CARE Checklist

1. **Title:** Pre-hospital Cardiac Arrest: A Call for Moral Agency in Modern Medical Practice Case Report.
2. **Key words:** Out-of-hospital cardiac arrest, do-not-resuscitate orders, ethical decision-making, case report.
3. **Abstract:**
    a. *Introduction:* This case is unique in that it highlights a structural ethical conflict within prehospital emergency care: a terminally ill patient with a valid do-not-resuscitate order was subject to resuscitation attempt despite clear communication of the patient's wishes and verbal reference to a do-not-resuscitate order signed by the patient's doctor. The case brings attention to the unintended consequences of rigid adherence to standardized protocols, showing how such systems risk overriding patient autonomy and moral judgment. This report contributes to the scientific literature by framing prehospital care as not only a technical discipline but also a moral practice requiring space for professional ethical reflection.
    b. *The patient's main concerns and important clinical findings:* The terminally ill patient had previously expressed a wish not to be resuscitated. At the time of cardiac arrest, the patient's wife clearly informed emergency services of the do-not-resuscitate order and declined to perform cardiopulmonary resuscitation. Despite this, the standard protocol for out-of-hospital cardiac arrest mobilized both volunteer citizen responders and ambulance personnel, and initiated an attempt to resuscitate.

    We know from other studies that relatives often call the Emergency Medical Dispatch Centre in case of cardiac arrest, even though the relatives know that the patient in cardiac arrest *1)* has signed a legally binding do-not-resuscitate order[1]. Or *2)* a do-not-resuscitate order has been signed by a doctor in advance, if resuscitation is deemed medically futile, based on the patient's condition, prognosis, and known wishes[2]. The dispatchers handling emergency calls do not have complete access to the documentation indicating that resuscitation should not be attempted. They are therefore, according to current legislation, required to advise the caller to initiate resuscitation efforts. They must also dispatch an ambulance and a physician-staffed emergency vehicle with lights and sirens to the scene. In selected areas of Denmark, a helicopter may also be deployed. The ambulance personnel are similarly obligated to initiate resuscitation until either the patient is successfully resuscitated or the prehospital physician arrives on scene and can make the decision to discontinue further efforts. If the patient is resuscitated despite a prior decision to forgo such intervention, the patient will be transported to the hospital, where a new decision may be made not to attempt resuscitation in the event of another cardiac arrest.
    c. *Primary diagnosis, interventions, and outcomes:*
        i. **Diagnosis:** Out-of-hospital cardiac arrest.
        ii. **Interventions:** Volunteer citizen responders performed cardiopulmonary resuscitation and attached a defibrillator. Emergency medical technicians continued resuscitative efforts until a prehospital physician arrived and terminated the attempt in accordance with the do-not-resuscitation order.

[1] Borgere over 60 år kan fravælge genoplivningsforsøg | Styrelsen for Patientsikkerhed
[2] Vejledning om genoplivning og fravalg af genoplivningsforsøg, §3, item 3

iii. **Outcome:** The patient did not obtain return of spontaneous circulation. The resuscitative efforts, however, created distress situation for the relatives who were present at the scene (in this case, the wife) and revealed systemic issues in the management of do-not-resuscitate orders in prehospital settings.

d. *Conclusion:* This case reveals critical "take-away" lessons: First, standardized emergency protocols, while essential, must be flexible enough to respect ethically relevant information such as do-not-resuscitate orders. Second, healthcare professionals must be supported in acting as moral agents who can balance procedural norms with context-sensitive ethical judgment. Finally, to safeguard patient autonomy and reduce distress for relatives, emergency medical systems must integrate legal, educational, and institutional mechanisms that allow for ethical decision-making in the field.

4. **Introduction:** This case is unique in that it exposes a structural ethical dilemma in prehospital emergency care: a terminally ill patient with a valid do-not-resuscitate order was subjected to cardiopulmonary resuscitation by volunteer citizen responders and emergency medical technicians. The case illustrates how rigid adherence to standardized emergency protocols may override patient autonomy, even when ethically and legally relevant information is available (just not in the system). While existing literature recognizes the importance of protocols in ensuring rapid care during out-of-hospital cardiac arrest[3], this case highlights the need for greater moral flexibility and contextual judgment when clear end-of-life directives are present. The report thereby contributes to ongoing discussions in medical ethics regarding the limitations of proceduralism and the necessity to support healthcare professionals as moral agents[4].
5. **Patient information:**
    a. De-identified patient specific information: diagnosed with lungcancer approximately two and a half years prior to the cardiac arrest. Declared terminal one week prior to the cardiac arrest.
6. **Clinical findings:** N/A
7. **Timeline:** The interview was carried out on the June 14th, 2024. As only one interview forms the base of our considerations, no figure or table is created.
    a. **Diagnostic assessment:** N/A
    b. **Diagnostic challenges:** N/A
    c. **Diagnosis /including other diagnoses considered):** N/A
    d. **Prognostic characteristics when applicable:**
8. **Therapeutic intervention**: N/A
9. **Follow-up and Outcomes:** N/A
10. **Discussion**:
    a. *Strenghts and limitations:*
        i. *Strenghts*: Integration of qualitative data from an in-depth interview with the patient's relative (wife), offering rare insight into the emotional dimensions of prehospital emergency care. Furthermore, the analysis goes beyond clinical description by incorporating philosophical and ethical perspectives, thereby deepening the qualitative analysis.

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[3] Folke F, Andelius L, Gregers MT, Hansen CM. Activation of citizen responders to out-of-hospital cardiac arrest. Curr Opin Crit Care. 2021 Jun 1;27(3):209-215. doi: 10.1097/MCC.0000000000000818

[4] Huniche, L., Milling, L., Wittrock, D., Mikkelsen, S., & Bruun, H. Preventing burnout from moral distress among prehospital emergency personnel through action research and targeted clinical ethics support. 2024. *Sci Rep, 14*(1), 31956-31959. https://doi.org/10.1038/s41598-024-83507-z

ii. *Limitations*: Reliance on a single case, restricting the generalisability of its findings at present.

b. *Discussion of the relevant medical literature*: The report contributes to an emerging body of literature that critiques the dominance of procedural standardisation in emergency medicine. Prior research has shown that while standard protocols enhance efficiency and reduce uncertainty in high-stakes situations[5], they can also lead to ethical oversights. Jeffrey P. Bishop have argued that modern medicine's emphasis on efficient causality has displaced considerations of purpose and meaning[6]. Similarly, recent studies in prehospital ethics stress the importance of trust, safety, and moral agency in ethically complex scenarios[7]. This case adds to the literature by showing how real-time, legally protective algorithms, can override ethically relevant information, e.g. a do-not-resuscitate order.

c. *Rationale for the conclusion*: The conclusions are grounded in the documented events of the case, which illustrate how the prehospital emergency response proceeded with cardiopulmonary resuscitation despite the existence of a valid do-not-resuscitate order. This contradiction points not to individual error but to systemic and structural limitations in current emergency protocols.

d. *Conclusion – Primary take-away lessons*: This case underscores the urgent need to balance procedural efficiency with ethical responsiveness in pre-hospital emergency care. While standardised protocols serve critical functions in guiding rapid decision-making, they must not preclude professional moral judgment. Healthcare providers should be empowered, both educationally and institutionally, to act as moral agents capable of adapting to contextually clear ethical directives.

11. **Patient Perspective:** N/A
12. **Informed Consent:** yes

[5] Folke F, Andelius L, Gregers MT, Hansen CM. Activation of citizen responders to out-of-hospital cardiac arrest. Curr Opin Crit Care. 2021 Jun 1;27(3):209-215. doi: 10.1097/MCC.0000000000000818

[6] Bishop, J. P. (2011): *The anticipatory corpse*. University of Notre Dame, Notre Dame, Indiana

[7] Huniche, L., Milling, L., Wittrock, D., Mikkelsen, S., & Bruun, H. Preventing burnout from moral distress among prehospital emergency personnel through action research and targeted clinical ethics support. 2024. *Sci Rep, 14*(1), 31956-31959. https://doi.org/10.1038/s41598-024-83507-z