

Manuscript version: Author's Accepted Manuscript

The version presented in WRAP is the author's accepted manuscript and may differ from the published version or Version of Record.

Persistent WRAP URL:

<http://wrap.warwick.ac.uk/167368>

How to cite:

Please refer to published version for the most recent bibliographic citation information. If a published version is known of, the repository item page linked to above, will contain details on accessing it.

Copyright and reuse:

The Warwick Research Archive Portal (WRAP) makes this work by researchers of the University of Warwick available open access under the following conditions.

© 2022 Elsevier. Licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International <http://creativecommons.org/licenses/by-nc-nd/4.0/>.



Publisher's statement:

Please refer to the repository item page, publisher's statement section, for further information.

For more information, please contact the WRAP Team at: wrap@warwick.ac.uk.

1 **Title: Implementation of ReSPECT in acute hospitals: a retrospective observational study**

2 **Authors:**

3 Claire A Hawkes (0000-0001-8236-3558)

4 Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, Coventry, CV4
5 7AL, UK Senior Research Fellow

6 James Griffin ([0000-0002-6364-0414](#))

7 Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, Coventry, CV4
8 7AL, UK. Research Fellow (Statistics)

9 Karin Eli (000-0001-9132-8404)

10 Health Sciences, Warwick Medical School, University of Warwick, Coventry, CV4 7AL. UK.
11 Honorary Research Fellow

12 Frances Griffiths (0000-0002-4173-1438)

13 Warwick Medical School, University of Warwick, Coventry, CV4 7AL, UK. Professor

14 Anne-Marie Slowther (0000-0002-3338-8457)

15 Health Sciences, Warwick Medical School, University of Warwick, Coventry, CV4 7AL.
16 Professor.

17 Zoë Fritz (0000-0001-9403-409X)

18 THIS (The Healthcare Improvement Studies) Institute, University of Cambridge, CB2 0QQ.,
19 Wellcome Fellow in Society and Ethics

20 Martin Underwood ([0000-0002-0309-1708](#))

21 Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, Coventry, CV4
22 7A., Professor

23 Catherine Baldock Resuscitation Council UK. Clinical Lead ReSPECT process

24 Doug Gould (0000-0003-4148-3312)

25 Intensive Care National Audit & Research Centre, London, WC1V 6AZ. Senior Researcher

26 Richard Lilford (0000-0002-0634-984X)

27 University of Birmingham, UK. Professor of Public Health and Director of NIHR ARC WM

28 Claire Jacques
29 Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, Coventry, CV4
30 7AL, UK. Trial Manager
31 Jane Warwick (0000-0002-7320-6603)
32 Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, Coventry, CV4
33 7AL, UK. Professor of Clinical Trials Statistics
34 Gavin D Perkins (0000-0003-3027-7548)
35 Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, Coventry, CV4
36 7AL, UK. Director of Warwick Clinical Trials Unit

37

38 **Correspondence to:**

39 Claire Hawkes
40 Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, Coventry, CV4
41 7AL. c.a.hawkes@warwick.ac.uk

42

43 **Abstract**

44 **Aim**

45 To evaluate, in UK acute hospitals, the implementation of Recommended Summary Plan for
46 Emergency Care and Treatment (ReSPECT), which embeds cardiopulmonary resuscitation
47 (CPR) recommendations within wider emergency treatment plans, through discussions
48 between patients and clinicians. To understand for whom and how the process was being
49 used and the quality of form completion.

50

51 **Methods**

52 A retrospective observational study evaluating emergency care and treatment planning
53 approaches used in acute UK hospitals (2015-2019), the extent of ReSPECT use,

54 characteristics of patients with ReSPECT forms, and quality of completion in a sample 3000
55 patient case notes across six English acute hospital trusts.

56 **Results**

57 The use of stand-alone Do Not Attempt Cardiopulmonary Resuscitation forms fell from
58 133/186 hospitals in 2015 to 64/186 in 2019 (an absolute reduction of 38%). Adoption of
59 ReSPECT accounted for ~~60~~52% (36/~~69~~6) of changes.

60 In the six sites, ReSPECT was used for approximately 20% of patients (range 6%-41%). They
61 tended to be older, to have had an emergency admission for a medical reason, to have
62 cognitive impairment and a lower predicted 10 year survival. Most ReSPECT forms 653/706
63 (92%) included a 'not for attempted resuscitation' recommendation. 551/706 (78%) had at
64 least one specific treatment recommendation, other than a resuscitation status. Capacity
65 was not recorded on 13% (95/706) of forms; 11% (79/706) did not record of patient/family
66 involvement.

67 **Conclusions**

68 The use of ReSPECT ~~has increased~~ accounts for 52% of the change, observed between
69 2015 and 2019, from using standalone DNACPR forms to approaches which embed DNACPR
70 decisions within in wider emergency care plans in NHS hospitals in the UK. Whilst
71 recommendations include other emergencies most still tend to focus on recommendations
72 relating to CPR. Completion of ReSPECT forms requires improvement.

73 **Study registration:** <https://www.isrctn.com/ISRCTN11112933>

74 Key words

75 Emergency care and treatment plans, DNACPR, resuscitation status, advanced care planning

76

77 Word counts:

78 Abstract 250

80 **Introduction**

81 Do not attempt cardiopulmonary resuscitation (DNACPR) orders are used to prevent
82 attempted cardiopulmonary resuscitation when not desired by the patient or where it has
83 little chance of success. In 2014, approximately 80% of acute NHS trusts in the UK were
84 using standalone DNACPR forms.¹ Concerns identified with the use of such forms include
85 lack of communication with patients and/or their families, lack of transferability across
86 health care settings, and DNACPR decisions being conflated with decisions about other care
87 and treatment^{2,3} which may lead to avoidable patient harms.⁴⁻⁶ Emergency Care and
88 Treatment Plans (ECTPs) are intended to address these concerns by creating person-centred
89 plans that contextualise resuscitation status decisions within broader treatment escalation
90 recommendations in advance of a medical emergency situation.⁷ The Recommended
91 Summary Plan for Emergency Care and Treatment (ReSPECT) is an ECTP developed in the UK
92 (Figure 1)⁸ and is designed as a patient held document for use across healthcare settings. It
93 supports person-centred care, a priority in UK⁷ and international⁹ health policy, through
94 values based decision-making in individualised advance care planning.¹⁰

95

96 We evaluated ReSPECT's introduction in acute NHS hospitals in England (July 2017 to
97 January 2020).^{6,8,11-14} Here we report a) how widely ReSPECT had been implemented in
98 acute hospitals in the UK, b) for whom and how the ReSPECT process was being used and c)
99 how well the associated ReSPECT forms were being completed.

100

101 [Figure 1]

102 **Methods**

103 *Design*

104 We obtained data from a) requests to NHS acute Trusts returning data to the UK's National
105 Cardiac Arrest Audit (NCAA) for information about ECTP approaches between 2015 and
106 2019; and b) a retrospective case note review at six acute trusts to explore with whom, and
107 how, the process was being used.

108 *Setting*

109 We contacted all NHS acute trusts in the UK which return data to the National Cardiac Arrest
110 Audit (NCAA)¹⁵ to find out what systems of recording DNACPR and/or emergency treatment
111 decisions they used between 2015 and 2019. Between December 2016 and December 2018,
112 we recruited six NHS acute trusts in England that were early adopters of ReSPECT for the
113 case note review. We worked with the ReSPECT team at the Resuscitation Council UK to
114 identify potential sites, taking a pragmatic approach to recruitment. Sites needed to
115 implement within our study timeframe. To ensure an overall sample of patients similar to
116 the adult acute patient population in England we selected sites with a variety of
117 characteristics: serving different geographical areas and diversity of populations (e.g. urban
118 and rural), different sizes according to inpatient bed numbers and a mixture of tertiary
119 referral teaching hospitals and district general hospitals.

120

121 *Case note review*

122 We collected data from all adult inpatients' records on selected wards to achieve a sample
123 of at least 3000 (minimum 500 per site). All types of adult in-patient (except day cases, and
124 obstetric patients) were included to minimise bias. For each ward, data were collected
125 from entries in the notes recorded by a specific date. Wards were selected by the study
126 research team in discussion with site research teams to ensure an ~~an appropriate~~ range of
127 clinical specialities [that are commonly found in UK acute hospitals including medicine,](#)
128 [older person medicine, surgery, gynaecology, trauma and orthopaedics, critical care \(see](#)
129 [Supplementary Table 1\)](#). Participants or their representatives had the opportunity to
130 withdraw their data from the study.

131 *Data Collection*

132 We collected information on DNACPR and emergency treatment care planning approaches
133 in use between 2015 and 2019 at all NHS acute trusts' hospitals that returned data to NCAA
134 in two stages (October 2018-April 2019 and Jan 2020).

135

136 Data collected, during case note review, included demographic information (age, sex,
137 ethnicity, abbreviated home postcode), reason for admission, co-morbidities (cognitive

138 impairment, Charlson Co-morbidity index,¹⁶ GO-FAR score,¹⁷ McCabe scale¹⁸) and items
139 from ReSPECT forms (patient preference, emergency care treatment recommendations,
140 resuscitation status, capacity, who was involved in the discussions, when, where and by
141 whom was the decision made). We assumed patients were for CPR and full escalation of
142 treatment if no treatment escalation plan or resuscitation decision was recorded.
143 Abbreviated home postcodes were collected to allow estimation of socio-economic status
144 using the Index of Multiple Deprivation.¹⁹ Cognitive impairment included dementia, learning
145 difficulties, cardiovascular accident/head injury, acute confusional state, or an unknown
146 cause. The GO-FAR score is the estimated chance of surviving in-hospital cardiac arrest with
147 good outcome.^{17 20} The Charlson Comorbidity Index is a weighted index used to predict 10-
148 year survival in people with multiple comorbidities.¹⁶ McCabe Scale is a single-item clinical
149 assessment of whether the patient's condition is likely to be fatal.

150

151 *Data Management*

152 We recorded data about hospital systems via an online electronic survey tool (Qualtrics,
153 Provo, UT, USA; <https://www.qualtrics.com>). Site research staff entered data from the
154 case-note review via a secure online platform which was stored on a secure database. [We](#)
155 [did source data verification on a random sample of patient records at each site. We](#)
156 [planned to use and acceptance sampling approach, However, all site data quality was](#)
157 [confirmed as acceptable after the first check](#)

158

159 **Statistical Analysis**

160 Data are presented using standard descriptive methods. The effect of patient characteristics
161 and involvement in making the plan on clinician recommendation ('Focus on symptom
162 control', 'Focus on life sustaining treatment', 'Unclear' or 'Not completed') were explored
163 with multinomial regression, using the clinician overall care recommendation of 'focus on
164 symptom control' as the reference group. As an additional analysis we used logistic
165 regression, with ReSPECT form status (yes/no) as the dependent variable, to assess the
166 effect of patient characteristics, resuscitation status (DNACPR (yes/no)) and clinician
167 recommendation for focus of care on whether a full ReSPECT form was completed. Risk and
168 odds ratios (as appropriate) and 95% confidence intervals from models adjusted by

169 recruitment site only and fully adjusted (multivariable) regression models are reported; the
170 former quantifying the effect of each characteristic on the outcome separately and the
171 latter quantifying the independent effect (after adjusting for the other variables in the
172 model). All analyses were undertaken using Stata 16 (StataCorp. 2019. *Stata Statistical
173 Software: Release 16*. College Station, TX: StataCorp LLC.)

174

175 **Ethics approval**

176 An NHS Research Ethics Committee (REC reference: 17/WM/0134) and the Confidentiality
177 Advisory Group (CAG reference: 17/CAG/0060) approved the study.

178

179 **Results**

180 We analysed data from 186 hospitals on their approaches to ECTP. Figure 2 shows the
181 number of hospitals using each system ((i) DNACPR forms only, ii) DNACPR forms plus a
182 treatment escalation plan (DNACPR + Treatment Escalation Plans (TEP)), iii) the ReSPECT
183 process or iv) other emergency care plan (Other ECTP) and v) other approaches) during each
184 quarter. Between January 2015 and December 2019 use of standalone DNACPR forms
185 reduced from 72% (133/186) to 34% (64/186). Over the same period, use of approaches
186 including treatment plans with CPR status decisions increased from 26% (49/186) to 59%
187 (109/186) with uptake of ReSPECT accounting for ~~60~~52% (36/~~66~~69) of the moves away from
188 use of standalone DNACPR. The majority of moves away from standalone DNACPR (94%,
189 62/66) occurred between the beginning of 2016 and end of 2018.

190 [Figure 2]

191 Five sites collected case note review data on a few of their participating wards each month
192 over several months and one site collected data on all participating wards on one day. Two
193 sites used electronic ReSPECT forms, rather than paper. At one of these, all patients were
194 first screened to determine whether the clinician would be recommending them for all
195 treatments and attempted CPR. If so, the ReSPECT discussion was curtailed, and a record
196 was made of the decisions in the patient medical notes. These patients are denoted as
197 having completed a screening form only. At the other site, a pre-existing electronic ECTP
198 form was modified to include the same items as ReSPECT. Five trusts contributed data on

199 more than the target of 500 cases. One failed to reach its target because of the coronavirus
200 pandemic.

201 We collected data on 98% of eligible patients (3,339/3,518), summarised by site, type of
202 ward and number of participants with a ReSPECT form (Table S1). Twenty three percent
203 (range 6%-41%) of patients had a ReSPECT form. The site that implemented screening to
204 identify those needing a ReSPECT discussion had markedly better coverage overall than the
205 other sites (88% compared to a maximum of 27%) and a greater proportion of participants
206 with a full ReSPECT form (41% compared to a maximum of 27% at the other sites). Most
207 participants (53%) were from medical wards, the mean age was 68.5 years, 50% were
208 female, 12% from minority ethnic groups, 73% were emergency admissions, 29% were
209 cognitively impaired. The majority (92%) survived and were discharged to their own homes
210 (81%) (Table S2). Participant characteristics and outcomes are summarised in Table S3.

211

212 Our basic models (adjusted only by site) suggested that age at admission, sex, ethnicity,
213 socioeconomic status, admission type (elective or emergency), patient type (medical or
214 surgical), cognitive impairment and Charlson Index were associated with having a completed
215 ReSPECT form but only age at admission, admission type (elective or emergency), patient
216 type (medical or surgical), cognitive impairment and Charlson Index were significant in the
217 multivariable model (i.e., independent effects) (Table 1). In the multivariable model, each
218 year of age increased (relative) chance of having a full ReSPECT form by 5% (OR=1.05, 95%
219 CI 1.04 to 1.06, $p<0.001$), and emergency admissions were nearly three times as likely as
220 elective admissions to have a full ReSPECT form (OR=2.68, 95%CI 1.64 to 4.36, $p<0.001$).
221 Patients on surgical wards were 43% less likely than patients on medical wards to have a
222 ReSPECT form (OR=0.57, 95%CI 0.43 to 0.76), and those with cognitive impairment were
223 more than twice as likely as those without cognitive impairment to have a full ReSPECT form
224 (OR=2.17, 95%CI 1.79-2.63). There [is](#) a linear trend for those with a greater number of
225 comorbidities to have a greater chance of having a full ReSPECT form (compared to those
226 with 0-3 points per Charlson Index, those with 4-5 points were 38% more likely, those with
227 6-7 points were 49% more likely and those with 8-25 points were 46% respectively more
228 likely to have a full ReSPECT form).

229

230 [Table 1]

231

232 Patient's preference and priorities for care, an optional section, were recorded on 30% of
233 forms. Clinicians provided an overall recommendation on 71% of forms ('Focus on symptom
234 control' (40%), 'Focus on life sustaining treatment' (17%)). In 14%, the position of the
235 signature made it unclear which of the binary choices the clinician was recommending. This
236 section had not been completed on 29% of forms. Only 6% of forms recorded a
237 recommendation for attempted CPR (Table 2).

238

239 Patient's mental capacity was recorded on 611/706 forms (87%). Patients or their families
240 were involved in 293/706 (42%) and 220/706 (31%) of plans respectively, but 16% of forms
241 (114/706) recorded that neither the patient or family were involved in the decision making
242 and in 11% (79/706) this section had not been completed (Table 2).

243

244 [Table 2]

245

246 Three quarters (551/706,78%) of patients with a ReSPECT form had at least one intervention
247 (other than CPR) recommended but often this would be a location of care (e.g., 'Not for ICU'
248 or 'Ward based care only') rather than specific treatments. Further details are given (by
249 McCabe scale group) in Table S4. When adjusted for recruitment site only, the multinomial
250 regression models suggested that increasing age, higher Charlson index quartile, and having
251 a condition that was thought to be ultimately or rapidly fatal (McCabe scale) were
252 associated with greater chance of a 'focus on symptom control' recommendation (Table 3).
253 However, in the fully adjusted (multivariable) model, only the Charlson index quartile was
254 significant with those scoring 8-25 points being 79% less likely than for those scoring 0-3
255 points to have a 'focus on sustaining life' recommendation (relative risk ratio 0.21 (95% CI
256 0.05 to 0.80)).

257

258 [Table 3]

259 **Discussion**

260 There was a reduction in the proportion of UK acute hospitals relying on standalone
261 DNACPR orders between 2015 and 2019. This occurred in parallel with growth in emergency
262 care treatment plans, of which ReSPECT, introduced in 2016 had seen the most growth
263 (used in 22% of acute hospitals by 2019).

264

265 In the six case note review sites, the ReSPECT process was used for approximately one in
266 five patients. These patients were older, were emergency or medical admissions, were more
267 likely to have a cognitive impairment and a decreasing chance of surviving 10 years. Most
268 plans (92%) included a 'not for attempted resuscitation' recommendation. The site that
269 screened all patients to identify those likely to benefit from a ReSPECT conversation
270 recorded ReSPECT recommendations markedly more frequently than the other sites and it
271 also had a much higher proportion of patients with a recorded resuscitation
272 recommendation. That ReSPECT forms were not always fully completed was of concern; in
273 particular, the 13% that did not include a record of capacity and 11% that had no record of
274 patient or family involvement.

275

276 For patients with ReSPECT forms there was evidence that CPR recommendations were being
277 contextualised within other emergency care and treatment recommendations; just over
278 70% of patients had an overall treatment focus (life sustaining treatment or symptom
279 control) recorded by the clinician completing the form, and 78% of patients had at least one
280 treatment recommendation (other than for CPR status). Locations of care within acute
281 settings (e.g., ICU and Ward) were the most common types of recommendation but such
282 short-hand for specific interventions should be discouraged as they may be misinterpreted
283 or understood differently in different settings.²¹ Such short-hand also limits the
284 transferability of the form from secondary to primary care. Future training should
285 emphasise the consistent use of more specific treatment related recommendations that are
286 meaningful to clinicians in all settings and are clearly understood by patients and their
287 families.

288

289 Despite the legal requirement to involve patients and/or their family members in DNACPR
290 decisions^{22 23} 11% of forms had no record of this. However, that does not necessarily mean
291 that decisions were made without the involvement of these patients and/or families. It
292 could simply be poor record keeping. An audit of end of life care found similar proportions
293 of poor record keeping.²⁴ The imperative to include patients and families in these
294 discussions has been highlighted during the COVID_19 pandemic²⁵ resulting in an urgent UK
295 government commissioned review.²¹

296

297 Promoting use of a standardised process and plan record should improve cross organisation
298 communication,²⁶ however a variety of approaches remain in use for recording
299 resuscitation and emergency care treatment recommendations across the country, with a
300 third of acute hospitals still using standalone DNACPR forms at the end of 2019. The
301 recommendation by the Care Quality Commission (CQC)²⁷ for ministerial oversight is
302 welcome and provides hope that a strategy for a national approach to DNACPR and advance
303 care planning for emergency care and treatment might be developed to reduce the risks to
304 care and treatment continuity when patients move across organisational boundaries.

305

306 The original conception of ReSPECT was as a plan for all patients, particularly those who
307 could benefit from advance planning recommendations for a future emergency situation
308 and not just those at risk of the most severe emergency, cardiac arrest.²⁶ We found that
309 most hospitals and clinicians chose to prioritise ReSPECT conversations, at least during this
310 study conducted in the first two years of implementation, for patients at risk of
311 deterioration. This may explain why those with ReSPECT forms were more likely to be
312 medical patients and admitted in an emergency and also suggests considerable barriers to
313 the culture change required if the goal of having an emergency treatment and care plan for
314 all is to be achieved.

315

316 Clinicians cite time constraints as a key barrier to ReSPECT conversations in acute settings.¹²
317 Aligning organisational priorities to new practices and providing active leadership support at

318 different organisational levels have been associated with achieving a greater culture change
319 when implementing clinical guidelines. Active leadership includes recognition of the need
320 for investment in training of or provision of skilled facilitators and providing them with time
321 and authority to support staff during practice change.^{28 29} Organisations may wish to
322 consider investing in structural support (time, training) to enable effective facilitation for
323 implementing the significant culture change needed achieve both better quality of use of
324 and greater patient coverage with ReSPECT. [Improvements in the quality of completion](#)
325 [would include greater proportions of ReSPECT forms with more and specific treatment](#)
326 [recommendations, more consistent completion of sections related to patient and family](#)
327 [involvement and recording of the patient's mental capacity as well as where a more detailed](#)
328 [record of the process was recorded in the medical notes.](#) Well planned public health
329 campaigns have increased awareness of advance care planning for palliative care^{30 31} and
330 could be valuable for increasing patient requests for and engagement with the ReSPECT
331 process. Raising public awareness of the benefits of making such plans and holding
332 conversations with general practitioners before a person becomes acutely ill could
333 contribute more broadly to a cultural change.¹³ Implementing systematic screening as
334 observed in one of our sites could trigger sufficient reflection for the doctor to a) answer the
335 question and b) go on to complete the ReSPECT process where this was indicated. Our study
336 does not provide insights into how much support, training and opportunity for ReSPECT
337 conversations was also needed to achieve this change in behaviour.³¹

338

339 We achieved our aim of collecting data from at least 3000 patient records from a cross
340 section of wards covering the typical acute hospital inpatient population in different areas
341 of England serving a variety of populations. This sample enabled our evaluation of how and
342 with whom the ReSPECT process was being used. The study also had several limitations.
343 While we met our total recruitment target, one trust contributed fewer than the target of
344 500 cases because of the coronavirus pandemic. Additionally, although we had a roughly
345 proportionate number of patients from minority ethnic backgrounds compared to available
346 census data, there were insufficient numbers to allow each ethnic subgroup to be included
347 separately in analyses. Practice might differ from what was recorded. As ReSPECT was not
348 implemented in acute hospitals as widely or rapidly as hoped at the design stage of the

349 study, fewer patients than expected had a ReSPECT form, which reduced the numbers
350 available for some analyses.

351

352 Policy guidance, intervention [developments](#), and associated research into improving cross
353 organisation communication of emergency care and treatment is needed. The impact of
354 ReSPECT on patient outcomes, including the hypothesised reduction in avoidable harm,³²
355 requires further investigation. Interventions, [which might include multifaceted quality](#)
356 [improvement activities](#), with associated evaluation, are needed to improve patient coverage
357 in acute hospitals ~~with and~~ to support higher quality completion of ReSPECT forms.

358

359 **Conclusions**

360 By the end of 2019, progress had been made in UK acute hospitals towards embedding CPR
361 recommendations within broader emergency care and treatment planning approaches and
362 ReSPECT had played a major part in this. Nevertheless, we found there was still variation in
363 approach between different organisations.

364

365 Our evidence, from NHS trusts that were among the first to adopt ReSPECT, suggests that
366 ReSPECT conversations were largely being undertaken with those patients who required a
367 recommendation about CPR and that the quality of recommendations and completion of
368 ReSPECT forms requires improvement.

369

370

371

372

373

374

375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402

References

1. Clements M, Fuld J, Fritz Z. Documentation of resuscitation decision-making: a survey of practice in the United Kingdom. *Resuscitation* 2014;85(5):606-11. doi: 10.1016/j.resuscitation.2014.02.005 [published Online First: 2014/02/25]
2. Cohn S, Fritz ZB, Frankau JM, et al. Do Not Attempt Cardiopulmonary Resuscitation orders in acute medical settings: a qualitative study. *Qjm* 2013;106(2):165-77. doi: 10.1093/qjmed/hcs222 [published Online First: 2012/11/28]
3. McAdam C, Barton A, Bull P, et al. An audit of nurses' views on DNR decisions in 1989 and 2003. *Br J Nurs* 2005;14(20):1061-2, 64-5. doi: 10.12968/bjon.2005.14.20.20047 [published Online First: 2005/11/23]
4. Mockford C, Fritz Z, George R, et al. Do not attempt cardiopulmonary resuscitation (DNACPR) orders: a systematic review of the barriers and facilitators of decision-making and implementation. *Resuscitation* 2015;88:99-113. doi: 10.1016/j.resuscitation.2014.11.016 [published Online First: 2014/11/30]
5. Perkins GD, Griffiths F, Slowther A-M, et al. Evaluation of the Recommended Summary Plan for Emergency Care and Treatment: NIHR HS & DR programme, 2016.
6. Eli K, Hawkes CA, Ochieng C, et al. Why, when and how do secondary-care clinicians have emergency care and treatment planning conversations? Qualitative findings from the

- 403 ReSPECT Evaluation study. *Resuscitation* 2021 doi: 10.1016/j.resuscitation.2021.01.013
404 [published Online First: 2021/01/23]
- 405 7. NHS England. The NHS long term plan. 2019. [Available from
406 <https://www.longtermplan.nhs.uk> accessed 4.10.2021].
- 407 8. Hawkes CA, Fritz Z, Deas G, et al. Development of the Recommended Summary Plan for
408 eEmergency Care and Treatment (ReSPECT). *Resuscitation* 2020;148:98-107. doi:
409 10.1016/j.resuscitation.2020.01.003
- 410 9. Paparella G. Person - centred care in Europe: a cross-country comparison of health system
411 performance, strategies and structures. Policy Briefing. Picker Institute Europe, 2016.
- 412 10. Agarwal R, Shuk E, Romano D, et al. A mixed methods analysis of patients' advance care planning
413 values in outpatient oncology: Person-Centered Oncologic Care and Choices (P-COCC).
414 *Support Care Cancer* 2020;28(3):1109-19. doi: 10.1007/s00520-019-04910-1 [published
415 Online First: 2019/06/15]
- 416 11. Perkins GD, Fritz Z. Time to Change From Do-Not-Resuscitate Orders to Emergency Care
417 Treatment Plans. *JAMA Network Open* 2019;2(6):e195170-e70. doi:
418 10.1001/jamanetworkopen.2019.5170
- 419 12. Eli K, Ochieng C, Hawkes C, et al. Secondary care consultant clinicians' experiences of conducting
420 emergency care and treatment planning conversations in England: an interview-based
421 analysis. *BMJ Open* 2020;10(1):e031633. doi: 10.1136/bmjopen-2019-031633
- 422 13. Huxley CJ, Eli K, Hawkes CA, et al. General practitioners' experiences of emergency care and
423 treatment planning in England: a focus group study. *BMC Family Practice* 2021;22(1):128.
424 doi: 10.1186/s12875-021-01486-w
- 425 14. Eli K, Hawkes CA, Fritz Z, et al. Assessing the quality of ReSPECT documentation using an
426 accountability for reasonableness framework. *Resuscitation Plus* 2021;7:100145. doi:
427 <https://doi.org/10.1016/j.resplu.2021.100145>
- 428 15. Intensive Care National Audit and Research Centre. National Cardiac Arrest Audit 2021
429 [Available from: <https://ncaa.icnarc.org/Home> accessed 30.4.21 2021].
- 430 16. Charlson ME, Pompei P, Ales KL, et al. A new method of classifying prognostic comorbidity in
431 longitudinal studies: development and validation. *J Chronic Dis* 1987;40(5):373-83. doi:
432 10.1016/0021-9681(87)90171-8

- 433 17. Ebell MH, Jang W, Shen Y, et al. Development and validation of the Good Outcome Following
434 Attempted Resuscitation (GO-FAR) score to predict neurologically intact survival after in-
435 hospital cardiopulmonary resuscitation. *JAMA Intern Med* 2013;173(20):1872-8. doi:
436 10.1001/jamainternmed.2013.10037 [published Online First: 2013/09/11]
- 437 18. McCabe WR, Jackson GG. Gram-Negative Bacteremia: I. Etiology and Ecology. *Archives of Internal*
438 *Medicine* 1962;110(6):847-55. doi: 10.1001/archinte.1962.03620240029006
- 439 19. UK Government National Statistics. English indices of deprivation 2019 [Available from:
440 <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019> accessed
441 23.4.2021 2021.
- 442 20. Ebell MH. Go-Far (Good Outcome Following Attempted Resuscitation) Score. [cited 2021
443 11.11.2021]. Available from: [https://www.mdcalc.com/go-far-good-outcome-following-](https://www.mdcalc.com/go-far-good-outcome-following-attempted-resuscitation-score)
444 [attempted-resuscitation-score](https://www.mdcalc.com/go-far-good-outcome-following-attempted-resuscitation-score) accessed 11.11 2021.
- 445 21. Parvaiz MA, Subramanian A, Kendall NS. The use of abbreviations in medical records in a
446 multidisciplinary world--an imminent disaster. *Commun Med* 2008;5(1):25-33. doi:
447 10.1558/cam.v5i1.25 [published Online First: 2008/01/01]
- 448 22. Tracey v Cambridge University Hospitals NHS Foundation Trust & Ors. , 2012. EWHC
449 3670 (Admin) Case No: CO/5198/2011 [Available from [The Queen on the application](#)
450 [of David Tracey -v- Cambridge University Hospital NHS Foundation and Others](#)
451 [judgment \(judiciary.uk\)](#) accessed on 4.10.2021].
- 452 23. Department of Health. Mental Capacity Act. London: HMSO, 2005.
- 453 24. Royal College of Physicians. End of Life Care Audit - Dying in Hospital:National Report for England
454 2016.
- 455 25. Oliver D. David Oliver: Detoxifying DNACPR decisions. *BMJ* 2020;371:m4069. doi:
456 10.1136/bmj.m4069
- 457 26. Fritz Z, Slowther A-M, Perkins GD. Resuscitation policy should focus on the patient, not the
458 decision. *BMJ* 2017;356:j813. doi: 10.1136/bmj.j813
- 459 27. Care Quality Commission. Protect, respect, connect –decisions about living and dying well during
460 COVID-19. CQC’s review of ‘do not attempt cardiopulmonary resuscitation’ decisions during
461 the COVID-19 pandemic, 2021. [Available from
462 https://www.cqc.org.uk/sites/default/files/20210318_dnacpr_printer-version.pdf accessed
463 4.10.2021].

- 464 28. Schön UK, Grim K, Wallin L, et al. Psychiatric service staff perceptions of implementing a shared
465 decision-making tool: a process evaluation study. *Int J Qual Stud Health Well-being*
466 2018;13(1):1421352. doi: 10.1080/17482631.2017.1421352 [published Online First:
467 2018/02/07]
- 468 29. van der Zijpp TJ, Niessen T, Eldh AC, et al. A Bridge Over Turbulent Waters: Illustrating the
469 Interaction Between Managerial Leaders and Facilitators When Implementing Research
470 Evidence. *Worldviews Evid Based Nurs* 2016;13(1):25-31. doi: 10.1111/wvn.12138 [published
471 Online First: 2016/01/21]
- 472 30. The Impact of Public Health Awareness Campaigns on the Awareness and Quality of Palliative
473 Care. *Journal of Palliative Medicine* 2018;21(S1):S-30-S-36. doi: 10.1089/jpm.2017.0391
- 474 31. Michie S, van Stralen MM, West R. The behaviour change wheel: A new method for
475 characterising and designing behaviour change interventions. *Implementation Science*
476 2011;6(1):42. doi: 10.1186/1748-5908-6-42
- 477 32. Fritz Z, Malyon A, Frankau JM, et al. The Universal Form of Treatment Options (UFTO) as an
478 alternative to Do Not Attempt Cardiopulmonary Resuscitation (DNACPR) orders: a mixed
479 methods evaluation of the effects on clinical practice and patient care. *PLoS One*
480 2013;8(9):e70977. doi: 10.1371/journal.pone.0070977 [published Online First: 2013/09/12]

481

482 **Acknowledgements**

483 We would like to thank the following for their valuable contributions to and advice about
484 the study; the Public and Patient Involvement members of the research, team, advisory
485 group and the steering committee, other members of the steering committing, the site
486 research teams, principal investigators and Warwick clinical Trials study research team.

487 This study was funded by the UK National Institute for Health Research (NIHR) under the
488 Health and Social Care Delivery Research programme (project number 15/15/09). The views
489 expressed are those of the authors and not necessarily those of the NIHR or the Department
490 of Health and Social Care.

491 The study sponsor, the University of Warwick, was not involved in the study design, the
492 collection, analysis and interpretation of data, the writing of the manuscript and in the
493 decision to submit the manuscript for publication.

494

495 **Data Statement**

496 All data requests should be submitted to the study's chief investigator, for consideration.

497 Access to anonymised data may be granted following review.

498