

An edited version of this article has been published as: Jones R (2014) Trends in death and end-of-life costs in the UK. *British Journal of Healthcare Management* 20(6):298-299. Please use this to cite.

# Trends in death and end-of-life costs in the UK

Rodney P. Jones, Ph.D. (ACMA, CGMA)  
Statistical Advisor  
Healthcare Analysis & Forecasting  
[hcaf\\_rod@yahoo.co.uk](mailto:hcaf_rod@yahoo.co.uk)

For further articles in this series please go to: [www.hcaf.biz](http://www.hcaf.biz)  
The published version of this article is available at: [www.bjhcm.co.uk](http://www.bjhcm.co.uk) or via Athens

From the viewpoint of health and social care the end of life tends to be the most expensive period in a person's lifetime costs (Bardsley et al 2010). Acute admissions peak in the last year of life, while social and primary care costs start to rise slightly earlier (Jones 2013). It is death (or nearness to death) not age *per se* that drives these costs. Interestingly the funding formula which distributes money to English CCG's implicitly assumes that age distributions predict death and hence end-of-life costs are assumed to be driven by age. If end-of-life is so important to the overall cost born by each CCG, why are the trends in death so poorly understood and their importance even more poorly communicated?

Figure 1 presents a running 12 month total trend in death for England and Wales and a running 52 week total for Scotland. The chart starts with a 12 month total ending December 2006 and shows evidence for two events leading to high deaths for the 12 month periods ending January 2009 and April 2013. Since deaths are usually reported as calendar year totals these peaks explain the corresponding peaks in death for the UK in the 2008 and 2012 calendar years (Jones 2013b, 2014e). It is now understood that the trend for England, Scotland and Wales is a composite of small area infectious-like spread which commenced in 2007 and 2011 respectively, hence the situation for each CCG will vary from the national average as to both timing and extent (Jones 2013g, 2014c,f, Jones & Beauchant 2014).

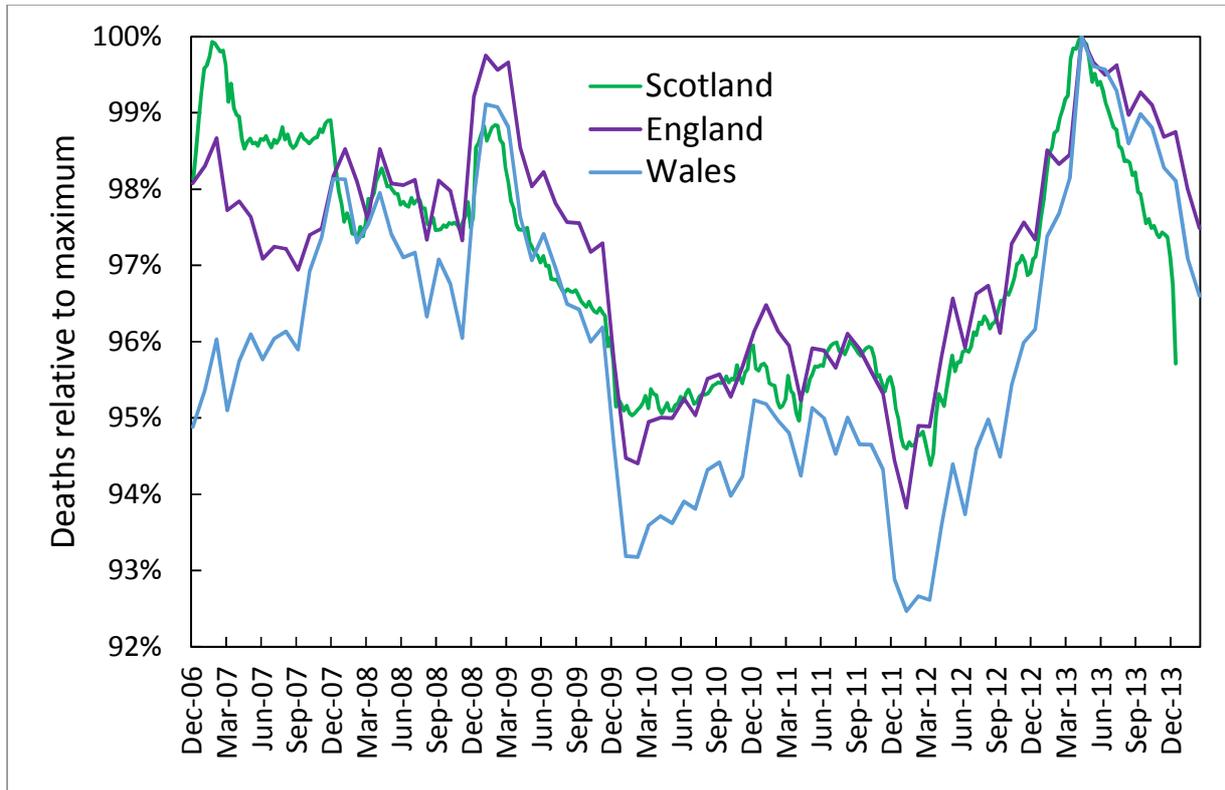
Due to improvements in life expectancy total deaths should have been trending downward along a continuous smooth line over the period between 2006 and 2013. This trend is slightly different between the three countries and was steeper around 2006 than in 2013 where it has nearly reached its expected minimum before rising again as the WW II baby boom begin to die in appreciable numbers (Jones 2013h). Hence the 2012 event is easier to detect than the 2007 event, which is further complicated by apparently slower spatiotemporal spread (Jones 2012c).

Note that in a running 12 month total a sudden and step-like increase in deaths creates a 12 month long ramp which for the 2013 event starts around February in 2012. Hence, the minimum point in January 2012 represents a 12 month period of very low death with 449 929, 53 205 and 30 291 deaths in England, Scotland and Wales respectively. The extent of the step-increase is revealed 12 month later, i.e. a full 12 month sum of high deaths, and gives a 5% increase in England (20,100 deaths), 5.6% in Scotland (3,000 deaths) and 6.8% in Wales (2,100 deaths) – although due to the unique spatial spread

An edited version of this article has been published as: Jones R (2014) Trends in death and end-of-life costs in the UK. *British Journal of Healthcare Management* 20(6):298-299. Please use this to cite.

these are underestimates with the real death toll being around double these figures. Hence in the financial year 2012/13 end-of-life related costs should have risen by these amounts in these three countries although funding did not. The roots of a financial crisis can clearly be identified, regarding which to this day the Department of Health remains silent.

**Figure 1: Trend in deaths as a running 12 month total**



Footnote: Monthly data for England and Wales is from Office for National Statistics while weekly data for Scotland is from <http://www.gro-scotland.gov.uk/statistics/theme/vital-events/general/weekly-monthly-births-death-data/weekly/index.html>

The (presumed infectious) event eventually clears and this explains the precipitous drop in the 12 month total of deaths around Nov-09 and Dec-13 respectively, however by these points in time the financial damage has already been done and CCG's (England) or health boards (Scotland and Wales) are left scratching their heads unable to understand what has just happened.

These events appear to have far wider financial consequences than just end-of-life costs and lead to increases in emergency admissions, bed occupancy, GP referral and wider primary care costs (Jones 2012a, 2013a,c-e)) plus a change in the gender ratio at birth (Jones 2013f), diagnosis specific increases in A&E attendance, admissions and death (Jones 2014a-b, Jones & Goldeck 2014) and single year-of-age specific changes in death and admissions (Jones 2014c,d, Jones & Beauchant 2014). If these infectious-like events are driving costs in such a profound way why is the Department of Health keeping so quiet? Is the NHS being left to carry the blame for something over which it has absolutely no control? Is this a case of political expediency at its lowest ebb?

An edited version of this article has been published as: Jones R (2014) Trends in death and end-of-life costs in the UK. *British Journal of Healthcare Management* 20(6):298-299. Please use this to cite.

## References

- Bardsley M, Georghiou T, Dixon J (2010) Social care and hospital use at the end of life. The Nuffield Trust, London. [http://www.nuffieldtrust.org.uk/sites/files/nuffield/social\\_care\\_and\\_hospital\\_use\\_full\\_report\\_081210.pdf](http://www.nuffieldtrust.org.uk/sites/files/nuffield/social_care_and_hospital_use_full_report_081210.pdf)
- Jones R (2012a) Volatile inpatient costs and implications to CCG financial stability. *BJHCM* 18(5): 251-258.
- Jones R (2012b) End of life care and volatility in costs. *BJHCM* 18(7): 374-381.
- Jones R (2012c) Diagnoses, deaths and infectious outbreaks. *BJHCM* 18(10): 539-548.
- Jones R (2013a) Could cytomegalovirus be causing widespread outbreaks of chronic poor health. In *Hypotheses in Clinical Medicine*, pp 37-79, Eds M. Shoja, et al. New York: Nova Science Publishers Inc. Available from: [http://www.hcaf.biz/2013/CMV\\_Read.pdf](http://www.hcaf.biz/2013/CMV_Read.pdf)
- Jones R (2013b) An unexplained increase in deaths during 2012. *BJHCM* 19(5): 248-253.
- Jones R (2013c) Recurring outbreaks of a subtle condition leading to hospitalization and death. *Epidemiology: Open access* 4(3): 137. Available from: <http://www.hcaf.biz/2013/2161-1165-3-137.pdf>
- Jones R (2013d) Is the demographic shift the real problem? *BJHCM* 19(10): 509-511.
- Jones R (2013e) Trends in elderly diagnoses: links with multi-morbidity. *BJHCM* 19(11): 553-558.
- Jones R (2013f) Do recurring outbreaks of a type of infectious immune impairment trigger cyclic changes in the gender ratio at birth? *Biomedicine International* 4(1): 26-39.
- Jones R (2013g) A recurring series of infectious-like events leading to excess deaths, emergency department attendances and medical admissions in Scotland. *Biomedicine International* 4(2): 72-86.
- Jones R (2013h) Analysing excess winter mortality: 2012/13. *BJHCM* 19(12): 601-605.
- Jones R (2014a) What is happening in unscheduled care? *Journal of Paramedic Practice* 5(2): 60-62.
- Jones R (2014b) Increased deaths in 2012: which conditions? *BJHCM* 20(1): 45-47.
- Jones R (2014c) Infectious-like spread of an agent leading to increased medical hospital admission in the North East Essex area of the East of England. *Biomedicine International* 5(1): in press
- Jones R (2014d) Unexpected and semi-permanent increase in emergency medical admissions: admission threshold or infectious-like spread? *British Journal of Medicine and Medical Research* (in press)
- Jones R (2014e) Unexpected single-year-of-age changes in the elderly mortality rate in 2012 in England and Wales. *British Journal of Medicine and Medical Research* 4(16): 3196-3207.
- Jones R (2014f) A previously uncharacterized infectious-like event leading to spatial spread of deaths across England and Wales: Characteristics of the most recent event and a time series for past events. *OA Medicine* (submitted)
- Jones R, Beauchant S (2014) Spread of a new type of infectious condition across Berkshire in England between June 2011 and March 2013: Effect on medical emergency admissions. *OA Medicine* (submitted)
- Jones R, Goldeck D (2014) Unexpected and unexplained increase in death due to neurological disorders in 2012 in England and Wales: Is cytomegalovirus implicated? *Medical Hypotheses* 83(1): 25-31. <http://www.sciencedirect.com/science/article/pii/S0306987714001650>