Mapping Scotland’s Sickening: Using Lexis Surface Visualisations to compare mortality patterns between populations

# Abstract

# Introduction

## Scottish Disadvantage

### Age groups

#### Older Age

#### Younger Age

## Healthy ageing

### Compression of Mortality

### Compression of Morbidity

## Life course

### Life course stages

#### Infancy

#### Adulthood

#### Senescence

### Barker & Critical Period

## Different model types

### Life Expectancies

#### Conditional and Unconditional

#### Period or Cohort

#### Extrapolation if Cohort

### Life course structures

#### Gompertz

#### Gompertz-Makeham

#### Siler

#### Non-Parametric

#### Heligman Pollard

### Drift Models:

#### Lee-Carter

#### Quasi-Spatial (Girosi & King)

## Lexis surfaces

### Concept

### Origins

### Applications

### Variants

## Ways of Reasoning about data

### Reasoning: Inductive, Deductive, Abductive

### Case-based and variable-based

### Lexis surfaces as case-based approach

## Aim

### Use Lexis surfaces to apply case-based reasoning to populations, and population comparisons

### To understand accumulation of Scottish disadvantage over the life course

### To understand additional selected phenomena

# Methods

## Source of data

## Preparation of Data

### Unsmoothed

## Choice of Colour Schemes

### SLP

#### Paired Colour scheme

### CLP

#### Balanced Colour: Magnitude and Colour

# Results

## Lexis Plots of the British Isles

## Comparative Level Plot: Scotland and its Neighbours

## Lexis Plots of other populations

## Comparative Level Plots: Selected Other Populations

# Discussion

## Implications for Practice

### Conclusions regarding Scotland

### Conclusions regarding other countries

## Implications for Research

### Case-based reasoning

### Modelling approaches

### Lexis surfaces in an abductive research workflow

### Interactive Lexis surfaces

## Final summary