HORIZON SCANNING – THE WIDER CONTEXT

INTRODUCTION

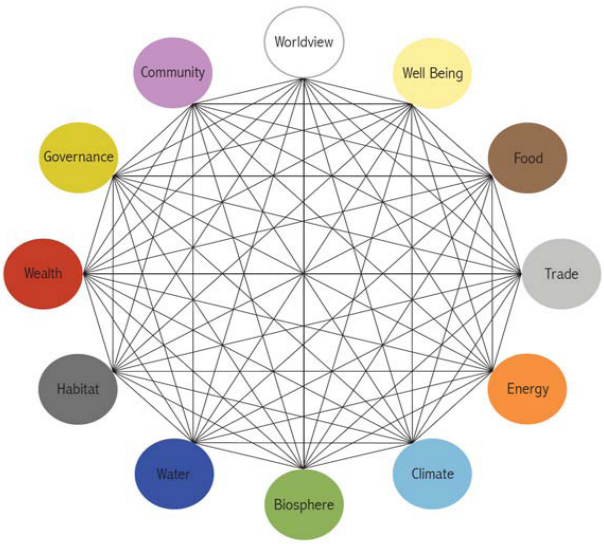
Horizon Scanning by definition explores the external environment and our literature review has inevitably raised the wider, global issues which provide the context for health and healthcare services.

We then attempt to summarise the current literature on the definitions of health, and then summarise the Public Health horizon scanning literature since the wider context links to determinants of health, and Public Health is concerned with influencing the determinants of health and policy to improve heath.

This paper then summarises the literature on horizon scanning about health services in terms of organisational structure and policy, and tries to draw us back to NoSPG and regional planning.

GLOBAL HORIZONS

These can be summarised under a number of headings. A common set are: economy, technology, politics, environment and society. An alternative is a more complex but perhaps more encompassing set: the twelve factors in the IFF World Model[1] which have been chosen as essential to understanding what is needed to develop viable and sustainable societies at every level from the local to the global. This model focuses as much on the connections between the issues, the test for inclusion being that removal of any one of the factors destroys the viability of the whole system. The interconnections can be mutually supportive or negative.



[1] IFF World Model http://www.internationalfuturesforum.com/iff_world_model.php

So for instance, whatever is done around the scientific technical issues, the impact will be affected by the governance / social-community issues.

The complexity of the model is helpful since the world is increasingly complex, and it is often difficult to know the outcome of specific interventions. If we think in straight lines, or in a compartmentalised way, we are unlikely to be able to predict outcomes or to come up with effective solutions. A helpful analogy might be the car engine: a car is a complicated bit of engineering, which an experienced mechanic can understand, but the impact of cars on society is a complex phenomenon which no-one could have predicted.

One technical strand from horizon scanning - of IT / robotics takes us to a very different future from the present. We might aspire to be technologically enabled as a necessary part of thriving in the future, but also more compassionate because it is social relationships that will determine how we use the new technologies.

One strand of analysis suggest that we are near the end game of the competitive reductionist approach, and that it is time for a new approach that will take the future technology possibilities, and put them together with emerging human achievement models.

And this is not discordant with achieving improved health and more effective health care systems – good governance would dictate that we need to be good custodians of the resources available to us – the 'bottom line', whether this is global environmental resources or national health service resources.

The literature on many of these issues is large and not necessarily directly relevant to healthcare or NoSPG.

However, we can site the range of issues and draw out relevant strands[2], and reference some of the literature that has direct relevance, to show how these contextual issues impact on health and health services.

Much of this is presented as potential threats that might also be seen as opportunities, and some of the horizon scanning literature presents possible solutions / options for the future.

The factors can be divided into four broad categories:

PLANETARY VIABILITY

Biosphere: ecological systems on which human life is dependant.

[2] IFF Health Protection Stocktake workshop: Engaging a Changing World April 2011

Global issues: land transformation; regeneration; use of natural resources; mismatching supply and demand; links to food, energy, water, wealth; new biohazards emerging.

Using the 'ecological footprint' metric, the number of hectares required to provide each of us with food, clothing and other resources reveals just how unequal consumption is across the globe. The average American takes 9.5 hectares, while Australians required 7.8, Britons 5.3, Germans 4.2, Chinese 2.1, and Indians and most Africans (where the majority of the future population growth will take place) 1.0 or less.[3]

Scotland issues: national footprint of consumption; globalisation issues; greater connectivity with world events; potential for water and food chain contamination; links to food miles; dependence on goods depleting other systems; possibilities of different land use locally.

Scotland becomes a nation of gardeners.....

Climate

Global issues: impacts of climate change: forest fires and pollutants; polar cap melting; availability of foods; sustainability agenda linked to political context.

Scotland issues: extreme weather events; prediction of temperature changes – drier summers and wetter winters; local impacts of change –fishing industry; food growing; infectious disease vectors and transmission; rates of skin cancer.

The literature on climate change includes examples of horizon scanning - describing step-changes and future policy impacts and scenarios, as well as trend development.

Water

Global: demand outstrips supply. Leading to migration - population shifts escaping drought, famine, war, inequality. Links to agriculture and food, pollution, water-borne disease.

Scotland issues: migration increases along with the level of demand; rising inequalities; flood and weather threats – resilience/defences; flooding leads to disease; potential for poor water quality.

RESOURCE BALANCE

Energy

Global issues: 86% of the world's energy consumption comes from non-renewable sources. Oil – issues of costs & supply; pressures from the huge and rapidly

[3] nef: Population Bomb or Consumption Explosion?

expanding populations of China and India, and the over-consumption of USA and Europe; fossil fuels running out; energy security problems with potential for national disputes / wars. Supply is a deeply political issue strongly linked to climate change.

Scotland issues: dependence on fossil fuels; potential of switch to renewables; impacts on building & infrastructure costs; costs of travel and fuel within NHS and for remote communities.

Food

Global issues: 'green revolution' technologies include pesticides, synthetic fertilisers, genetic engineering, with hidden impacts: eg reduced productivity of land over time with intensive farming methods; industrialisation of food production methods;

food shortages and obesity; distribution inequalities - demand linked to demographics – demand outstripping supply at current levels of consumption; food politics - links to globalisation of trade.

Scotland issues: Food miles leading to wider spread of food-borne disease e.g. E. Coli in Germany; and economic inefficiencies; changes in land use; impact of climate change on local food industries; major contribution and impact of food industry on obesogenic environment and related ill-health.

Trade

Global issues: links to globalisation, travel, migration; governance in terms of politics of trade – EU / Fairtrade; food; politics and sustainability; vulnerability of supplies; illegal drugs trade.

Scotland issues: Migration; food trade and food miles[4], supply and demand; sustainability; increasing target for illegal drugs trade; links to economy and wealth.

HUMAN STEWARDSHIP

Governance: how society organises itself for collective decision making

Global issues: threats on the horizon include breakdown of effective governance: political turmoil, terrorism; world banking system; oil wars; nation governments less powerful; decline of USA as the dominant nation; politics of health globally – links to wealth & community.

European policy on global health includes planned work on governance issues, such as contributing to the improvement of global health, and planning to mitigate potential negative consequences of EU policies on global health[5].

[4] nef: the new economics foundation http://www.neweconomics.org/

Scotland issues: impacts of international events locally; terrorism; increased migration; politics of health system within Scotland and UK including rationing, sustainability, links to community & social issues – inequalities, decision-making.

The Scottish Government is committed to creating a wealthier and fairer, smarter, healthier, safer and stronger, and greener Scotland.

Of potential local relevance: some of the horizon scanning literature predicts the necessary capacities in leadership for sustainability to include an ability to take decisions without clear evidence in situations of inherent uncertainty; a tolerance of ambiguity combined with a capacity for rapid learning; the ability to take people along with you while fully acknowledging uncertainty; and a new capability for decision thinking that is able to handle multiple possible scenarios.

Wealth

Global issues: poverty, inequalities, pursuit of wealth leading to over-use of natural resources – deforestation, over-fishing etc; issues of governance of economic systems; wealth defined in monetary terms as opposed to life values such as fulfilment and well-being.

The United Nations Millennium Development Goals[6]: adopted by world leaders in the year 2000 and set to be achieved by 2015, the Millennium Development Goals (MDGs) provide concrete, numerical benchmarks for tackling extreme poverty in its many dimensions. They include the health targets of reducing child mortality, improving maternal health, and combating malaria, HIV/AIDs and other diseases.

Scotland issues: rising inequalities; limited or reducing national and public sector resources; links to planetary viability and resource balance issues – failure to invest in environmental issues may have impacts on health & safety, clean industry, changing approaches to 'risk'. Longer term demographic trends point to a reduction in the tax-paying population and wealth creating sectors.

The current down-turn in the economic health of the UK and in public sector spending in real terms with its potential direct impacts on health and health services are one of the motivations for this piece of work.

A range of analyses regarding different models of public sector and health service financing into the future are summarised in the section below on healthcare services – see below for more detail.

[5] EuroHealthNet Policy Briefings
[6] United Nations Millennium Development Goals

Some horizon scanning work flags future approaches to tackling poverty[7] that link with the assets-based approach and co-production that are detailed in the public health and health services section.

Habitat

Global issues: population outstripping infrastructure in urban areas world-wide; impacts on remote and rural sustainability; links to climate change and biosphere.

Scotland issues: differences between urban and remote / rural; inequalities; links to biosphere and climate change.

Scottish Government policy[8] looks at the capacity of the environment to nurture good physical health and mental wellbeing and includes strategies to improve public health through environmental improvement.

HUMAN QUALITY

Community – encompasses the different ways people live together with some degree of mutual interdependence.

Global issues: cultural homogenisation blurring communities; migration and globalisation losing community strengths and social capital; rising inequalities; population patterns – increasing world population. And also, the sense of value for people in the quality of their relationships: solidarity, mutuality, trust; communities of place, culture, interest; the extent to which communities are resilient.

Scotland issues: loss of community and social capital at local levels; increasing inequalities; impact of demographic changes including migration – links to food, governance, wealth; impacts on remote and rural sustainability.

The role and nature of communities as they are relevant to health and health services is explored more in the sections on health and public health.

Well-being

Global issues: global differences in health and wellbeing – linked to social and community structures and change; inequalities. Increasing availability of information about the global burden of disease[9]. Changes in disease patterns with mobility and the emergence of new diseases – particularly infections – zoonoses, pandemics, limited impact of antibiotics with developing resistances from over-use. A variety of theoretical models of well-being are used in the horizon scanning literature including hierarchies of need[10], or a systems approach with inter-related dependencies

[7] Poverty Truth Commission
[8] Good Places Better Health Scottish Government 2008
[9] WHO The Global Burden of Disease project
[10] Maslow A. *Motivation and personality*. 3rd ed. Hong Kong: Longman Asia Ltd; 1987

including subsistence, protection, affection, understanding, participation, recreation / leisure, creation, identity and freedom[11].

Scotland issues: current indicators of and trends in health and ill-health, wellness and dis-ease; inequalities; new public health agenda on wellness – see later sections on health and public health.

Worldview: includes religious / ethical beliefs (ie intrinsic values), the role of the state, how people see themselves and their connections as part of society, of nature and globally. Worldviews can be conflicting – eg seeing solutions in terms of enabling or legislating are different world-views.

Global issues: role of global corporate business in world affairs – linked to trade; working population moving globally – positive migration; ease of modern communications / travel and the role of the media in promoting negative and positive messages about health including best practice and positive models; conflicts; terrorism; positive use of globalisation for change in developing countries eg World Bank vision of inclusive and sustainable globalisation[12].

Scotland issues: impact of global issues locally – through the media, terrorism, migration; use of the media positively and negatively. Question of how much there is local control and how much influence is in the hands of external factors (UK or world-wide).

+ for completeness: **eschatology** – the study of how and when the earth will end – asteroid, comet, volcanic super-eruptions, nuclear war, bio-terrorism, linked to climate, environment and the political/social global context as well as a number of "known unknowns".

And sustainability as a challenge through all these:

"If everyone consumed as much as the average UK citizen, we would need more than three Earth-like planets to support them" Simms etc 2006

There is no easy technical fix - this is a culture change

[11] Max Neef
[12] The World Bank http://web.worldbank.org

HEALTH

This wider context reminds us of the definition of health as a holistic concept and not just the absence of disease.

What is Health?[13]

The previous WHO definition[14] (1948) of health as "complete physical, mental and social wellbeing" is now regarded as idealistic by many. It helped us move on from a definition of health as the absence of disease, but it is absolute and unachievable for most people in the world for most of the time, and many regard it as no longer fit for purpose. There is a view that it has contributed to the inappropriate medicalisation of society[15]. It supports the tendencies of the medical technology and drug industries to perpetually redefine diseases and refine disease states, expanding the scope of healthcare industries and the healthcare system – a bottomless pit of ever increasing need and demand in a climate of reducing resources.

Examples include: new screening technologies that detect abnormalities at levels that might never cause illness, or that include large numbers of people at a cost when benefiting only a few; new pharmaceutical treatments for conditions not previously defined as health problems eg cultural differences: treatment of hypotension in some European countries cf UK; new definitions of 'disease' as ends of a spectrum of normality not previously defined as pathological (autistic spectrum disorder).

Ageing with chronic disease is now the norm.

A major strand of thinking emerging in the horizon scanning literature on health moves us from this historical paradigm which minimises the role of the human capacity to cope autonomously with life's ever changing physical, emotional and social challenges; a redefinition of health might move us towards self-reliance, mutual support and functioning with fulfilment and a feeling of wellbeing with chronic disease or disability.

The more recent history of attempts to move on from WHO definition includes the Ottowa Charter[16] which emphasised social and personal resources as well as physical characteristics. A Dutch conference in 2009[17] led to broad support for moving to a more dynamic definition based on resilience and capacity to cope and maintain or restore integrity, equilibrium and sense of wellbeing. Work is now in

[13] *BMJ* 2011;343:d4817
[14] WHO. Constitution of the World Health Organisation. 2006.
[15] *BMJ* 2011;343:d4163
[16] Ottawa Charter for Health Promotion.
[17] Health Council of the Netherlands. Publication A10/04.

progress to construct a conceptual framework that would include operational definitions for practical purposes such as measurement.

Some illustrations:

physical health – driving mechanisms that mount a protective response to physiological challenge that restores an (adapted) equilibrium - in an adapted state of health that allows an acceptable level of functioning;

mental health: promoting the capacity to cope, recover and prevent post-traumatic stress disorders – a focus on recovery in managing mental illness eg the Recovery Network; or improving subjective well-being resulting in a positive interaction between mind and body – eg patients with chronic fatigue syndrome treated with CBT reported positive effects on symptoms and well-being, accompanied by an increase in brain grey matter volume[18] (causal relation unclear, interesting possibilities for future research);

social health: developing abilities to manage life with chronic medical conditions, adapting to disability – supported by an increasing body of evidence of effectiveness from chronic disease self management programmes[19].

In summary, new definitions of health are about the ability to adapt and self manage in the face of social, physical and emotional challenges. Antonovsky's 'sense of coherence': the confidence and resources to deal with the stimuli of everyday living[20].

This chimes with the currently policy drives on re-ablement and seeking a more 'whole systems' (or public health) approach to tackle current health challenges – rather than more and more human characteristics being recruited as risk factors for disease.

Other strands of the literature pick up on new definitions of health and wellbeing:

"what it takes to make life worth living"[21];

"A sea change in the way we view health – from illness to wellness"[22].

And a focus on relationships for therapeutic effectiveness – the successful experience in Alaska of the Southcentral Foundation healthcare system is as much based on the cultural and spiritual aspects of health as the physical. It is growing a new health services culture which regards high quality relationships as the basis for

[18] *Brain* 2008;131:2172-80
[19] *Med Care* 1999;37:5-14
[20] CMO Scotland Annual Report 2009
[21] Afternow
[22] HSJ Drawing new life from the 'well' HSJ R Hussey & J Stansfield

a healthy population, both within the community and in the nature and delivery of health services.

Active ageing – the EU is taking action to promote active ageing in the EU and to highlight the benefits and opportunities that the economic and social participation of older women and men would provide to society. The conclusions call on Member States to make active ageing one of the priorities for the coming years. EPSCO, the Employment, Social Policy, Health and Consumer Affairs Council of the European Union plans to designate 2012 the year for active ageing and solidarity between generations, highlighting the contribution that older people can make to society and to the economy by mobilising their potential[23].

The Age Friendly Cities Network supports cities to accommodate an ageing population so that older people are included in active life in cities and help the cities survive and flourish.

There is also developing thinking on end of life issues - "as more and more people live into very old age, there is an increasingly urgent need to address the issue of futile and expensive treatments at the end of life.....death at any age seems to be portrayed as failure and this, in turn adversely affects the care of the dying"[24]. A number of commentators reflect on the increasingly marginal benefits from expensive end of life care: 50% of the USA healthcare budget is spent in the last year of life. In her editorial, Iona Heath the President of the Royal College of General Practitioners, quotes other authors in support of this premise: "national health budgets are held hostage to misplaced hope by a range of new cancer treatments offering minimal and often clinically insignificant increments of life extension at the expense of remaining quality of life, an unaffordable exercise in cost-futility". She asks for a more mature debate between professionals, politicians and the public about our approach to death.

This links to co-production - see later sections - working with patients and their families on decisions about treatment.

In September 2011, the UN will stage its first summit looking at the world epidemic of non-communicable diseases – in particular cardiovascular disease, cancer, diabetes and chronic obstructive pulmonary disease[25]. It will be interesting to see where this leads us in terms of global solutions.

[23] Council of the European Union http://www.consilium.europa.eu
[24] Editorial. Iona Heath. British Journal of General Practice May 2011
[25] *BMJ* 2011;342:d3823

PUBLIC HEALTH HORIZONS

We have presented the futures thinking on characteristics and definitions of health.

Looking at Public Health horizons explores this further and the current literature in Public Health horizon scanning describes some interesting futures thinking that has direct impact on healthcare services and our capacity, resilience and sustainability.

There are a number of strands of futures thinking in Public Health that inform the development of current health service systems and organisation: the science of health economics and its role in evidence-based rationing, pursuit of efficiencies, disinvestment[26], increasing cost-effective responses to increasing demand.

The Scottish Government is working on improving efficiencies in early intervention and prevention activities through its Improving population Health Action Group: A collaboration to increase efficiency and quality in prevention and early intervention, to lead and commission development including sustainable approaches. 5 priorities identified for scope in potential efficiency gains: smoking cessation services, alcohol screening [sic], self management including information and community resources, and GP attached alcohol/mental health worker/counsellor.

Further references which build on this approach are detailed below in the section on healthcare services.

Another strand offers a range of strategic thinking and policy direction to meet the perceived challenges of current external drivers (as described above – environmental, economic, social). These include the extension of effective strategies to improve health across the population including the reduction in health inequalities, through upstream policy interventions – Early Years, Obesity[27], mental health[28].

The European Commission has a range of measures including its call for actions to promote equity and health in all policies[29], and its 'Budget for Europe 2020'[30]. This includes action on public health such as The *Health for Growth Programme designed to* protect citizens from cross-border health threats, to increase the sustainability of health services and to improve the health of the population, whilst encouraging innovation in health. Potential actions highlighted by the Commission include developing best practices and guidelines for the diagnosis and treatment of rare diseases, supporting European reference networks on diseases, developing best practices and guidelines for cancer screening and developing a common EU approach to health technology assessments and e-Health.

[26] ScotPHN Report on Disinvestment and draft update
[27] Foresight Obesitiy Report www.bis.gov.uk/foresight
[28] WHO Mental health: new understanding, new hope. Geneva: World Health Organisation; 2001
[29] EU Health Highlights May 2010
[30] EuroHealthNet Policy Briefing: A Budget for Europe 2020

The English NHS reforms offer opportunities for collaboration with Local Authorities to develop 'wellness' services[31].

The environmental public health approach reflects the changes in definitions of health discussed above, and the environmental global context: eg tackling the obesogenic environment[32].

Another view is that the scale of current challenges – in increasing demand, demographic changes, the current UK economic climate, cannot be met by a continuation of the current systems. There is an increasing range of literature developing alternative approaches.

– Ecological public health

– **Assets-based approaches** – tend to accentuate positive capability within individuals and communities as opposed to traditional approaches to the promotion of population health which have been based on a deficit model. That is, they tend to focus on identifying the problems and needs of populations. The organisational response to these problems is to provide professional resources and interventions which produce high levels of dependence on hospital and welfare services. We do things *to* people rather than doing things *with* them. We reinforce their dependency and encourage passivity in the face of problems.

Examples of these approaches in practice include:

- The Asset Based Community Development (ABCD) Institute in Chicago which is involved directly with communities in building community capacity, Using a community-based participatory research approach, working directly with students to build the capacity of the next generation, and developing resources used world-wide.

- The Transition movement: the Transition Network's role is to inspire, encourage, connect, support and train communities as they self-organise around the transition model, creating initiatives that rebuild resilience and reduce CO2 emissions.

See health services section for more examples of the effectiveness and impact of these approaches.

Better Places: Making Places Better[33] analyses inequalities in Scotland in terms of 'failure demand' and proposes public sector reform to develop localized, integrated and holistic engagement with communities to change negative outcomes. It also

[31] HSJ Ruth Hussey & Jud Stansfield
[32] Policy Interventions to Tackle the Obesogenic Environment. CSO. Scottish Collaboration for Public Health Research & Policy 2011
[33] Colin Mair Making Better Places: Making Places Better

argues that there are examples of successful co-production in communities with positive outcomes who are able and effective at getting value out of public services including health, who use public sector resources to support the lives they wish to lead. The paper presents the policy challenge as constructing this for those communities who have the most negative outcomes – the greatest need.

Three horizon thinking[34] suggests that one system predominates (the 1st horizon), there are innovations coming on all the time and at some point these take over from the first horizon (the 2nd horizon). Meanwhile there are also more radical processes that lead to the emergence of quite a new system - the third horizon. These authors pose the question of how we can take the best of what we know already and find space for innovation and transformation – acknowledge the limitations of current thinking to open us up to other possibilities, other approaches?[35]

This chimes with one strand of Public Health horizon scanning based on historical analysis of the origins of Public Health, moving to current and future challenges to improving health: 5th wave thinking[36]

- The 1st wave of public health started with the Industrial Revolution and was characterised by the appliance of early science and social reform: introducing sanitation and clean water, health visitors and co-operative societies.

- The 2nd wave was based on scientific rationalism and the concept of the 'expert' – germ-based theories of disease and the idea of the body as a machine.

- The 3rd wave came following World War 2 with the establishment of the NHS, health seen as the result of the conditions of everyday life, and materialistic social reform on housing and welfare driven by politicians.

- The 4th wave (1970s onwards) can be characterised by a concern for risk and systems thinking, with the expansion of medical technology delaying death but not dealing with 'social pathologies', and a focus on efforts to reduce inequalities through targeted interventions.

Each wave built upon its predecessors and was a response to the current age when the world was moving on and new theories and political philosophies drove the need for new thinking. Progress was often made in the teeth of substantial opposition, and almost all of the public health breakthroughs required political as much as scientific skills.

[34] Three Horizon Approach. IFF.
[35] Costing An Arm And A Leg: A plea for radical think to halt the slow decline and eventual collapse of the NHS. International Futures Forum 2010
[36] IFF 5th wave.

There is now a school of thought in public health that says it's time for a new wave, a 5th wave, to deal with the current challenges that feel 'out of reach': unsustainable health services, obesity, inequalities, loss of well-being. This needs to involve new ways of thinking ..... **There is no easy technical fix – this is a culture change.**

HEALTH SERVICES

So why is all this global information relevant to health services and NoSPG? Because, the literature on horizon scanning for health services draws on the assumptions we make about health and it's determinants, and the current drivers for change that challenge the sustainability of our current systems.

There are three main threats to the sustainability of healthcare in Scotland:

- demographic trends – a growing elderly population with a projection of fewer people of working age;
- increasing demand for healthcare – more illnesses are treatable, people live longer and have higher expectations, new technologies and medicines;
- limited resources – a down turn in the economy and a public sector that has less money to spend in real terms.

Health expenditure in the UK and all other developed countries has grown exponentially for decades, out stripping national economic growth: in 1948 the proportion of GDP spent on the NHS was 3%. It was assumed at the outset that demand for healthcare would decline, but current assumptions are that need will continue, despite now aiming to get health budgets under control.

In a Treasury report in 2002 Sir Derek Wanless[37] advised that the UK should aim to spend 10% of GDP on the NHS by 2022, the minimum necessary to meet demand, assuming a 'fully engaged' model of public health with a shift from sickness to wellness which maximised smoking cessation, reduction of obesity, reducing health inequalities etc. The proportion of GDP now spent on NHS (2010) is over 9%.

A survey in 2005[38] of healthcare executives from 27 countries around the world expected healthcare costs to increase to 2020 at a higher rate of growth than the past, whilst a contradictory view held often by the same people is that these trends cannot continue. This is confirmed by other horizon scanning that sees these pressures as inevitable, and paradoxically unsustainable.

Most of these views were expressed before the recent and current economic crises, and most analysis more recently does not assume endless budget growth. Christie summarises Scottish Government budget and planned expenditure over the next 3 years – 2010/11 – 2014/15 as an 8% real terms cut in resource (Scottish departmental expenditure limit DEL) and a 36% real terms cut in capital DEL. He

[37] Securing good health for the whole population, The Wanless Report. London; HMSO; 2004.
[38] Healthcast 2020. Creating a Sustainable Future. PricewaterhouseCoopers' Health Research Institute. 2005

describes the longer term outlook for Scottish Government expenditure as predicted to be a 16 year adjustment period before the budget returns to 2009-10 levels in real terms.[39]. Views vary as to whether this counts as a brief [sic] period of retrenchment, or a time to construct an alternative economic future. Christie's analysis argues that "it is inevitable that the demand for public services will rise during periods of economic downturn". There are alternative analyses that see the future not in terms of perpetual growth, but in sustainability.

The literature on health services offers systems analysis to describe health services and organisational trends, and horizons / alternative visions for the future. Some of this is global but with potential local interest for analysis[40] and alternative visions[41].

One strand develops current systems into the future:
pursuing the current 'predict and provide' model which is the basis of current health services planning - marshalling our limited resources in smarter ways to meet rising demand.

There are three main strategies deployed to contain NHS spending[42]: financial management, demand management and innovation.
For instance:

- the challenge to use more robust cost-effectiveness thresholds for funding new developments
- rationing
- greater application of health economics approaches to planning and health service management including reduction in 'low health gain' procedures[43] and disinvestment[44]
- service improvement and redesign tools …….
- programme budgeting and marginal analysis[45]
- benefits realisation and management[46]
- improved efficiency[47] and productivity[48]
- the economic case for preventative measures[49]

There are other responses now emerging such as the English White Paper on marketisation though there is a body of criticism of this approach[50]. One example of

[39] The Report of Scotland's Independent Budget Review Panel IBR July 2010
[40] European Observatory
[41] The World Bank: Health Systems: What is a Health System?
[42] NHS Confederation Dealing with the Downturn 2009
[43] NICE Do not Do recommendations
[44] Update on Literature Review on Disinvestment for ScotPHN in draft June 2011
[45] Programme Budgeting – Testing the Approach in Scotland. Twaddle, Marshall & Michael 2011
[46] BeReal: Tools and Methods for Implementing Benefits Realisation and Managament. K Yates et al. Proc. 5th Nordic Conference on Construction Economics and Organisation, **1**, Reykjavik, Iceland, 10-12 June 2009
[47] NHSScotland's Efficiency & Productivity: Framework for SR10 – 2010-2015
[48] McKinsey Report Achieving world class productivity in the NHS 2009/19 – 2013/14 Department of Health
[48] Scottish Parliament Finance Committee Report on Preventative Spending 2010

[50] Hwang J. When Disruptive Integration Comes to Healthcare. Strategy and Business, 1 March 2010

the negative impact of the market approach is the dominance of the pharmaceutical industry in driving medical research towards drug therapies (as opposed to non-drug or public health interventions), with the escalating costs of introducing new drugs into the NHS.

There is another strand of thinking that considers that the financial / demand management methodologies are unlikely to succeed:

- Financial Efficiency - stripping out costs without strategic direction will hasten collapse
- Managing demand - off-setting costs onto other agencies and families has reached its limits
- Prevention – variable evidence and uncertainty around effectiveness and timescales in many areas
- Spending on healthcare is poorly associated with population health outcomes at a national level[51].

The concept of 'demand failure' as the basis of much of the current healthcare system is helpful: dealing with consequences rather than causes, demand created by preventable negative outcomes in individual and community lives, with a high cost for society and public sector services, resource intensive with lost opportunity costs. Christie[52] summarises the key challenges this poses and explains the links between inequality and outcomes in public services – young people in care & prison, deprivation and long-standing illness / disability, marginalised communities and failures in education, disability and employment etc.

He also states that, compared to estimates of budget projections, "there is no comparable, authoritative data for growth in demand or the costs of meeting it". There is some work on estimates on demand – Wanless, NESTA, Scottish Government Reshaping Care for Older People, and these show that, if services remain the same as currently configured, demand and spending will rise significantly – forecasts ranging from £1-3 billion by 2016. (25-75% of the current care budget).

The Christie Commission report gives a fairly damning reflection on the shortcomings of the current system – fragmentation and complexity, producer dominance, institution-focussed, outdated attitudes fostering dependencies that create demand, risk-averse, poor transparency and accountability, short-termism, with some examples that are actually quite helpful in seeing alternatives – eg "procurement is often taken forward on a scale that discriminates against smaller [local] providers and person-centre approaches".

It then takes the debate forward in terms of the potential future design and delivery of public services, their values and ethos. Christie presents many public services as

[51] Costing An Arm And A Leg: A plea for radical think to halt the slow decline and eventual collapse of the NHS. International Futures Forum 2010
[52] Christie Commission

social investments. The report details a number of success features and phrases these in terms of responsibilities and organisational cultures: openness, democratic accountability, means of control and authority. He makes the case for “far-reaching transformation”, and the report contains the key elements of reform and transformation, but these are phrased in bureaucratic terms that lack inspiration and do not show the true meaning of their intentions. It needs stories and connections to people’s real lives to show how different things should / could be: “stories of real people in real places making real change”.

On innovation – one strand of literature analyses the current healthcare system as focussing on quality improvement through a reductionist approach – reducing complex systems to their component parts and attention to the detail of processes, and an increasingly risk averse culture, with accountability that focuses on achieving objectives and targets rather than innovation. This strand is also now calling for a change in culture in the public sector including the NHS to encourage more radical innovation: these are based on principles of co-production and assets-based approaches[53].

Assets-based approaches run counter to a treatment, or deficit, approach where the response is to 'fix' what is wrong and where we often treat people as passive recipients of services (thereby creating a level of dependency). They actively seek to untap and mobilise the assets, strengths and potential of individuals and communities, and recognise that, when people are actively involved in processes which help themselves and others**,** that involvement is beneficial in itself (this links to the ‘sense of coherence’ theory). Comprehensive assets based approaches recognise the importance of both human capital - knowledge, skills, understanding, lived experience, time; and social capital - family, neighbourhood and other social support networks, trust, reciprocity. At present these approaches are seen as peripheral - 'nice to have' rather than 'need to have'. The critical issue for the future is seen to be adopting assets based approaches as part of the mainstream which requires a step change of organisational and professional culture.[54]

Assets based approaches include the overall philosophy or approach; co-production as a method; and capacity building - the process of development.

Co-production: people becoming co producers of solutions rather than passive recipients of actions others had determined would be good for them.
A very specific example might be the control of patients over end of life decisions – one of the routes to managing the ever-increasing demand for new and expensive drugs that give a short prolongation of life in life-limiting condition such as cancer, and where control sits in choices about palliative care etc....with current decision

[53] NESTA, New Economics Foundation
[54] with thanks to Fiona Garven, Scottish Community Development Centre SCDC

making heavily influenced by single issue lobbying groups - how to challenge the current hegemony to move to a more holistic approach to end of life decisions ....?

– see section on health above.

Assets-based approaches do not happen *without* initial intervention and investment because some people/communities are asset-poor and intervention is needed to build the individual self-value, social capital and community capacity that are the basic assets needed to enable this approach to work (assets-rich communities use the assets approach already - essentially this is an equalities issue).

They can be used in three main ways

- at **individual level**, for example, self management of a condition,
- at **group level,** for example, peer support for those experiencing the same, or similar, health or social issue
- at **community level** where people and groups are supported to organise around local issues and provide their own responses. Activity at this level seeks to prevent engagement in negative health and social behaviours thereby mitigating impact on public services.

There are a range of examples of successful assets-based approaches in a range of health and social care settings[55], including increasing evidence of the cost – benefits and impact on public sector spend[56]. Examples include the use of time-banking schemes[57], peer support schemes, self-management approaches[58], healthy living centres, Community Development Tusts, see also the CMO Scotland Annual Report 2009 and NESTA for other examples.

Futures thinking on the success characteristics of services going forward pick up a number of themes:

Resilience: A resilient systems is able to flex under challenge and "bounce back" – the opposite is a "brittle" system with fragilities. One piece of work[59] argues that running systems for growth and economic efficiency tend to make the system overall less reliant: the "resilience premium" which is the slack in the system needed to cope with uncertainty and challenge, is often taken as profit or inefficiency. Characteristics of a resilient system include the ability to change, re-organise and learn. "Resilience shifts attention from purely growth and efficiency to recovery and flexibility". The Health Protection Stocktake is also one of a number of pieces of literature that talk about mutuality and co-operation as themes for the future to develop resilience and to 're-invigorate'.

[55] Co-production: A Series of Commissioned Reports. Barker A. 2011 from the Christie Commission Report
[56] Co-production; where's the evidence? nef
[57] Knapp, Bauer, Perkins and Snell, 'Building community capacity: making an economic case', LSE, 2010
[58] Kings Fund; Long Term Conditions Alliance Scotland; DoH 2007 SelfCare Support: The Evidence Pack.
[59] Health Protection Stocktake draft report 2011

Personalisation: the importance of relationships both at the individual therapeutic level, and at the wider community / policy level. Christie says that "personal relationships are critical in driving outcomes, trust and satisfaction with services". Other evidence would suggest that network-type arrangements which build on relationships within and between organisations working across formal boundaries are productive and effective (e.g. ScotPHN, NoSPHN). More radical models such as the Alaska healthcare system see relationships as the core to their success – see later.

Leadership: Christie looks for organisational leaders who "understand .....outcomes, actively encourage a 'can-do' culture; a strengthened public service ethos of improving the lives of people and communities".

The importance of local places and place-making: The Improvement Service report on Making Better Places: Making Places Better analyses inequalities and suggests that successful targeting of negative outcomes, and failure demand, would require a very localised, integrated and holistic engagement with communities, a theme picked up by other authors including the Christie Commission.

The need for step-change: in some areas it is predicted that only a step-change will make any difference to our current track – for instance Christie claims this for community involvement / empowerment / control. He challenges whether the proposed Community Empowerment and Renewal Bill is comprehensive enough, and other authors present this as an area that needs to come from a 'bottom-up' approach – through innovative local area collaborations rather than through legislation. This links with local place-making.

SOME CHALLENGING THINKING:

So, how can we meet healthcare demand at lower cost, or lower demand to save cost, whilst healthcare industry innovation is working to make additional, 'better', more expensive, more specialist services which in turn increase demand and push up spending? An increasing volume of new theory and new practice exists that asks and answers a different question: how can we provide universal healthcare according to need, free at the point of delivery, meeting contemporary patterns of illness and other public expectations, as part of an integrated approach that sustains healthy, fulfilled lives at a fraction of the present cost?[60]

It starts with a requirement to open up more space within the system for those already successfully pursuing these new approaches. The Three Horizons framework, explained in previous sections, presents a process of system change over time that allows thinking in different terms: not about improving the existing system *or* replacing it with something better, but in terms of a transition strategy "Redesigning the Plane Whilst Flying It"[61].

The dominant system can maintain its dominance even in a changing and challenging environment, through squeezing out scope for new thinking and by co-opting innovation to support the old system – eg using all our energies on ever increasing efficiency measures to prolong the life of the current system. Or it can find elements in the present to give us encouragement and inspiration for the future (the Third Horizon), and accept the need both to address the challenges of the 1st Horizon and nurture future solutions. A focus on growing the Third Horizon whilst paying attention to what we need to retain from the first horizon into the future: eg giving decision makers sufficient evidence to bolster their decision making on prioritization, in the context of more radical definitions of health and wellbeing.

The model provides three mindsets and faces of innovation: within the first horizon: managerial –improving the performance of the current system, efficiency, maximising its potential. The second is entrepreneurial – seeing and grasping opportunities that the changing landscape offers, but usually used to perpetuate the current system. The third is visionary and aspirational, often a values-based position. Third horizon innovation is about opening up a strategic conversation on the changing world which allows us to re-examine our assumptions within and about the current system, and design innovations that work toward a future that is radically different.

If we accept that the current system has stood the test of time but is unsustainable, can we now support the culture change necessary to develop the 3rd Horizon – a new strategic direction, the opportunity to transform? Interestingly, much of the

[60] International Futures Forum: Costing an Arm and a Leg
[61] IFF working with NHS North West England

futures thinking described earlier about criteria for success open up the environment necessary for this Third Horizon:

- Rather than assuming that disease needs to be fought at all costs, recognise that health and illness should be seen as part of a bigger process where achieving optimal function and wellbeing may be more important than having a definitive diagnosis or prolonging life at any cost – links to new definitions of health and wellbeing.
- Think of the journey to better health and recovery as making sense of our lives in the present of disease or discomfort, discovering and building on people's innate capacities – this links to the recovery model and re-ablement.
- Rediscover the importance of relationships and the spiritual / cultural components of health - the elements of the therapeutic relationship on an individual and community level: practitioners responding with technical skills backed up by evidence-based practice, at the same time as evoking self healing and building self reliance and resilience. This links also to the capacity and resilience of staff themselves to thrive in a very challenging environment.
- A willingness to take on different world views – a shift in relationships between professionals and patients, and between services and communities; new qualities in leadership that support transformative innovation and value difference in mindsets; a letting go of some of the less productive elements of the current system .....

Horizon Scanning gives us some concrete examples of transformational success, that start to build an alternative future..... some detailed above in the section on assets-based approaches and co-production, others published as stories in themselves: the Alaskan story - a publicly funded healthcare service for Alaskan Natives run by the South Central Foundation, which has undergone a complete system redesign with impressive results in tackling the challenging health problems facing the local community. Based on putting family wellness and a shared responsibility for health at the centre of their organisation.

We were asked to do a piece of work on horizon scanning to look at future trend and development, to focus on 'how the future will be different' – to help us set priorities for planning. In presenting the evidence, we have concluded that it is dominated by some key areas of scientific progress – genetics, pharmaceuticals, immunology, specialist surgical interventions such as cardiac, but actually is pretty thin in many areas other than global issues, and in most part it only presents 'more of the same' increasingly expensive technological advances for increasingly less health gain of reducing cost-effectiveness and marginal improvement in health. Except a tempting public health analysis which is emerging in health services policy thinking, that challenges us to a new mind-set which is cultural / social / spiritual as much as (and sitting alongside) the technological. Much of the horizon scanning literature emerges from historical analyses that recognize and understand historical lessons and current

problems, and the most inspiring offers opportunities for a positive, more robust, resilient and sustainable future. Dr Sarah Taylor, Director of Public Health, NHS Shetland