



# Creative reuse of an OA article demonstrates the power of semantic enhancement.

Taking advantage of the free re-use opportunities offered with the Creative Commons Attribution License, scientist Prof. David Shotton re-worked a research article to add semantic value. Featured here are some of the enhancements made, which could lead to developments in mainstream journal publishing in the future, demonstrating that Open Access can help to move both science and the publishing process forward by facilitating innovation.

Article published in *PLoS Neglected Tropical Diseases*: <http://www.plosntds.org/doi/pntd.0000228>

Creative reuse - Semantically Enhanced Version: <http://dx.doi.org/10.1371/journal.pntd.0000228.x001>

Review published in *PLoS Computational Biology*: *Adventures in Semantic Publishing: Semantic Enhancements of a Research Article* <http://www.ploscompbiol.org/doi/pcbi.1000361>

## SEMANTICALLY ENHANCED VERSION OF A RESEARCH ARTICLE FROM PLOS NEGLECTED TROPICAL DISEASES

### Impact of Environment and Social Gradient on *Leptospira* Infection in Urban Slums.

**Study Summary**

Infectious disease studied:  
Pathogen (causative agent)  
Primary animal vector of pathogen:  
Pathogen host subjected to  
Number of subject individual  
Number of control individual

**Tag cloud and tree**

Leptospira antibodies  
Leptospira interrogans serovar Autumnalis  
Leptospira interrogans serovar Copenhagen  
leptospirosis

**Ontology terms**

ID:0000012 immunity  
ID:0000017 mortality  
ID:0000021 infected  
ID:0000023 zoonotic  
ID:0000025 pathogen

**Document Statistics**

Number of authors:  
Number of cited references:  
Number of figures:  
Number of supplements:  
Number of tables:

**Citation Analysis**

**Document summary with link:** Examples of a variety of summarized content in the paper, which provide a quick and easy analysis of the key points.

paradigm for an urban health problem that has emerged due to recent growth of slums [6], [7]. The disease, caused by the *Leptospira spirochete*, produces manifestations, such as Weil's disease and severe pulmonary hemorrhage syndrome for which fatality is more than 10% and 50%, respectively [7]–[9]. Leptospirosis

[6] Albert I Eo et al. (1999). Urban epidemic of severe leptospirosis in Brazil. *Lancet* 354: 825–825.

**Supporting claims:**

- **Introduction:** "...the creation of urban slums (favelas) where the lack of basic sanitation favours rodent-borne transmission of leptospirosis..."
- **Discussion:** "...Individuals at highest risk for severe leptospirosis were the urban poor living in the slums on the city's periphery, which lack basic sanitation..."

**To permit Citations in Context:** An exemplar reference [Ref 6], when moused over, produces a popup containing the cited extract, allowing instant access to the relevant information.

Sort by: alphabetical order | publication year | frequency of citation (within this paper) | number (original)

Turn citation typing off

1. United Nations Human Settlements Programme (2003) The challenge of slums: Global report on human settlements 2003. London: Earth obtains background from, Report, Book, Online Document, not peer reviewed)
2. Riley LW, Ko AI, Unger A, Reis MG (2007) Slum health: Diseases of neglected populations. *BMC Int Health Hum Rights* 7: 2. DOI PubMed background from, shares authors with, Opinion, Journal Article, peer reviewed)
3. Sclar ED, Garau P, Carolini G (2005) The 21st century health challenge of slums and cities. *Lancet* 365: 901–903. DOI PubMed (CITO: Journal Article, peer reviewed)

**Re-orderable reference list:** References can be re-ordered by importance, number of times they appear, alphabetically, or by publication date. In addition, a citation "type" (e.g. obtains background from, confirms, shares authors with, Research Paper, peer reviewed) is added to each reference.

**Table 1. Risk factors for *Leptospira* antibodies**

Raw Data for Table 1 (82KB XLS Spreadsheet)  
[doi:10.1371/journal.pntd.0000228.t001](http://dx.doi.org/10.1371/journal.pntd.0000228.t001)

Demographic information	
Age, years	
5-14	71 (15)
15-24	136 (28)
25-34	122 (25)
35-44	73 (15)
≥45	87 (18)

**Tables convert to Excel:** Along with the standard format for viewing tables online, this enhanced article also offers the raw data to download tables directly into Excel, for further research and re-use.

**Interactive map**

**Location**

**Overlay with leptospirosis**

**Interactive map:** Originally in a static format, these moveable maps allow the reader to superimpose the data maps over geographical maps on Google, helping the reader to more quickly understand and evaluate the information in the wider context.

turn all highlighting on | date | disease | habitat | institution | organism | person | place | protein | taxon

Top | Abstract | Author Summary | Introduction | Methods | Results | Discussion | Supporting Information | Acknowledgements | References | Data Fusion Supplements

ted diseases which affect these populations [2], [3], [5].

paradigm for an urban health problem that has emerged due to recent growth of slums [6], [7]. The disease, caused by the *Leptospira spirochete*, produces manifestations, such as Weil's disease and severe pulmonary hemorrhage syndrome for which fatality is more than 10% and 50%, respectively [7]–[9]. Leptospirosis is transmitted during direct contact with animal reservoirs or water and soil contaminated with their urine [8], [9]. Changes in slum communities has produced conditions for rodent-borne transmission [6], [10]. Urban epidemics of leptospirosis now throughout the developing world during seasonal heavy rainfall and flooding [6], [11]–[18]. There is scarce data on the burden of specific diseases in these populations [2], however leptospirosis appears to have become a major infectious disease problem in this population. In Brazil alone, more than 1,500 cases of leptospirosis are reported each year due to outbreaks in urban centers [19], whereas roughly 3,000, 8,000 and 1,500 cases are reported

**Colored Tabs:** Click on a colored tab to view the corresponding highlighted text.

**Links:** to references and external sites