PLUTO Bayesian priors clinician questionnaire

The efficacy of PLUTO in reducing perinatal mortality

The PLUTO trial (http://www.pluto.bham.ac.uk/) is currently recruiting women and their foetuses where an ultrasound scan has identified a lower urinary tract obstruction (LUTO). Where there is clinical uncertainty as to whether Percutaneous Shunting (PLUTO) would be beneficial, women are offered randomisation to either shunting (intervention) or conservative, non-interventional care (control). Shunting involves the insertion of a fine siliastic catheter percutaneously into the fetal bladder, which enables the congenital urethral obstruction to be bypassed.

This questionnaire aims to elicit your current beliefs as to the **true** efficacy of PLUTO in reducing perinatal mortality (at 6 weeks), compared to conservative, non-interventional care. We ask you consider efficacy in relation to the inclusion criteria for the trial: evidence of LUTO at ultrasound but without any additional major structural or chromosomal anomalies, male foetus and gestation <28 weeks. Please note there are no right or wrong answers: we are interested in **your** beliefs.

We are also seeking to determine the level of benefit/harm that would need to be reported in the trial for you to change your current opinion regarding the use of shunting. We will subsequently compare this level with that actually reported in the trial to predict whether the trial will have any impact on clinical practice.

Eliciting experts' beliefs of the true efficacy of shunting will allow us to describe the nature of any clinical equipoise regarding this treatment. We would like to send you a further questionnaire after publication of the trial results to determine the effect of the results on your actual belief of the true efficacy of shunting.

For more information about the PLUTO trial, please contact Dr Katie Morris, on 0121 626 4535 or r.k.morris@bham.ac.uk

For more information about this questionnaire, please contact Dr Celia Brown, on 0121 414 6043 or c.a.brown@bham.ac.uk

- What is your personal estimate of the likely 6-week perinatal mortality of conservative, non-interventional care for LUTO in a large trial (i.e. outcomes in the **control** arm)? Please put a single percentage in the box:

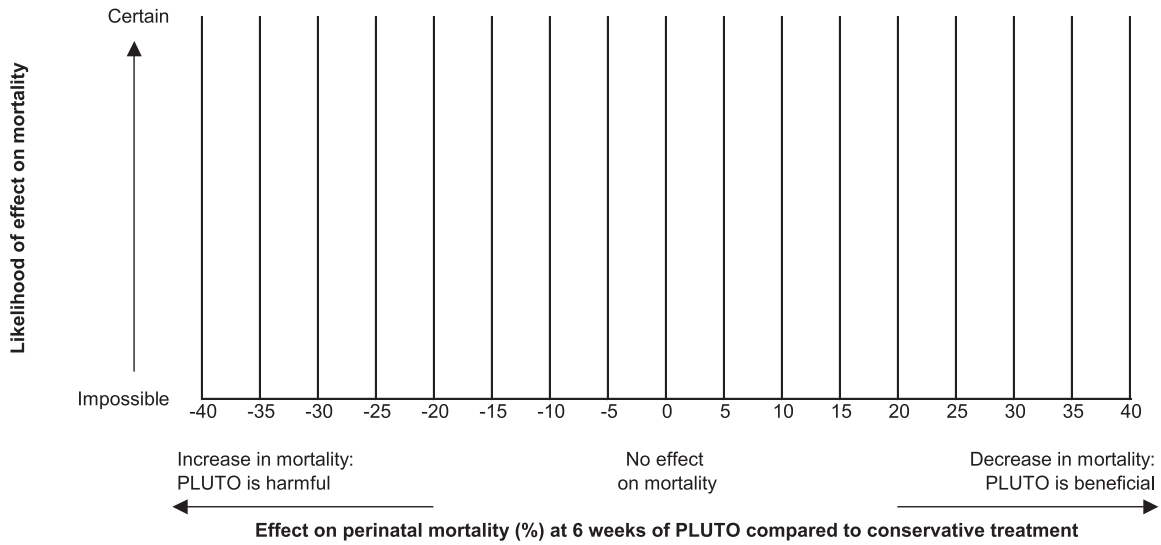
	%

- What do you consider the single **most likely** level of efficacy of shunting when compared to this percentage? Please tick one box only.

Shunting will lead to a large reduction in perinatal mortality	
Shunting will lead to a small reduction in perinatal mortality	

Shunting will have no effect on perinatal mortality	
Shunting will lead to a small increase in perinatal mortality	
Shunting will lead to a large increase in perinatal mortality	

- Please use the graph below to record your beliefs in more detail. Each vertical line represents a possible true benefit/harm from PLUTO when compared to the control treatment. Mark a horizontal line through each vertical line to show how *likely* it is that this level of benefit/harm is the **true** level. Some examples of possible responses are shown in the attached document.



- Has anything in particular influenced the beliefs you reported above?

- a) Do you think shunts should be used in clinical practice where clinically appropriate?

Yes ☐ No ☐

b) Does your hospital/centre currently use shunting?

Yes ☐ No ☐

c) Do you agree with your centre's policy on shunting?

Yes ☐ No ☐

6. a) If you **do** support the use of shunts, what level of harm (increase in perinatal mortality) would need to be reported in the trial to change your opinion?

Increase in perinatal mortality from shunting of:			
1-10%	11-20%	21-30%	31-40%

b) If you **do not** support the use of shunts, what level of benefit (decrease in perinatal mortality) would need to be reported in the trial to change your opinion?

Decrease in perinatal mortality from shunting of:			
1-10%	11-20%	21-30%	31-40%

7. The table below lists four of the morbidities associated with LUTO.
a) Please indicate your opinion as to the likely effect of shunting on these morbidities, by ticking the appropriate boxes. Please add any further morbidities you consider likely in the space provided.

b) Use the final column to rank the morbidities in terms of their likely contribution to quality of life. Use 1 to indicate the morbidity with the most significant contribution to quality of life and 4 to indicate the morbidity with the least significant contribution.

Morbidity	Likely impact of shunting on morbidity:					Rank
	Large increase	Small increase	No effect	Small decrease	Large decrease	1-4

	Shunting is harmful			Shunting is beneficial		
Prematurity						
Pulmonary hypoplasia						
Renal dysfunction						
Bladder dysfunction						
Other (please state):						

Please provide your name and contact details below:

Name:

Specialty: Job Title:

Membership of professional organisations:

Years since qualification:

Address:

Email: Telephone:

If you would prefer **not** to be contacted after the results of the PLUTO trial have been published, please tick this box. ☐

Many thanks for completing this questionnaire.

Please return this questionnaire via email or in the envelope provided to:

Dr Celia Brown, Research Fellow, Department of Public Health and Epidemiology, The University of Birmingham, Edgbaston, B15 2TT.

Email: c.a.brown@bham.ac.uk Telephone: 0121 414 6043