1 and 2. The proportion of NFR patients for whom RRT call was recommended was higher in Phase 3, when compared to Phases 1 and 2 ($p=.003$) (appendix 2).

DISCUSSION

Compared to baseline and ward education, the more intensive two-pronged change strategy involving a modified GoPC form and ward process with a structured video-based 2-hour workshop resulted in the majority of patients having an escalation of treatment plan discussed and documented in their medical record. This finding is in keeping with similar studies which have reported that simple changes around awareness of issues surrounding CPR and end-of-life, delivering education and process changes may have a positive impact on clinical practice.⁷ Other studies using a multimodal approach to education have improved doctor's skills in discussing resuscitation,²⁰ with the use of standardised proforma helping reinforce change.²¹

While we are uncertain about the separate effect of the individual components, we feel the use of the GoPC form and process, including consultant leadership, was the most significant change. The use of video material may allow for a consistent and easier to repeat education experience as part of a blended learning approach.

Proposing increased NFR rates as a marker of improved care requires caution as the literature reports NFR status being linked with miscommunication, impending death and potentially incorrect de-escalation of care.^{22,23} Although the proportion of patients in this trial who were documented NFR increased, so did the levels of discussion and documentation indicating more advance care planning. We did not observe a corresponding reduction in access to RRT services in phase 3 (indeed, for patients documented NFR, the rate of RRT increased), indicating other potentially beneficial treatments were not withheld. The appropriateness of the RRT decision, or why this result was achieved, was not examined. This could reflect a lack of depth of the decision-making defaulting to RRT escalation or alternatively that there is increased confidence in the RRT service that appropriate in the moment decision-making will be made based on expressed preferences. The opportunity to nominate patients for RRT calls was available on the original NFR form and the GoPC form. Recent trials which used an approach similar to this trial where “for resuscitation” status is also documented using the Universal Form of Treatment Options (UFTO) was associated with an improved quality of care, including a reduction in the number of harmful events as defined by the Global Trigger Tool.^{22,24}

Reports from other studies suggest a significant number of patients are inappropriately considered for resuscitation without any discussion with the patient, leading to overuse of invasive interventions and negatively impacting patient quality of life.^{5,10,25} Our study showed increased advance care planning discussions overall supporting better patient engagement, and, hence, actual future care provided has the potential to take into account patient preferences and wishes when capacity is lost during illness. We have not examined the quality or depth of discussions or engagement.

Reasons for the NFR status decision were documented more frequently in the two pronged strategy when compared to baseline. While the reasons were predominantly ‘medically driven’ in all phases of the study, there was a trend towards a larger percentage being based on patient preferences. There was no difference between baseline and the ‘standard education’ phase for these variables. The high rates of cognitive impairment and other frailty measures in our sample should be noted, which may contribute to high rates of medically driven decisions.

While documentation of discussions with patients improved in our trial, documentation remained low across all three phases. Most documentation was on the resuscitation order form rather than the case notes, as intended by local policy. There was no corresponding increase in documentation of discussions with families or medical guardians, which suggests that these discussions are still not happening or recorded for cognitively impaired patients.

Where the patient is cognisant (the majority of participants had AMTS e8) and there is an expectation of recovery, consultants may not seek this discussion with family/carers in the busy hospital context. Previous research has also found that discussions with patients, families and surrogate decision-makers are not routine,²⁶ with issues such as limited time, poor understanding of documentation requirements and limited role-modelling contributing to poor documentation.

Limitations

There are several limitations to this study. Firstly, this is an un-blinded intervention study using historical controls in a single centre. Two authors (NW, JW) were clinicians involved in the care of enrolled patients. As increased clinical engagement changes practice, the presence of the authors is likely to have driven some of the changes and should be considered part of the intervention's success when being replicated. Furthermore, two registrars received standard education (phase 2) and then were included in the two-pronged intervention (phase 3). Their involvement may have strengthened the effect of phase 3, given that reinforcement of education improves effectiveness.²⁷ The study relied on an audit of written records with the assumption that if a component of care was not documented, it did not occur. Furthermore, the use of historical controls may have contributed to a Hawthorne effect, whereby individuals modify their behaviour when they are aware they are being observed. However, if this was the case, more significant changes should have been present in the usual education period.

This study specifically targeted rehabilitation ward patients, who tend to be older, frailer and who are more likely to benefit from discussions about inappropriate escalation of treatment. Therefore, the generalisability of our results is limited. Furthermore, no part of the intervention or data collection specifically addressed appropriateness of treatment limitation. Further research is required to address these limitations. Data collection did not include assessing the content or delivery/interaction methods used by the clinicians in the intervention or any measure of patient, family or clinician experience. Given this study is ultimately about engaging and empowering patients to be involved in their care decisions, further work should include an assessment of participant experiences of CPR discussions.

CONCLUSIONS

Improvement in advance-CPR decision-making and conversations are possible with patients in the rehabilitation setting following GOPC process change and education. This appears to be safe and does not result in withdrawal of care. Patients deemed NFR had increased eligibility to escalation of care systems. The routine use of the GoPC form and associated changes in the clinical approach may provide a framework for future ACP discussions and has the potential to record patient preferences as well as inform 'in-the-moment' medical decisions –during clinical deterioration, both will ensure the treatment provided is in the patient's best interests.

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DISCLOSURE STATEMENT

Authors have no conflicts of interests/competing interests to declare.

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Table 1. Socio-demographic and clinical characteristics of patients by phase

Variable	Phase 1 (N=99)		Phase 2 (N=94)		Phase 3 (N=84)		<i>p</i>
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)	
Age, mean (SD)	81.4	(10)	82.1	(9)	81	(11)	<i>ns</i>
Female	64	(65)	69	(73)	55	(66)	<i>ns</i>
Living in private residence prior to admission	96	(97)	90	(96)	83	(99)	<i>ns</i>
Received community-based support services prior to admission	63	(66)	55	(61)	52	(63)	<i>ns</i>
Discharged to residential care	15	(15)	22	(23)	7	(8)	<i>ns</i>
AMTS score ≤ 8	63	(68)	53	(58)	48	(65)	<i>ns</i>
Positive on SPICt screen	81	(82)	67	(71)	63	(75)	<i>ns</i>
Death during admission	2	(2)	1	(1)	0	(0)	<i>ns</i>
Diagnosis on admission:							
Medical disorders†	30	(30)	35	(37)	24	(29)	
Orthopaedic/ musculoskeletal‡	46	(46)	42	(45)	39	(46)	
Neurological/stroke§	8	(8)	9	(10)	8	(10)	
Cardiac/respiratory	3	(3)	6	(6)	9	(11)	
Post-surgery/others¶	12	(12.1)	2	(2.1)	4	(4.8)	<i>ns</i>
Admission FIM, mean (SD)	69.4	(19.8)	72.8	(18.0)	68.3	(19.1)	<i>ns</i>
Discharge FIM, mean (SD)	84.1	(19.1)	84.4	(18.9)	81.1	(21.6)	<i>ns</i>
LOS, mean (SD)	16.3	(12.2)	15.5	(11.5)	16.9	(10.8)	<i>ns</i>

† Includes medical illness, cancer, infection, diabetes, gastro-intestinal; ‡ Includes hip fractures and joint replacements, pain presentations; § Includes traumatic and non- traumatic neurological injury, Parkinson's, dementia; ¶ Includes Surgery other than orthopaedic; AMTS = Abbreviated Mental Test Score; FIM = Functional Independence Measure; SD = standard deviation; SPICt = Supportive & Palliative Care Indicators Tool; LOS = length of stay.

Table 2: Comparison of completion of resuscitation form, CPR status and Rapid Response Team call eligibility and between Phase 1 and Phase 2, and between Phase 1 and Phase 3.

	Phase 1 (N=99) <i>n</i> (%)	Phase 2 (N=94) <i>n</i> (%)	<i>aOR</i> [95% <i>CI</i>]	<i>p</i>	Phase 3 (N=84) <i>n</i> (%)	<i>aOR</i> [95% <i>CI</i>]	<i>p</i>
Resuscitation care form completed	45 (45)	45 (48)	1.2 [.6; 2.1]	<i>ns</i>	76 (90)	15.8 [6.4; 39.1]	<.001
NFR	44 (44)	45 (48)	1.2 [.6; 2.2]	<i>ns</i>	65 (77)	6.4 [3.0; 13.6]	<.001
For RRT calls	80 (81)	67 (71)	.5 [.2; 1.0]	<i>ns</i>	66 (79)	.9 [.4; 2.0]	<i>ns</i>

aOR: Adjusted odds ratio; 95 *CI*: 95% confidence interval; *ns*: not significant at $\pm .05$ Adjusted for age, gender, Functional Independence Measure on admission
NFR: Not for Resuscitation; RRT: Rapid Response Team

Table 3: Comparison of documentation of CPR discussions between Phase 1 and Phase 2, and between Phase 1 and Phase 3.

	Phase 1 (N=99) <i>n</i> (%)	Phase 2 (N=94) <i>n</i> (%)	aOR [95% CI]	<i>p</i>	Phase 3 (N=84) <i>n</i> (%)	aOR [95% CI]	<i>p</i>
Any discussion with patient, family, or medical guardian documented*	33 (33)	39 (35)	1.3 [.7; 2.4]	<i>ns</i>	52 (62)	4 [2.2; 67.6]	<.001
Any discussion with patient documented*	25 (25)	23 (24)	.9 [.5; 1.8]	<i>ns</i>	44 (52)	3.3 [1.8; 6.2]	<.001
Any discussion with family or medical guardian documented*	19 (19)	28 (30)	1.9 [.97; 3.9]	<i>ns</i>	26 (31)	1.9 [.95; 3.9]	<i>ns</i>

aOR: Adjusted odds ratio; 95 CI: 95% confidence interval; Adjusted for age, gender, Functional Independence Measure on admission

*Any discussion recorded on resuscitation form or in medical record

Table 4.
A comparison of of decision-making rationale for medical escalation plan identified in patient record between Phase 1 and Phase 2, and between Phase 1 and Phase 3.

	Phase 1 (N=99)	Phase2 (N=94)			Phase 3 (N=84)		
	<i>n</i> (%)	<i>n</i> (%)	<i>FE</i>	<i>p</i>	<i>n</i> (%)	<i>FE</i>	<i>p</i>
Medically driven	26(26)	28(30)			33(39)		
Patient driven wishes	4(4)	3(3)			12(14)		
Shared-decision	14(14)	14(15)			15(18)		
No rationale documented	55(56)	49 (52)	.514	<i>ns</i>	24 (29)	15.953	.001

FE: Fisher's Exact test

Appendix 1: Criteria for patient to be 'positive' on the Supportive and Palliative Care Indicators Tool (SPICT).*

Patients were considered 'positive' for SPICT if they had at least two items from criteria A and 1 item from criteria B:

Criteria A

1. Poor performance status
 - a. Any of:
 - i. FIM Grooming score <4
 - ii. FIM Bathing score <4
 - iii. FIM Toileting score <4
 - iv. FIM transfers to bed/chair score <4
 - v. FIM transfers to toilet score <4
 - vi. FIM transfers to shower/bath score <4
2. Two or more hospital admissions in the last 6 months
3. Weight loss > 10% in last 12 months
4. Any of
 - a. Living in residential care
 - b. Receiving care from family/carers at home
 - c. Receiving external services at home

Criteria B

1. Diagnosis of cancer, and either too frail for treatment or not on treatment
2. Unable to dress/walk/eat
 - a. Any of:
 - i. FIM eating score <4
 - ii. FIM dressing upper body score <4
 - iii. FIM dressing lower body score <4
 - iv. FIM locomotion score <4
3. On dietary supplements
4. Urinary or faecal incontinence
 - a. FIM Bladder management score <4
 - b. FIM Bowel management score <4

5. No longer able to communicate using verbal language
 - a. FIM expression score <5
6. Fall within last 12 months
7. Fractured Neck of Femur within last 12 months
8. Recurrent febrile episodes requiring hospital admission
9. Decreased functional state
 - a. Discharge FIM < Admission FIM
10. Dysphagia
11. NYHA Class III/IV Heart failure with either dyspnoea or chest pain at rest or on minimal exertion
12. Coronary artery disease/ischaemic heart disease with either dyspnoea or chest pain at rest or on minimal exertion
13. Severe inoperable peripheral vascular disease
14. Severe chronic lung disease (any of Interstitial lung disease, Bronchiectasis, Chronic obstructive airways disease) with dyspnoea at rest or on minimal exertion
15. Needs long term supplemental oxygen on discharge
16. Needs non-invasive ventilation (CPAP)
17. eGFR <30 ml/min
18. Ceasing dialysis on this admission
19. Cirrhosis with complications resulting from liver disease
20. Cirrhosis, and liver transplant contraindicated

FIM = Functional Independence Measure; NYHA = New York Heart Association; eGFR = Estimated Glomerular Filtration Rate

***Hight G, Crawford D, Murray S, Boyd K. Development and evaluation of the Supportive and Palliative Care Indicators Tool (SPICT): a mixed-methods study. *BMJ Support Palliat Care*. 2013.**

Appendix 2: Characteristics of patients not for resuscitation by phase

Variable	Phase 1 (N=44)		Phase 2 (N=45)		Phase 3 (N=65)		F	p [‡]
	m	(SD)	m	(SD)	m	(SD)		
Age	84.8	(8.5)	85.6	(7.2)	83.4	(9.1)	.950	ns
Admission FIM	65.3	(18.9)	66.7	(18.7)	67.3	(19.6)	.13s	ns
Discharge FIM	79.9	(20.6)	75.8	(21)	79.6	(22.5)	.531	ns
LOS (days)	17.1	(13.3)	17.4	(11.1)	17.4	(11.7)	.00	ns
	n	%	n	%	n	%		p[#]
AMTS score ≤ 8 , †	29	(69%)	18	(41)	35	(61)	7.46*	.023
Positive on SPICT screen,	39	(87%)	38	(84%)	50	(77)	2.51*	ns
For RRT	25	(57%)	18	(40%)	57	(72%)	11.64*	.003

† Eleven patients not observed for this variable; AMTS = Abbreviated Mental Test Score; FIM = Functional Independence Measure; SD = standard deviation; SPICT = Supportive & Palliative Care Indicators Tool; LOS = length of stay. NFR=Not for Resuscitation, GoPC=Goals of Patient Care

‡ One Way ANOVA, #Fisher's exact test

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Background

Advance CPR discussions and decision-making are not routine clinical practice in the hospital setting. Frail older patients may be at risk of non-beneficial CPR.

Aim

To assess the utility and safety of two interventions to increase CPR decision-making, documentation and communication for hospitalised older patients.

Methods

A pre-post study tested two interventions: i) standard ward-based education forums with CPR content; and ii) a combined, two-pronged strategy with 'Goals of Patient Care' (GoPC) system change and structured video-based workshop; against usual practice (ie no formal training). Participants were a random sample of patients in a hospital rehabilitation unit.

The outcomes were the proportion of patients documented as: i) Not for Resuscitation (NFR); and ii) eligible for Rapid Response Team (RRT) calls, and rates of documented discussions with the patient, family and carer.

Results

When compared to usual practice, patients were more likely to be documented as NFR following the two-pronged intervention (*aOR*:6.4, 95% *CI*s: 3.0; 13.6). Documentation of discussions with patients was also more likely (*aOR*: 3.3, 95% *CI*s:1.8; 6.2). Characteristics

of patients documented NFR were similar between the phases, but were more likely for RRT calls following phase 3 ($p .03$).

Conclusions

An increase in advance-CPR decisions occurred following GoPC system change with education. This appears safe as NFR patients had the same level of frailty between phases but were more likely to be eligible for RRT review. Increased documentation of discussions suggests routine use of the GoPC form may improve communication with patients about their care.

Key Words

Do-Not-Resuscitate orders

Decision-making

Communication

Advance care planning

Medical Futility

TITLE

Goals of patient care system change with video-based education increases rates of advance cardiopulmonary resuscitation decision-making and discussions in hospitalised rehabilitation patients.

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