



Swansea University  
Prifysgol Abertawe



## Cronfa - Swansea University Open Access Repository

---

This is an author produced version of a paper published in:  
*International Journal of Population Data Science*

Cronfa URL for this paper:  
<http://cronfa.swan.ac.uk/Record/cronfa51258>

---

### Paper:

Wright, M., Paranjothy, S., Fone, D., Brophy, S. & Demmler, J. (2017). Hospital admissions in children who had pelvicalyceal diltation detected on ultrasound scan during pregnancy: an e-cohort study. *International Journal of Population Data Science*, 1(1)  
<http://dx.doi.org/10.23889/ijpds.v1i1.326>

Released under the terms of a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC-BY-NC-ND).

---

This item is brought to you by Swansea University. Any person downloading material is agreeing to abide by the terms of the repository licence. Copies of full text items may be used or reproduced in any format or medium, without prior permission for personal research or study, educational or non-commercial purposes only. The copyright for any work remains with the original author unless otherwise specified. The full-text must not be sold in any format or medium without the formal permission of the copyright holder.

Permission for multiple reproductions should be obtained from the original author.

Authors are personally responsible for adhering to copyright and publisher restrictions when uploading content to the repository.

<http://www.swansea.ac.uk/library/researchsupport/ris-support/>

## Hospital admissions in children who had pelvicalyceal dilatation detected on ultrasound scan during pregnancy: an e-cohort study

Wright, Melissa<sup>1\*</sup>, Paranjothy, Shantini<sup>1</sup>, Fone, David<sup>1</sup>, Brophy, Sinead<sup>2</sup>, and Demmler, Joanne<sup>2</sup>

<sup>1</sup>Cardiff University

<sup>2</sup>Swansea University

### Objective

To explore whether children with pelvicalyceal dilatation (PCD, a marker detected during the 18-20 week gestation ultrasound scan in which there is enlargement of tubes that collect urine in the kidney) have more hospital admissions for kidney problems in childhood compared to children without the marker.

### Approach

We were funded by NISCHR to study outcomes associated with markers of uncertain significance at the second trimester anomaly scan (Welsh Study of Mothers and Babies). Data collected in the WSMB was uploaded to the Secure Anonymised Information Linkage (SAIL) databank and record linked to hospital activity data. Patterns of hospital admissions for renal causes were described and compared between those with no markers and those with PCD. Children were followed up from birth until 31st December 2014 or until the age of 5. A Cox Proportional Hazard Model was used to investigate the impact of PCD on time to first presentation.

### Results

Of the WSMB cohort, 20,834 children were eligible for inclusion in analyses. Those with PCD had 6.29 times the hazard of a renal admission compared to those without the marker (95% CI: 3.69 to 10.72). Children with PCD were more likely to have multiple renal admissions to hospital - median (interquartile range) number of renal admissions, 2.5 (1 to 5) compared to 1 (1, 1) in children without markers.

\*Corresponding Author:

Email Address: [WrightM10@cardiff.ac.uk](mailto:WrightM10@cardiff.ac.uk) (M. Wright)

### Conclusion

Preliminary analysis suggests there is increased childhood renal morbidity associated with the presence of a PCD marker detected on the 18-20 week gestation ultrasound scan. These findings will inform the discussions clinicians have with parents when discussing the implications of this marker for the health of the child.

