



E-atlas of health, planning and sustainable development for information society development

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Emerging and New Research in Geographies of Health and Impairment

14th Annual Conference

Durham University,
Department of Geography

6th – 7th April 2009

Conference Proceedings



Panel Presentations

Panel session 1: Society, Space and the Lifecourse

Mon 6th April 11.00-12.50, chaired by Alison Copeland

- Malcolm Campbell — Fair and Square? The spatial pattern of health and socio-economic characteristics in Northern Ireland
- Sue Easton — Social Inequality or Spatial Inequality? Exploring the life outcomes of British children born in different regions
- Joanne Cairns — Understanding the Relationship between Resilience and Health in the North East of England
- Michael Grayer — Life Expectancy Trends in London: More than deprivation?
- Susan Hodgson — Residential Mobility during Pregnancy in the North of England

Panel session 2: Healthcare and Health Management

Mon 6th April 15.00-16.20, chaired by Alie Beale

- 1 X Anne Quesnel-Barbet — Geography of Spatial Utilization of the Health Services: A Newtonian modelling of hospital catchment areas
- Morgan Berger — Initial Results about Therapeutic and Spatial Components of Accessibility to Health Services in the Case of Haemophilia
- Sorayya Khan — Community Participation in Malaria Management in Mali
- Alison Copeland — Primary/ Community Care or Living Environment? Multilevel analysis of 'potentially avoidable' emergency admissions for the older population of Barking and Dagenham

Panel Session 3: Modelling the Environment

Mon 6th April 16.30-17.10, chaired by Robin Jamieson

- Jurigata Lekaviciute — Urban Noise Pollution and Myocardial Infarction Risk: The use of geographic information systems (GIS) in environmental epidemiology study (case of Kaunas)
- Anesh Sukhai — Spatial and Temporal Variations in Road Traffic Fatalities in South Africa
- 2 X Anne Quesnel-Barbet — E-Atlas of Health, Planning and Sustainable Development for Information Society Development

Panel Presentations

Panel Session 4: Therapeutic Landscapes

Tues 7th April 11.00-12.00, chaired by Sue Easton

- Karolina Ronander — Moving Encounters: The Therapeutic Potential of Walking in Nature
- Wayne Medford — Urban Parks and their Relation to Local Residents' Health and Well-Being: Determining how environmental psychology aids the use of therapeutic landscape Concept
- Jenny Laws — Reworking Therapeutic Landscapes, Re-landscaping Therapy: an ethnography of a dissident psychiatric survivor group

Panel Session 5: Mental Health and Problem Drug Use

Tues 7th April 14.00-15.20, chaired by Susan Hodgson

- Becky Taylor — Treatment Environments for Anorexia Nervosa: An initial review of the literature
- Magali Coldefy — French Post-Asylum Geography: The transferability of the concept of 'service dependent ghetto'
- Robin Jamieson — 'Junkies', 'Cons' and the Welfare State
- Lesley-Ann Smith — Within these Four Walls: Unfolding older, mental health service users experiences within the home spatiality

Panel Session 6: Health Behaviours

Tues 7th April 14.00-15.20, chaired by Becky Taylor

- Claire Thompson — Obesity, Culture and the Built Environment: Making the case for a holistic approach
- Lorna Taylor — The Association between the Geography of Fast Food Outlets and Childhood Obesity Rates in Leeds, UK
- Sébastien Tusseau — Health Communication and Behaviour Change in an African Context: The importance of local context to construct AIDS prevention messages in Mali
- Absent*

Spatial and Temporal Variations in Road Traffic Fatalities in South Africa

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ABSTRACT

The annual road traffic fatality burden is approximately 18,000 or 43 per 100,000 population in South Africa, which is disproportionately high in comparison to the world average of 22 per 100,000 population. In an earlier study, strong geographical variations were shown across District Councils in South Africa, using several exposure-based indicators of risk. Additionally, marked variations were shown throughout the year, with a substantial peak in mortality occurring during the month of December. In this study, the factors that explain the temporal variations in road traffic fatalities in South Africa are examined. Using weekly data from 2002-2006 and for the country's nine provinces, multilevel negative binomial regression models were fitted to examine the weekly variations in road traffic fatalities in the provinces. A large range of explanatory variables relating to traffic exposure and risk, weather and calendar-related effects were considered. Findings showed that more than two-thirds of the variation in weekly road traffic fatalities could be explained by the volume of fuel sold for road use, the average blood alcohol concentration of victims, the population size of the province, and the presence of school or national public holidays. The weekly variation in these explanatory variables also explained most of the variation in road traffic fatalities between the provinces. After accounting for these factors, there was no evidence of a secular trend in road traffic fatalities but a statistically significant lagged effect from fatalities in the previous week was evident. Policies directed at reducing the effects of the modifiable risks, especially in areas and at times of the year when risk is elevated, would be important in reducing road traffic fatalities in South Africa.

KEYWORDS: South Africa; Road traffic fatalities; Negative binomial; Multilevel; Spatial; Temporal

E-Atlas of Health, Planning and Sustainable Development for Information Society Development

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ABSTRACT

Our aim is to propose a new decision-support tool through an e-Atlas for health care management to answer to specific problems in epidemiology and territory management. This e-Atlas is the second tool of our medical informatics project named 'POLESAT', and completes our health geomatics platform in Public Health. This e-Atlas prototype will improve and provide information to health responsible authorities, healthcare professionals (medical staff, physician and health decision-makers) and the public with geographical information, new knowledge discovery, analysis and scientific communications. At this time, this e-Atlas prototype only covers the North - Pas-de-Calais region of France.

Method: Database contains hospital stay activity in 2006 in the University Hospital of Lille. This application is developed using SAS software for the automation of data processing (input) and maps (output). For mapping, we used base maps of the Postal PMSI Zones and Health Proximity Zones. The setting webpage of map results is mainly carried out with the Jalbum software. To obtain interactive mapping, we added tooltip with a java script function in the html page. Then, additional statistical information from map database appears when the mouse moves over postal code areas. Maps can be downloaded or saved from the web server in several formats. The prototype is accessible by both login and password from a secured web server by simple authentication (Htaccess), and strong authentication (certificate). The Secure Hypertext Transfer Protocol (HTTPS) allows a secure transport of HTTP queries and responses with encrypted passwords.

Results: e-Atlas provides mapping information about territorial supply and consumption of hospital care (needs), and displays maps of catchment hospital areas by department. Our e-Atlas allows doing an activity background inventory on the state of hospital activity (supply and demand). It has multiple uses and will answer users' needs.

Conclusion: e-Atlas should be enlarged to all public, private hospital stay activity of our region and become our second tool after the modeling process planning tool.

KEYWORDS: Atlases; Medical Informatics; Geographic Information System; Computer-Assisted; Decision-Making