PUTTING IT ALL TOGETHER:
Combining KEEP WELL and ASSIGN in sustainable anticipatory care

1. Fragmentation
2. Julian Tudor Hart
3. ASSIGN
4. GPs at the Deep End
5. Putting it all together
FRAGMENTATION
FRAGMENTATION

Dysfunctional consultations

Discontinuity

Poor coordination

Gaps in coverage
The Keep well journey
A model of anticipatory care in practice

The Keep well vision is:
- to increase the rate of health improvement in deprived communities by enhancing primary care services to deliver anticipatory care.

Keep well will do this by:
- identifying and targeting those at particular risk of preventable serious ill-health (including those with undetected chronic disease)
- offering appropriate interventions and services to them
- providing monitoring and follow-up.

IN DEPRIVED AREAS
GENERAL PRACTICE SHOULD BE THE HUB
Health practitioners need to ask not only “What do I do?” but also “What am I part of?”

Don Berwick
Head of US Medicare and Medicaid
A CHALLENGE TO THE IMAGINATION
QUESTION

WHY DO YOU ROB BANKS?

ANSWER

BECAUSE THAT’S WHERE THE MONEY IS

WILLIE SUTTON
I’VE JUST INVENTED A MACHINE THAT DOES THE WORK OF TWO MEN.

UNFORTUNATELY, IT TAKES THREE MEN TO WORK IT

SPIKE MILLIGAN
QUESTION
Have you anything to say to young people?

ANSWER
I have nothing to say to young people. I would listen to what they have to say. No one is listening to them. That is the problem

MARILYN MANSON
DEVELOPMENT

Building on Julian Tudor Hart’s example of anticipatory care

Graham Watt1, Catherine O’Donnell2 and Sanjeev Sridharan3,4
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3Director, Evaluation, The Centre for Research in Inner City Health, The Keenan Research Centre, Li Ka Shing Knowledge Institute, St Michael’s Hospital, Toronto, Ontario, Canada
4Associate Professor, Health Policy, Management and Evaluation, University of Toronto, Toronto, Ontario, Canada

The prevention and delay of chronic disease is an increasing priority in all advanced healthcare systems, but sustainable, effective and equitable approaches remain elusive. In a famous pioneering example in the UK, Julian Tudor Hart combined reactive and anticipatory care within routine consultations in primary medical care, while applying a population approach to delivery and audit. This approach combined the structural advantages of UK general practice, including universal coverage and the absence of user fees, with his long-term commitment to individual patients, and was associated with a 28% reduction in premature mortality over a 25-year period. The more recent, and comprehensively evaluated Scottish National Health Service demonstration project, ‘Here a Heart, There a Paisley’, took a different approach to cardiovascular prevention and health improvement, using population screening for ascertainment, health coaches and referral to specific health improvement programmes for diet, smoking and exercise. We draw from both examples to construct a conceptual framework for anticipatory care, based on active ingredients, programme pathways and whole system approaches. While the strengths of a family practice approach are coverage, continuity, coordination and long-term relationships, the larger health improvement programme offered additional resources and expertise. As theory and evidence accrue, the challenge is to combine the strengths of primary medical care and health improvement, in integrated, sustainable systems of anticipatory care, addressing the heterogeneity of individual needs and solutions, while achieving high levels of coverage, continuity, co-ordination and outcome.

Key words: anticipatory care, family medicine, primary care

Introduction
The prevention and delay of chronic disease is an increasing priority in all health care systems. The challenge is complicated by increasing morbidity, widening inequality and spiralling costs (World Health Organization, 2008). As Stange (2009) cogently argues, part of the problem in addressing these challenges is the increasing fragmentation of care, with a lack of integration between specialists and generalists, and between preventive activity and reactive activity, with increasing depersonalization of care, regardless of the health system. In developed societies with organized health services dedicated to improving population health, a major task is to complement reactive care, responding to health problems after they have occurred, with an anticipatory approach concerned with the prevention of future problems (Scottish Executive, 2005;
THE SIGNIFICANCE OF JULIAN TUDOR HART’S EXAMPLE
- INTEGRATING AT FOUR LEVELS

1. Integration at the level of the patient
   (unconditional acceptance of all problems)

2. Coordination of available resources
   (mostly within the practice)

3. Integration over time
   (long term relationships)

4. Including everyone
   (using epidemiology)
IDENTIFYING PEOPLE AT HIGH RISK OF A CVD EVENT OVER A TEN YEAR PERIOD
BACKGROUND

Framingham-based CVD risk scores systematically exaggerate risks, because the rates are based on CVD rates in the US which are now out of date.

Framingham (JBS 2) makes no allowance for deprivation, and only a crude adjustment for family history.

Current guidelines recommend lowering the threshold for preventive intervention from a ten year event risk of 30% to 20%.
• Based on Scottish Heart Health Study (1986/87), with enhanced sampling from deprived areas (Glasgow MONICA)

• Adds deprivation and family history as CVD risk factors

• Deprivation is based on the Scottish Index of Multiple Deprivation (SIMD) applied at postcode data zone level

• Recommended in NHS Scotland
The SCOTTISH HEART HEALTH EXTENDED COHORT

• 13,037 men and women

• 30-74 years

• 22 local government districts in Scotland, augmented by Glasgow MONICA

• Based on 72% response rate

• Predicting cardiovascular events in the next 10 years
QUESTION

WHAT IS THE IMPACT OF ASSIGN?

ANSWER

25 general practices

From the 78 most deprived practices in Scotland

Participating in phases 1 and 2 of Keep Well in Glasgow

5962 women and 4841 men aged 45-64

63% of those invited

Using health check data to calculate CVD risk scores using ASSIGN

Gary Mclean
Kate O’Donnell
Anne Scoular
Graham Watt
<table>
<thead>
<tr>
<th>SIMD centiles</th>
<th>Men</th>
<th>Women</th>
<th>Total (%) population</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;85th</td>
<td>1318</td>
<td>1481</td>
<td>2799 (26%)</td>
</tr>
<tr>
<td>86-90th</td>
<td>618</td>
<td>816</td>
<td>1434 (13%)</td>
</tr>
<tr>
<td>91-95th</td>
<td>908</td>
<td>1233</td>
<td>2141 (20%)</td>
</tr>
<tr>
<td>96-100th</td>
<td>1997</td>
<td>2432</td>
<td>4429 (41%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>4841</td>
<td>5962</td>
<td>10803 (100%)</td>
</tr>
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</table>
**EFFECT ONE**

ASSIGN identifies fewer people at high CVD risk than JBS2

**NUMBERS WITH > 30% TEN YEAR RISK OF CVD EVENT**

<table>
<thead>
<tr>
<th>Age</th>
<th>% of men at high risk</th>
<th>% of women at high risk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>JBS2</td>
<td>ASSIGN</td>
</tr>
<tr>
<td>45-49</td>
<td>3.4</td>
<td>1.8</td>
</tr>
<tr>
<td>50-54</td>
<td>8.5</td>
<td>4.8</td>
</tr>
<tr>
<td>55-59</td>
<td>13.4</td>
<td>10.2</td>
</tr>
<tr>
<td>60-64</td>
<td>16.2</td>
<td>14.8</td>
</tr>
</tbody>
</table>
**EFFECT TWO**

ASSIGN identifies more people at high CVD risk in deprived areas and fewer people in affluent areas than JBS2

**NUMBERS WITH > 30% TEN YEAR RISK OF CVD EVENT**

<table>
<thead>
<tr>
<th>SIMD centiles</th>
<th>% of men at high risk</th>
<th>% of women at high risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;85&lt;sup&gt;th&lt;/sup&gt;</td>
<td>7.4</td>
<td>1.9</td>
</tr>
<tr>
<td>86-90&lt;sup&gt;th&lt;/sup&gt;</td>
<td>8.4</td>
<td>3.3</td>
</tr>
<tr>
<td>91-95&lt;sup&gt;th&lt;/sup&gt;</td>
<td>9.8</td>
<td>5.3</td>
</tr>
<tr>
<td>96-100&lt;sup&gt;th&lt;/sup&gt;</td>
<td>10.4</td>
<td>8.4</td>
</tr>
</tbody>
</table>
EFFECT THREE

Lowering the threshold from 30% to 20% triples the number at high CVD risk

NUMBERS WITH >30% AND >20% TEN YEAR CVD RISK USING ASSIGN

<table>
<thead>
<tr>
<th>SIMD centiles</th>
<th>% of men at high risk</th>
<th>% of women at high risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;85th</td>
<td>&gt;30% 1.9  &gt;20% 11.9</td>
<td>&gt;30% 1.5  &gt;20% 5.8</td>
</tr>
<tr>
<td>86-90th</td>
<td>3.3 17.0</td>
<td>5.7 11.3</td>
</tr>
<tr>
<td>91-95th</td>
<td>5.3 22.0</td>
<td>7.2 15.7</td>
</tr>
<tr>
<td>96-100th</td>
<td>8.4 31.9</td>
<td>11.8 23.8</td>
</tr>
</tbody>
</table>
## COMBINED EFFECT

**OF USING ASSIGN INSTEAD OF JBS 2**

**AT 30% AND 20% THRESHOLDS**

**IN AFFLUENT AND DEPRIVED GROUPS**

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>at high</td>
<td>at high</td>
</tr>
<tr>
<td>CVD risk</td>
<td>Affluent</td>
<td>Deprived</td>
</tr>
<tr>
<td></td>
<td>&lt;85(^{th})</td>
<td>96-100</td>
</tr>
<tr>
<td><strong>JBS 2 at 30% threshold</strong></td>
<td>98</td>
<td>207</td>
</tr>
<tr>
<td><strong>JBS 2 at 20% threshold</strong></td>
<td>371</td>
<td>686</td>
</tr>
<tr>
<td><strong>ASSIGN at 20% threshold</strong></td>
<td>157</td>
<td>637</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Affluent</th>
<th>Deprived</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;85</td>
<td>96-100</td>
</tr>
<tr>
<td><strong>JBS 2 at 30% threshold</strong></td>
<td>77</td>
<td>160</td>
</tr>
<tr>
<td><strong>JBS 2 at 20% threshold</strong></td>
<td>304</td>
<td>667</td>
</tr>
<tr>
<td><strong>ASSIGN at 20% threshold</strong></td>
<td>86</td>
<td>579</td>
</tr>
</tbody>
</table>
CVD HIGH RISK PROFILES USING ASSIGN 20

- 70% of men and women have serum cholesterol over 5 mmol/l
- 68% of men and 79% of women are cigarette smokers

ASSIGN 20 MEANS MORE HIGH RISK PATIENTS
BUT THEIR RISK PROFILES ARE CONVENTIONAL
THE MAIN EFFECTS OF USING ASSIGN INSTEAD OF JBS2

ONE

By using contemporary Scottish data for event rates in affluent areas, ASSIGN substantially reduces the effect of lowering thresholds in affluent areas.

TWO

In 25 deprived practices in Glasgow, using ASSIGN at the 20% threshold identifies

2.46 times the number of high CVD risk men (from 446 to 1099)

2.61 times the number of high CVD risk women (from 364 to 951),

compared with using JBS2 at the 30% threshold.
If you only talk about the inverse care law
without addressing the causes of the inverse care law
you should expect to be stuck
with the inverse care law
scotland’s health is improving rapidly but it is not improving fast enough for the poorest sections of our society. Health inequalities ... remain our major challenge.

The Keep well journey
A model of anticipatory care in practice

The Keep well vision is:
to increase the rate of health improvement in deprived communities by enhancing primary care services to deliver anticipatory care.

Keep well will do this by:
• identifying and targeting those at particular risk of preventable serious ill-health (including those with undetected chronic disease)
• offering appropriate interventions and services to them
• providing monitoring and follow-up.

Keep well target population identified

Individuals invited by their GP practice to attend a Keep well health check

Health check completed including risk assessment of heart disease

Reducing risk and improving health

Reduction in ill-health
Increase in health improvement
Reduction in health inequalities

www.keepwellscotland.com
KEEP WELL SO FAR

65,000 participants
70% response rate
40 minute health check
Referral to GP and/or health improvement

198 general practice populations
Targeting 15% most deprived postcodes
37 practices from most deprived 100 (Phases 1+2)
161 practices from outside top 100
GPs at the Deep End
GENERAL PRACTITIONERS AT THE DEEP END
MORE GPS REQUIRED IN DEPRIVED AREAS

There needs to be a shift in GPs from affluent areas to more deprived areas where they are most needed, according to the Scottish Parliament's Health and Sport Committee.

Publishing its response to the Scottish Government's publication *Equally Well*, the committee calls on the Scottish Government to take a robust stance in its negotiations with the British Medical Association over the terms of the next GP contract. According to the committee's Health Inequalities Inquiry, the current funding allocation formula for GP practices needs to be revised if deep-rooted health inequalities are to be addressed.

**Grahame calls for more GPs in deprived areas**

**KATRINE BUSSEY**

The Scottish Government was yesterday urged to act in a bid to ensure there are more doctors in the country's poorer communities.

Members of Holyrood's health and sport committee said GPs working in deprived areas suffered a financial disadvantage under the current funding system.

And they warned that unless changes were made "progress in tackling the consequences and root causes of health inequalities will be much slower and more fragmentary than it ought to be".

The committee called on the government to take a "strong line" on the issue when negotiating the terms of the next GP contract.

Convener Christine Grahame said: "We know that health problems for the most-deprived people in Scotland are around three times those encountered by those living in affluent areas. Yet there is a flat distribution of GPs across Scotland. That cannot be right."

Ms Grahame spoke as the committee published its response to a government report on reducing health inequalities.

When that was unveiled in June, Public Health Minister Shona Robison said a redesign of services aimed at improving the situation would be backed with fresh funding of £15m - although £17.5m is to be spent in total on tackling the problem over the next three years.

Members of the health committee carried out a short inquiry into health inequalities as they considered the government's action plan.

The committee argued the current minimum income guarantee for GP practices militated against funding additional doctors in deprived areas.

MSPs noted that the Scottish Government wants to revise the contract with a view to this guarantee eventually being taken away.

And they called on ministers to "take a robust stance in its negotiations on this matter".

Ms Grahame said: "We need to make sure that GP practices in our most-deprived areas have the resources to enable GPs and nurses to address the often complex health problems faced by the people.

"The way that the funding formula currently works means that GPs working in deprived areas are financially disadvantaged compared to their colleagues working in more affluent areas. That is unfair both to the people working in the GP practices and the patients they serve."

"Clearly, it's also a disincentive to GPs working in deprived areas."

A Scottish Government spokesman said changes to the current GP contract will reduce the extent to which the Minimum Price Income Guarantee mechanism prevents surgeries in the most disadvantaged communities from receiving a larger share of resources.

"It has also been agreed that the current prevalence adjustment contained in the quality and outcomes framework will be amended so that payments to GP practices will reflect the relative incidence of long-term conditions in local communities," he added.
WHERE ARE THE MOST DEPRIVED POPULATIONS?

The problem of concentration (BLANKET DEPRIVATION)
50% are registered with the 100 “most deprived” practice populations
(from 50-90% of patients in the most deprived 15% of postcodes)

The problem of dilution (POCKET DEPRIVATION)
50% are registered with 700 other practices in Scotland
(less than 50% in the most deprived 15% of postcodes)

The problem of non-involvement (HIDDEN DEPRIVATION)
200 practices have no patients in the most deprived 15% of postcodes
FEEDBACK FROM DEEP END PRACTICES

- 55-64 in deprived areas is “elderly”; health checks need to start earlier
- A focus on primary prevention is too narrow
- In practices serving areas of concentrated deprivation (>50%), it is pragmatic to consider the practice population as a whole
- Screening needs to be complemented by case finding (avoiding the law of diminishing returns)
- The health check approach is simplistic and flawed, in relation to the needs of patients with complex needs.
- The keys to sustainable anticipatory care are contact, coverage, continuity, flexibility, coordination, long term relationships and trust
PROBLEMS OF GENERAL PRACTICE IN DEPRIVED AREAS

Multiple morbidity and social complexity

Shortage of time

Reduced expectations

Health literacy

Practitioner stress

Weak interfaces
Measuring Integration

• **Human Services Integration Measure**
  Browne et al, International J Integrated Care, 4, 2004

  Depth of integration for each sector

  0 = no awareness
  1 = awareness
  2 = communication (share information)
  3 = coordination or cooperation (modify to avoid duplication)
  4 = collaboration (jointly plan services)

  Completed following focus groups by representatives of each sector involved
Perceived integration: Care of the Elderly

Perceived integration

- Collaboration
- Cooperation
- Communication
- Awareness
- Unawareness

Sherbrooke
Granit
Coaticook
SOLUTIONS TO THE INVERSE CARE LAW

Extra time in consultations

Improved access to external resources

In house referral – attached workers

Better collaboration between services

Time for leadership and coordination, to invest in primary care as a whole system
“Better targeting of resources to allow fuller integration of the active ingredients of Keep Well within general practices serving areas of concentrated deprivation could be an effective step in addressing the inverse care law in Scotland.

In areas of concentrated deprivation, the active ingredients of Keep Well (including ascertainment, involvement of attached workers, and follow up) need to be integrated more fully within general practice, on the basis of genuine collaboration and partnership.

Better integration will lead to better outcomes.”

Building on Julian Tudor Hart’s example of anticipatory care

Watt, O’Donnell and Sridharan
Primary Health Care Research & Development, 2010
“Whether such collaboration and integration are achieved depends on many factors but crucially on the quality of relationships that are developed over time, not only between patients and professionals, but also between professionals working together in the service of a local population.

The challenge for everyone is to imagine, review, support and reward the sum of such efforts over long periods of time.

Anticipatory care in these terms is the proving ground for health care in the 21st century.”

Building on Julian Tudor Hart’s example of anticipatory care
Watt, O’Donnell and Sridharan
Primary Health Care Research & Development, 2010
KEEP WELL
+
DEEP END
=
THE DEEP WELL PROJECT?