



ASPO-Australia

Australian Association for
the Study of Peak Oil & Gas
Health Sector Working Group

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**Submission to the Select Committee of the
Legislative Council on the Impact Of Peak Oil on
South Australia.**

Introduction

Some time in the very near future, half of the estimated 2 trillion barrels of oil originally on the planet will have been extracted, when this happens the world's production of oil will have reached an all time peak, we will be pumping oil at the maximum possible rate. From that point, production will begin an accelerating decline with less oil available every year. The second half of the earth's available oil will be harder to find, extract and refine because all the easy oil was exploited first. ***Global use of oil continues to accelerate, half of all the oil ever consumed on the planet has been consumed since 1983.***

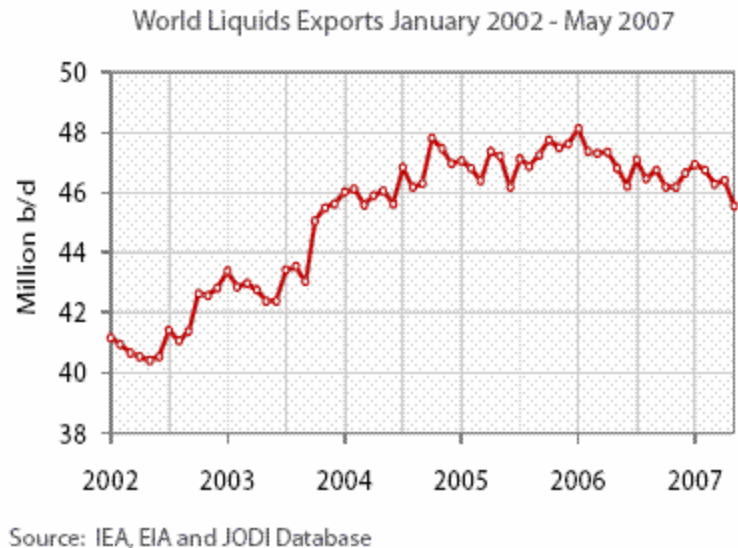
Peak oil is not about how much oil is left in reserves, it is about the rate at which oil can be produced, i.e. how many barrels per day. ***It's not the size of the tank that matters it's the size of the tap.***

Any planning for the future of health service delivery in South Australia must take into account the social, economic and practical impacts of oil depletion and energy descent. Blind and optimistic adherence to the belief that oil will always be cheap and plentiful in the face of growing

evidence to the contrary will lead to the development of health policies that are soon outmoded and very difficult to deliver.

On the other hand sensible planning that incorporates the evolving realities of increasingly scarce and expensive oil could deliver a viable plan for the future of public health with the bonus of reductions in the burden of chronic illness and real gains in the fitness and health of the entire community.

Peak oil is expected within 4 years and may already be upon us, however it is **Peak Exports** will soon come to be the defining crisis of peak oil. Oil exporting countries are using more of their oil domestically as their economies boom with huge oil revenues. Since global oil production entered into its current undulating plateau (? peak) in May 2005 the world has lost over one million barrels per day in net exports.



Peak Oil and Health Service Delivery

South Australia's healthcare system is critically dependent on oil and its products. Almost every aspect of healthcare delivery uses oil in one form or another. The dependence is so extreme that the entire system will come under severe stress once peak oil occurs and petroleum products become increasingly scarce and expensive.

Our current model of healthcare assumes unlimited mobility of staff, patients and their families and stable costs for delivering goods to and removing waste from health facilities. It is in this area of declining affordable, convenient and timely mobility that peak oil will have its biggest impact on health service delivery in South Australia.

Apart from mobility impacts the consequences of peak oil on medicine will be progressive, from a base of business as usual there will be a gradual rise in the frequency and severity of problems stemming from increases in price and decreases in availability of fuel and petrochemical products. We need to identify the areas of critical fuel and petrochemical dependence of the medical system to form the basis for the orderly

planning of a rational response to the ensuing gradual depletion. We will need to plan to mitigate, as soon as we reasonably can, the impact of oil depletion and in the process establish a list of priority activities that will need continued access to fuel and petrochemicals regardless of price and availability. The South Australian healthcare system needs a comprehensive oil vulnerability analysis as soon as possible to provide the information on which to develop migration strategies.

We have to address the prospects for healthcare in a totally new and uncertain period. So when we try to start by addressing the issue of how much plastic we use and discard, for example, it is not a contrived or frivolous point, the time when we will not have access to affordable disposable plastic is not far in the future. Given the total absence of any plan to find an alternative, which will take years to develop, it might as well be tomorrow.

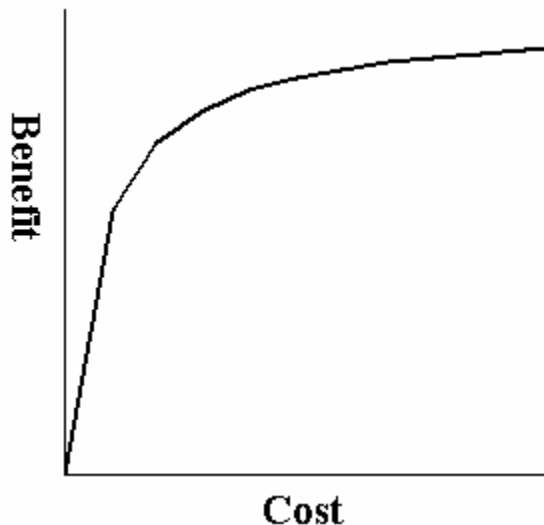
We need to be prepared to ask hard questions and think the unthinkable; the seamless progress of more and evermore complex procedures and treatments will not be sustainable. Things are not going to get easier; they are going to get harder and harder every year. We will have to struggle not to go backwards. If South Australia is to continue to provide quality healthcare it will require those in the system to be inventive, flexible, frugal and creative as we power down. Our future will not be a linear extrapolation from our past because we are approaching a period of unprecedented and non linear change. Rather than looking forward breathlessly to the future and dreaming about how stem cells will be curing all sorts of ailments in 2030, we should really be asking deeply disturbing questions like: How will we be able maintain vaccine production for childhood immunization in 2030 and beyond?

We need to ask the right questions, two urgent questions are:

- What level of complexity will we be able to sustain 2, 5, 10, 20 or more years into the period of energy descent that will follow on from peak oil?
- What will be the appropriate level of complexity that balances cost effectiveness with the best possible outcomes?

Complexity is energy intensive, it is only by the expenditure of prodigious quantities of fossil fuels that our present healthcare system is able to exist. Complexity with very high levels of interconnectedness is inherently unstable. (1) Modern medicine sits at the apex of a huge industrial pyramid and is critically linked into the whole just-in-time logistical chain, the efficiency vs resilience clash and it is vulnerable to

the nail-horseshoe-horse-battle-kingdom collapse scenario. We will need to consider warehousing spare critical components, drugs and equipment, moving to reuseable vs. disposable equipment.



Modern medicine is on an unsustainable course, spending more and more to achieve less and less. Eventually we will have to abandon some forms of treatment for some conditions and concentrate on the doing the most for those patients with the most to gain.

The impact of peak oil and energy descent will bring this unsustainability into sharp relief and force change if change has not been embraced in advance of the crunch. One driver of these cost pressures is the perceived medico-legal imperative to minimise risk at all costs.

We will soon need to manage risk and accept risk-benefit trade offs that might be currently unacceptable. Is legally driven decision making still going to be a viable response to risk minimization? We can't really eliminate all risk now and will be much less able to do so in the future. When GPs, particularly in rural areas, find that they are called on to do more including more complex procedural work for patients who cannot travel to large centres, they will need to be supported, insured and adequately trained. We will have to learn to accept the risk benefit trade-off of some treatment vs. delayed treatment or no treatment.

Post Peak Oil Medicine.....Responses Required.

1. Responsibility.

Preventative care and education will need to be emphasised. Smokers and others inviting diseases of over indulgence and self abuse will have to realise, that in the coming age of energy descent, their treatment needs will inevitably move down the priority list for treatment, below those who have not put themselves at needless risk.

Regional/urban fringe: Access to a secondary care facility, most resources available.

Rural: Access to a primary care facility, some resources available.

Remote: Access to the RFDS, limited resources available.

Post peak oil all these boundaries will shift with more and more patients becoming effectively isolated from urban core services. Our assumptions will have to change as these boundaries shift. Retrieval services currently blur these boundaries, but only for the most urgent of cases. Emergency retrieval services will not be in any position to increase their activity to take up the challenge of more and more stranded patients, they will have their own set of energy and cost problems to deal with. Most minor or moderate emergencies and elective procedures at present are dealt with by private car transport. In the future if this involves a long and expensive journey then alternatives will have to be found.

What is to be done? Devolving increasing levels of complexity of care to the periphery will have to happen. GPs in primary hospitals will eventually have to be doing some of what is currently done in secondary referral hospitals, secondary hospitals will have to deliver some of the more complex levels of care currently found only in tertiary facilities and some currently rural areas will become effectively remote.

As private car ownership declines particularly for the disadvantaged, GPs in regional/urban fringe areas will have to change their role. Local GP services with capacity for definitive local treatment will be needed around the clock when people in outlying suburbs and towns do not have the option of just hopping in the car and going to hospital. Rather than travel to hospital out of hours for a primary diagnosis, patients will increasingly have to be seen by their local doctor either for definitive treatment on the spot or to determine if the difficult and increasingly expensive journey to hospital is really required.

These treatment and triage services could be provided in local free standing facilities, which could function as GP surgery, visiting specialist rooms, pathology, medical imaging, allied health, day surgery units, and accident and emergency centres. Some patients will obviously still have to come to regional centres, but the model should be triage first then travel if necessary. GPs will need support in this role, real time video conferencing (see below) with specialists is possible now and should be developed.

Consultative and procedural work done could be done in these same local facilities by travelling specialists. The local centres could easily be accessed (on foot, by electric “gopher” or community bus) by large numbers of otherwise stranded patients. It will be much more efficient for one specialist and one or two staff to travel to a centre which 40 patients can reach with ease than for all 40 of them to make the difficult (impossible?) journey to a central clinic.

These centres could also house local day surgery units which could function one, two or more days a week with a minimum of fixed equipment plus a well set up van that moved the other gear around and a small bus that ferried the required staff from place to place.

On-call staff and staff working out of public transport hours, not just in clinical areas but also in catering, maintenance, linen services etc will need to get to and from work without necessarily having continued access to a private car. Hospitals may have to run some sort of small scale bus operation and or consider revisiting the concept of the nurse’s home offering on site accommodation.

High speed broadband with interactive video communication will have an increasing role in supporting GPs caring for stranded patients and reducing the need for patients to travel. Consider the case of an elderly widow without private health insurance, living in somewhere like Coober Pedy, who needs a colonoscopy to investigate rectal bleeding. As things stand my understanding of how things work (extrapolating from Victoria) is as follows:

1. The patient is seen by her GP referred to and given an appointment at an appropriate centre with facilities for consultant endoscopy services. Getting to this appointment may involve her being driven to town by a family member. At this appointment she has her history taken, would be examined and told about the planned endoscopy procedure, what were its risks, benefits and she would be given medications, advice about fasting etc and a date to return for the procedure.
2. She returns and has the procedure, a malignant polyp is removed.
3. A subsequent consultation and attendance at the hospital would then be organised where the results of the pathology tests would be discussed and further treatment planned.

Steps 1 & 3 could just as easily be carried out via video link. Instead of travelling possibly hundreds of kilometres the patient is given a time to attend a local healthcare facility where she is met, measured, weighed

and tested by a nurse just as she would be in the distant hospital. Then when her turn to be seen arrives, she is ushered into a private room with a video screen and camera and she has a real time face to face consultation with her specialist. For their part the consultant receives the patients file and is told “Mrs. XYZ is on line now” and the consultation differs only in that the physical examination is deferred to the date of attendance.

The same resources could be used to allow a remote GP to consult a city specialist in A&E to resolve the management of emergencies.

The technology to do this exists now and there is no reason why it could not up and running.

Positive Outcomes.

Promoting public and active transport needs to be a whole of government priority. The public health system, stands to be a double beneficiary of this process not only finding ways of preserving patient access to existing and evolving services, but by improving levels of fitness and health, the need for those services will decline over time.

There are real adverse effects of our current system of car based transport on health including accidents, air pollution, noise, the social exclusion of vulnerable groups, and the development of sedentary lifestyles leading to obesity and diabetes. The decline in car use will produce real savings to the health system. Promoting active transport in particular is arguably one of the most important and cheapest possible public health initiatives, it could be undertaken from today.

Conclusion

Around the world public health practitioners have, given their role in the prevention of disease and the promotion of health within the population as a whole, begun to look at the peak oil issue. The Centre for Disease Control in the US has undertaken a study into the impact of peak oil on the cost and availability of petroleum derived pharmaceuticals. Peak oil and public health has been the subject of an editorial in the British Medical Journal and an article in the Journal of the American Medical Association. (2) (3)

Peak oil will change many aspects of our daily lives, challenge a lot of assumptions and undermine many of the foundations of conventional wisdom about the health system.

The process by which South Australia plans for the future of health service delivery will have to take into account the realities oil depletion and energy descent or it will fail.

A creative and innovative response to the challenge of peak oil and health service delivery by South Australia would be a world first.

I would be very happy to appear before the committee. Please feel free to contact me if you require any further information or other references for further research.

James Barson
16/5/2008

References:

1. *Complexity and Collapse*, *New Scientist*, 02 April 2008, page 32-35
2. *Peak Petroleum and Public Health*, Frumkin H et al. *JAMA* : 298 no. 14 1688-1690 (October 10)
3. *Editorial: Fossil Fuels, Transport and Public Health. BMJ* 2000;321:1168-1169 (11 November)
4. *Experience with rationing health care in New Zealand*. Colin M Feek et al *BMJ* 1999 May 16 318(7194): 1376-1378

General background reading:

A Series of articles by Dr Dan Bednarz listed at

<http://www.energybulletin.net/news.php?keywords=&author=bednarz&order=date&cat=0&startdate%5BF%5D=&startdate%5Bd%5D=&startdate%5BY%5D=&enddate%5BF%5D=&enddate%5Bd%5D=&enddate%5BY%5D=&action=search>

