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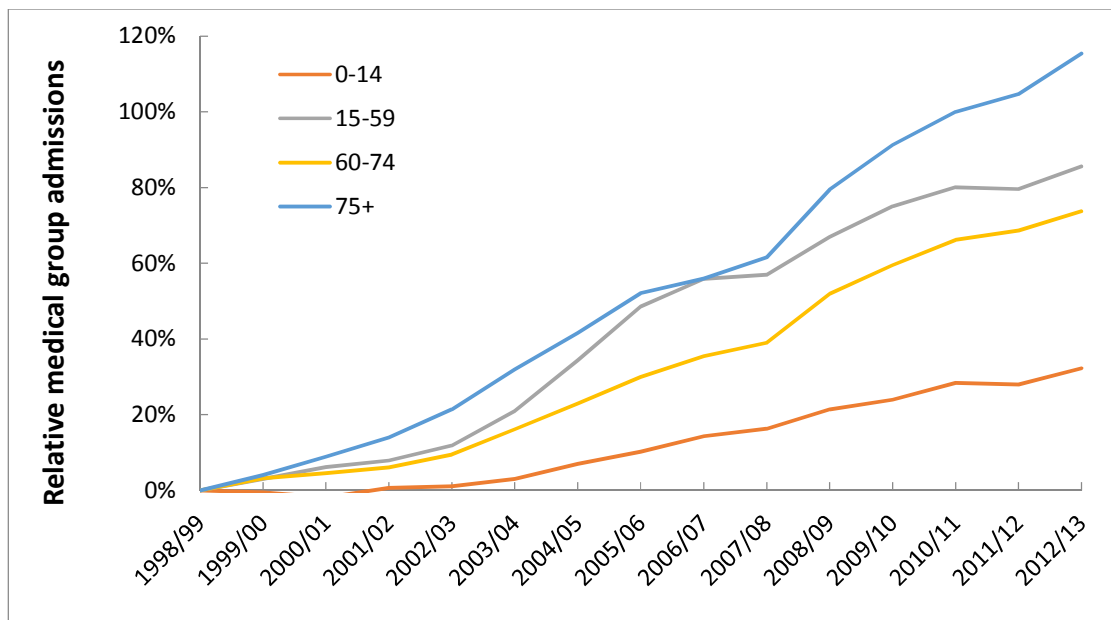
The funding dilemma: a lagged cycle in cancer costs

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Everyone 'knows' that the problems with emergency admissions in the NHS are to do with the ageing population, or do they? Economists have known for many years that the relative contribution from ageing *per se* is relatively modest and can never explain the observed increase (Mayhew 2001). This is exactly the case as is demonstrated in Figure 1 where the population increase in the age groups is around: 0-14 +3%, 15-59 +10%, 60-74 +15% and 75+ +24% but the increase in admissions is many times higher. Furthermore the relative increase in the age bands cannot explain the unusually higher increase in admissions in the 15-59 age band or what appears to be cyclic growth in admissions (around 2002, 2007 and 2012) not seen in population growth.

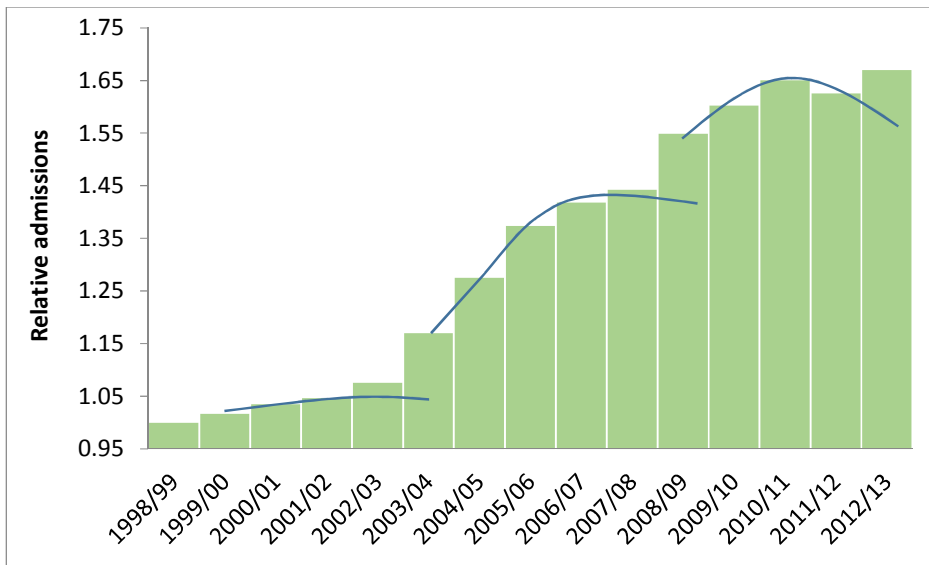
Figure 1: Increase in medical admissions



Footnote: Data is from Hospital Episode Statistics and includes elective and emergency admission. Medical admissions include all the medical specialties including admissions to specialty 180 (A&E) and 420 (Paediatric) as the medical equivalent for children.

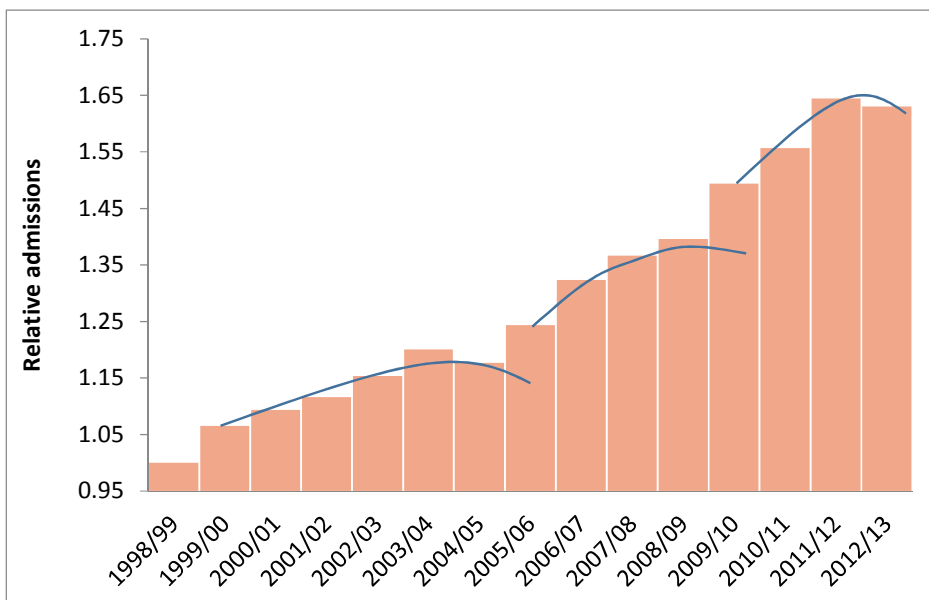
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Figure 2: Trend in medical group emergency admissions in England



Interestingly the cycle appears to be most pronounced in the 15-59 age group, i.e the group showing disproportionate growth relative to basic population growth. Hence while it is correct to say that the increase is showing age specificity it is incorrect to say that it is due to demographic shifts or the ageing population. Such particular age specificity has been shown to also apply to growth in GP referrals and A&E attendance (Jones 2012c,d). While some of this growth has been driven by the opening of medical and paediatric assessment units (Jones 2013e) it certainly cannot explain all of the extra growth and certainly cannot explain the cycles. Figures 2 and 3 explore the curious cycles in more detail looking specifically at medical and oncology emergency admissions. The curious thing about oncology is that the cycle lags by around 1 to 2 years behind the medical cycle. It has been proposed that the cycles are arising from outbreaks of a previously unrecognized infectious immune impairment (Jones 2013a,d) and that it is probable that the infectious agent is cytomegalovirus (CMV), a ubiquitous herpes virus with potent immune modulating effects (Jones 2013a,d, 2014). CMV is both oncomodulatory (stimulating tumor growth) and oncogenic (initiating tumors) and this would explain the lagged cycle in Oncology admissions which has also been observed to occur for new cancer registrations for specific cancers in the USA (Jones 2012b) and affects cancer costs in England (Jones 2010e, 2012b,f,e).

Figure 3: Trend in Oncology emergency admissions in England



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These cycles have also been observed to mirror a cycle in deaths (Jones 2012e, 2013g) and subtle changes in the gender ratio at birth (Jones 2013f) and at local level have a more pronounced step-like increase at the start than the undulations seen at national level which arise due to relatively difficult to transmit infectious spread across the UK over a period of around 18 to 24 months (Jones 2012c,e, 2013g).

The astute reader will realize that the sudden increase in A&E attendances seen during 2012 may therefore have more to do with an infectious outbreak than problems with A&E *per se*. While problems with staffing do exist they are merely contributory rather than causative. Given the existence of such profound cycles, the cycle of surplus and deficit seen in the NHS and in the US health insurance industry should come as no surprise (Jones 2010a,b, 2013aq) and it may well be the case that hospitals and GP's have no more control over the real cause of the increases than they would over an influenza epidemic - in the absence of immunization. Indeed was the current government's undue rush to privatize the NHS driven by a complete misunderstanding of the true cause of the unexplained cost increases, namely, an unacknowledged disease outbreak with lagged effects against particular conditions such as cancers, inflammatory and autoimmune diseases? (Jones 2014)

It is often said that bad science fuels bad policy. There is a fundamental reason that costs are not behaving as the 'should' or 'ought'. Has blind faith in demographic forecasting (Nicholl 2007) led to the absurd situation where no one is able to recognize reality when it stares them in the face? I for one think we need some answers and quickly.

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