Online Randomised controlled trial to improve Clinical Estimates of Survival (ORaClES): study design

Linda Oostendorp[1], Nicola White[1], Priscilla Harries[2], Sarah Yardley[1,3], Christopher Tomlinson[1,4], Federico Ricciardi[1], Hülya Gökalp[2], Patrick Stone[1]

Background

Accuracy of clinicians' predictions of survival in palliative care

Our systematic literature review showed that clinicians' predictions of survival in palliative care are often inaccurate.

> **A Systematic Review of Predictions of Survival in Palliative Care: How Accurate Are Clinicians and Who Are the Experts?**
> White N, Reid F, Harris A, Harries P, Stone P
> PLoS One. 2016 Aug 25;11(8):e0161407.

How do clinicians make their prognostic decisions?

In our previous P:CES (Palliative Care: Clinicians' EstimateS) study, we identified the clinical factors that expert palliative care doctors (with demonstrated prognostic skills) had used to judge the probability of patients dying within 72 hours.

With the results from the P:CES study, we have developed an online training resource showing how experts weighted the importance of the following clinical factors:

(1) Palliative Performance Scale
(2) Cheyne-Stokes breathing
(3) decline in condition
(4) agitation/sedation level
(5) noisy respiratory secretions
(6) peripheral cyanosis
(7) urinary output

Aim

To evaluate whether an **online training resource** can teach **medical students** to formulate survival estimates for palliative care patients that are more similar to experts' estimates:

- Will students' estimates become **more similar to experts'** estimates?
- Will any **effect be maintained** after two weeks?
- (How) does the training resource change students' **weighting of clinical factors**?
- Does the online training resource improve students' **level of expertise (ability to discriminate and be consistent)**?

Methods

Online double-blind randomised controlled trial of a training resource:

- **Ethics approval** was received from the UCL REC (8675/002);
- **128 complete cases** were required;
- Medical students in the penultimate or final year were recruited from:
  (1) **UCL Medical School**; (2) **Imperial College School of Medicine**; (3) **Hull and York Medical School**; (4) **Brighton and Sussex Medical School**; and (5) **St George's**;
- Participants received a total of **£30 online gift vouchers**.

Methods (continued)

Link to study website distributed via lectures and emails
Four tick boxes to provide informed consent

↓

Demographics: age / gender / ethnicity /
medical school / year of study / palliative care experience

↓

Baseline
First series of 40 vignettes describing patients referred to palliative care.
Students starting this assessment: n=170

↓

Intervention group	**Control group**
Online training resource	Brief procedural feedback

↓

Immediately after training
Second series of 26 vignettes
Students completing this assessment: n=139 (82%)

↓

Two weeks after training
Third series of same 26 vignettes (in random order)
Students completing this assessment: n=136 (80%)

Example of a vignette

The patient you are assessing is a 64 year old woman who was admitted to the hospice 4 days ago. She has a diagnosis of metastatic incurable cancer. The senior hospice doctor has confirmed there are no reversible causes for her condition and that she is likely to die within the next two weeks. As the junior doctor at the hospice, you have been asked to see her and assess whether or not you think she will die within the next 72 hours.
The results of your assessment are shown below. You can read a description of the symptom by using your mouse to hover over the type of symptom.

Secretions	There are no audible respiratory secretions
Rate of decline	Her global condition has rapidly declined over the last 24 hours
Peripheral Cyanosis	There is no evidence of peripheral cyanosis
Breathing	The patient is experiencing Cheyne-Stokes breathing
Urine Output	The urinary output hasn't reduced in the last 24 hours
Richmond-Agitation Sedation Scale	Her RASS score is +1
Palliative Performance Scale	Her palliative performance score is 40%

What do you think the probability is that this patient will die in the next 72 hours?

Your estimate in %

Results & Conclusion

Students' survival estimates will be correlated with experts' estimates to determine the baseline level of agreement and any changes following the intervention.

Primary outcome the survival estimates provided in the second series of vignettes

Secondary outcomes the estimates provided at the follow-up, the weighting of clinical factors and levels of discrimination and consistency

This study will provide evidence about whether a brief, low-cost online training resource can influence how medical students make prognostic decisions in an experimental setting.

E-mail: l.oostendorp@ucl.ac.uk @MCPCRD

Affiliations:
1 UCL
2 Brunel University London
3 NHS Central and North West London NHS Foundation Trust
4 Imperial College London

Marie Curie
Care and support through terminal illness