Do not resuscitate decisions in a death cohort of patients who died at Akershus University Hospital

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Background
Do not resuscitate (DNR) means not to start cardiopulmonary resuscitation at cardiac arrest. In severely ill patients where resuscitation would be futile, resuscitation attempts will have negative consequences: emergency recourses are occupied, and dying patients may experience unnecessary discomfort and undignified treatment at end of life. Furthermore, the lack of DNR decision may indicate suboptimal communication about disease stage and prognosis.

Aim
The primary aim was to determine the clinical practice, decision process and patient involvement regarding DNR decisions in patients who died at Akershus University Hospital (Ahus). The secondary aim was to determine the prevalence of life-prolonging treatments in the last week of life.

Material/methods
The study was a cross sectional observational study of a death cohort who died at Ahus. Data on sociodemographic variables, diagnosis, DNR status, DNR decision process and life prolonging treatments during last week of life and place of death were obtained from patient records. The study population of 540 was initially stratified into one group where DNR was documented according to hospital procedures, and one group without such DNR documentation. Both groups consisted of 270 patients. The time in which the patients died was 118 days for the group where DNR decision was made and 530 days for the group without DNR procedures. For further analysis, patients in the latter group were regrouped to the first group if indications of DNR decision were found in the patient records. Data are presented using descriptive statistics. The study was approved by the Regional committee for medical and health research ethics and the institutional data protection officer.

Results
92 % had a DNR decision made prior to death. In the DNR group, the DNR decision was not made in accordance with institutional procedures in 11%. In 56% the decision was made within 3 days of death, increasing to a cumulative percentage of 77 within 24 hours of death. In the group without documented DNR decision, CPR was in spite of the resuscitation status not performed in 40% of the cases. Patient involvement in DNR decision making was in 41% inadequately documented. In patients with the three dominating causes of death, cardiovascular (25%), cancer (25%) and infectious diseases (28%), a DNR decision had been made in 81%, 96% and 94%, respectively. When DNR decisions were made, they were only followed by documented reflections on further limitations of treatment in 60% of cases. The exception was respirator treatment, which was documented in 52%. During the last week of life 63% received antibiotic treatment, 27% non-invasive respiratory support, 40% admission to ICU, 74% intravenous fluid and 19% artificial nutrition.

Discussion and conclusion
A positive finding was that a DNR decision was documented prior to death in the vast majority of patients. However, a major concern is that the DNR decision in approximately half the patients was made late in the terminal phase. Even though the results indicate a low risk of actually performing futile CPR in the terminal phase, it appears that decisions and communication about death are in many cases postponed until the patient is imminently dying. This is supported by the high prevalence of attempts of life prolonging interventions during the last week of life. Based on these findings it can be speculated that patients and family are deprived of the opportunity to focus on important issues in the terminal phase. The differences in prevalence of DNR decisions between diagnostic groups may partially be due to less predictable disease trajectories, but raise the concern that terminal non-cancer patients to an even lesser degree are given the opportunity to come to terms with impending death.