Healthcare system performance improvement: A comparison of key policies in seven high-income countries
Robin Gauld Jako Burgers Mark Dobrow Rubin Minhas Claus Wendt Alan B. Cohen Karen Luxford

Article information:
To cite this document:
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http://dx.doi.org/10.1108/JHOM-03-2013-0057

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Abstract

Purpose – Evidence suggests that healthcare system performance may be improved with policy emphasis on primary care, quality improvement, and information technology. The authors therefore sought to investigate the extent to which policy makers in seven countries are emphasizing these areas.

Design/methodology/approach – Policies in these three areas in seven high-income countries were compared. A comparative descriptive approach was taken in which each of the country-specialist authors supplied information on key policies and developments pertaining to primary care, quality improvement and information technology, supplemented with routine data.

Findings – Each of the seven countries faces similar challenges with healthcare system performance, yet differs in emphasis on the three key policy areas; efforts in each are, at best, patchy. The authors conclude that there is substantial scope for policy makers to further emphasize primary care, quality improvement and information technology if aiming for high-performing healthcare systems.

Originality/value – This is the first study to investigate policy makers’ commitment to key areas known to improve health system performance. The comparative method illustrates the different emphases that countries have placed on primary care, quality improvement and information technology development.

Keywords Quality, Primary care, Information technology

Paper type Research paper
Introduction
Improving healthcare system performance is at the forefront of the policy agenda of
governments, healthcare funders and providers across the high-income world. The
reasons for this have been widely documented, including rising healthcare costs,
questions about service coordination and patient experience, the significant incidence
of patient harm occurring from errors in treatment processes or inadequate standards
of care, the promise of better systems with application of information technology and,
more recently, the deepest economic crisis since the 1930s. Coupled with this have been
demographic changes and population ageing, and an increasing burden of chronic
disease.

Broadly speaking, the question of how to improve healthcare system performance
leads to multiple possibilities. Strategies can be aimed at different levels and
components of a healthcare system such as how the system is regulated and financed,
and how services are organized and provided (Evans et al., 2001; Rothgang et al., 2010).
In recent years, most high-income countries have enacted various reforms across these
system dimensions (Gauld, 2009). Reforms have often been radical, embarked upon in
the absence of robust evidence about whether they are likely to achieve stated goals,
and have failed to achieve expected system performance improvements. The need to
make decisions in a timely manner has meant that the research agenda is not always
positioned to provide ready answers to the pressing need for change (Lin and Gibson,
2003; Innvaer et al., 2002). As such, policy makers are increasingly looking to the
experience of other countries for pragmatic guidance on the decisions they face.

There is now considerable evidence showing that healthcare system improvements
are possible if efforts are focused on specific areas. First, it is argued that policy makers
should increasingly emphasize the role of primary care within the health system
(Starfield et al., 2005; World Health Organization, 2008). Providing a first point of
contact within the healthcare system allows the range of health care services a patient
is likely to need to be coordinated by a primary care based practitioner. According to
Starfield and colleagues, as well as others, barriers to access should be minimized, and
primary care providers should have the capacity to plan for a population through, for
instance, formal enrollment, so that preventive care strategies can be implemented
(Starfield et al., 2005; Rosano et al., 2013; Haggerty et al., 2013). Second, there is growing
evidence that some focused quality improvement efforts can provide dividends, both in
terms of improved patient safety but also in cost savings through reduced medical
errors, decreased hospital re-admissions and more effective and efficient care processes
(Ovretveit, 2009; Institute of Medicine, 2001; James and Savitz, 2011). Initiatives range
from public reporting systems and production of performance report cards that
measure provider performance against various indicators, through to process redesign
with application of various methods to standardize clinical work processes and
facilitate improved patient flows (Bohmer, 2009; Ovretveit et al., 2012). Third, studies
point to potential benefits from investments in information technology such as
computerized physician order entry systems, shared electronic health records and
systems for electronic prescribing and referred services (Chaudry et al., 2006; Garg
et al., 2005; Institute of Medicine, 2012). The evidence of benefit is mixed but these tools
have been associated with safer care systems, improved patient services and
standardization of practices (Westbrook et al., 2012; Ford et al., 2011).
Several studies and projects seek to compare the performance of different healthcare systems. Some aim at ranking nations’ systems of care. Perhaps with one of the higher profiles in this tradition is the work of the WHO as demonstrated in its 2000 report on health systems (World Health Organization, 2000). The OECD annually collates a member country health dataset that is widely used for comparison and ranking purposes (Organisation for Economic Co-operation and Development, 2012); it also puts together various descriptive reports (Organisation for Economic Co-operation and Development, 2010, Hofmarcher et al., 2007). The Commonwealth Fund conducts an annual survey that provides insights into healthcare system performance through patient and provider surveys, and compares a series of developed country healthcare systems with one another based on a selection of indicators (Schoen et al., 2009a, b, 2012). Comparison is also the aim of the European Observatory on Health Systems, which produces a range of descriptive country material. This work seeks to illustrate how different countries work to improve healthcare delivery, how they respond to specific challenges and what lessons can be drawn from comparisons (Saltman et al., 2006, 2007; Thomson et al., 2009). This article follows the tradition of the European Observatory work and that of others in that its aim through comparison is not to rank or report on indicators, but to describe policy initiatives in a series of countries in order to better understand how their governments are acting to improve healthcare system performance (Marmor and Wendt, 2011; Marmor et al., 2009). But the article is also underpinned by the assumption that emphasis on specific areas by policy makers can have an impact on improving health system performance; in other words, that policy does matter.

In line with the above, this article looks at how seven high-income countries are responding to evidence which emphasizes that primary care, quality improvement, and information technology are likely to improve healthcare system performance. The countries are something of a convenience sample in that each of the authors of this article formed part of a working group that agreed it would be useful to compare the responses of their respective health systems to the three performance improvement areas. The countries do, however, represent a broad spectrum and include two from Australasia (Australia and New Zealand), three from the European Union (England, Germany and The Netherlands) and two from North America (Canada and the USA) that frequently feature in comparative studies.

The material presented in the article is a mix of routine data, such as that collected by the OECD and Commonwealth Fund annual surveys, and information gathered by respective authors. With regard to the latter, each of the authors provided country-specific expertise on core policy developments in the three areas of interest. This essentially involved drawing on their expert knowledge of developments in their country, including the extent to which the policy area was seen as a core focus of government healthcare policy. The focus for routine data collection was on available indicators for activities and performances in the three policy areas as presented in Tables I and II. Thus, we selectively drew and collated data from the different sources. For policy developments, the authors collectively agreed to focus primarily on national policy initiatives as listed in Table III. While some material on country developments may be accessible elsewhere, it is largely reported by individual country (Thomson et al., 2011; Busse and Riesberg, 2004; Schafer et al., 2010; Healy et al., 2006). In contrast, this article’s key contribution is in presenting descriptive policy information
<table>
<thead>
<tr>
<th></th>
<th>Australasia Australia</th>
<th>New Zealand</th>
<th>England</th>
<th>Europe Germany</th>
<th>The Netherlands</th>
<th>North America Canada</th>
<th>USA</th>
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<tbody>
<tr>
<td>Population (million)</td>
<td>21.7</td>
<td>4.3</td>
<td>52.0</td>
<td>81.4</td>
<td>16.8</td>
<td>34.0</td>
<td>313.0</td>
</tr>
<tr>
<td>Percentage of population aged &gt;65 years</td>
<td>14</td>
<td>13.3</td>
<td>16.6</td>
<td>20.6</td>
<td>15.6</td>
<td>15.9</td>
<td>13.1</td>
</tr>
<tr>
<td>GDP/capita ($US PPP)</td>
<td>41,000</td>
<td>27,700</td>
<td>34,800</td>
<td>35,700</td>
<td>40,300</td>
<td>39,400</td>
<td>47,200</td>
</tr>
<tr>
<td>Live births per woman</td>
<td>1.78</td>
<td>2.08</td>
<td>1.91</td>
<td>1.41</td>
<td>1.66</td>
<td>1.58</td>
<td>2.06</td>
</tr>
<tr>
<td>Infant mortality rate per 1,000 live births</td>
<td>4.3</td>
<td>4.7</td>
<td>4.6</td>
<td>3.5</td>
<td>3.8</td>
<td>5.1</td>
<td>6.5</td>
</tr>
<tr>
<td>Life expectancy</td>
<td>81.6</td>
<td>80.8</td>
<td>80.4</td>
<td>80.3</td>
<td>80.6</td>
<td>80.7</td>
<td>78.1</td>
</tr>
<tr>
<td>Health expenditure as percentage of GDP</td>
<td>9.1</td>
<td>10.1</td>
<td>9.6</td>
<td>11.6</td>
<td>12.0</td>
<td>11.2</td>
<td>17.6</td>
</tr>
<tr>
<td>Total health spending per capita ($US PPP)</td>
<td>3,670</td>
<td>3,022</td>
<td>3,433</td>
<td>4,338</td>
<td>5,056</td>
<td>4,445</td>
<td>8,233</td>
</tr>
<tr>
<td>Public portion of health expenditure (percent)</td>
<td>68.5</td>
<td>83.2</td>
<td>83.2</td>
<td>76.8</td>
<td>85.7</td>
<td>71.1</td>
<td>482</td>
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(continued)
### Table 1

<table>
<thead>
<tr>
<th>Australasia</th>
<th>Healthcare system characteristics</th>
<th>Europe</th>
<th>North America</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Universal healthcare with access guaranteed through Medicare scheme – financed through income tax levy.</td>
<td>England</td>
<td>The Netherlands</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Primary care privately provided with government subsidies. Around 30 percent have supplementary private insurance</td>
<td>Germany</td>
<td>Canada</td>
</tr>
<tr>
<td></td>
<td>Mixed public and private sector service provision. Primary care and specialists outside public hospital setting are private practitioners</td>
<td></td>
<td>USA</td>
</tr>
</tbody>
</table>

Sources: Central Intelligence Agency (2012), Organisation for Economic Co-operation and Development (2012), and authors' analyses.
<table>
<thead>
<tr>
<th>Primary Care</th>
<th>Australia</th>
<th>NZ</th>
<th>England</th>
<th>Germany</th>
<th>The Netherlands</th>
<th>Canada</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gatekeeping/formal enrollment</td>
<td>Yes/no</td>
<td>Yes/yes</td>
<td>Yes/yes</td>
<td>No/no</td>
<td>Yes/yes</td>
<td>Yes/no</td>
<td>No/no</td>
</tr>
<tr>
<td>Percentage in sole practice (Schoen et al., 2009a)</td>
<td>11</td>
<td>16</td>
<td>12</td>
<td>50</td>
<td>56</td>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>Universal access</td>
<td>Yes</td>
<td>Yes/100</td>
<td>Yes</td>
<td>Yes/100</td>
<td>Yes</td>
<td>Yes/100</td>
<td>No</td>
</tr>
<tr>
<td>Government subsidy/percentage patients covered</td>
<td>Yes</td>
<td>Yes/100</td>
<td>Yes</td>
<td>Yes/100</td>
<td>Yes</td>
<td>Yes/100</td>
<td>No</td>
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<tr>
<td>Government pays premiums of children up to age 18/almost 100</td>
<td>No</td>
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<tr>
<td>Approximately 29 percent have some government-subsidized coverage</td>
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<tr>
<td>Patient co-payments/percentage total cost per visit</td>
<td>Yes/typically between 0 and 25 percent co-payment. Safety net for high service users. Prescription drug subsidies</td>
<td>Yes/up to 50 percent depending on patient subsidy, which is higher for high service users and targeted groups; prescription drug subsidies</td>
<td>Fixed co-payment for prescription drugs but 88 percent of the population is exempt. Fee may apply for some hospital services deemed non-essential</td>
<td>Yes/10€ per quarter of the year for first visit; €10 for any other visit if not transferred by the first doctor; 10 percent for prescription medicine, with a minimum of €5 (or the full price if the costs are 5€ or less) and a maximum of €10; children below 12 are exempted</td>
<td>Yes/no co-payments for GP visits; for drugs and other costs maximum of approximately €165 annually</td>
<td>Co-payments are not permitted for covered services, but are often introduced in other ways (e.g. annual service fees; institutional charges)</td>
<td></td>
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<tr>
<td>Prescription drug subsidies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Healthcare system performance</td>
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Table II. Primary care, information technology and quality issues in comparison
<table>
<thead>
<tr>
<th>Primary Care</th>
<th>Australia</th>
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<th>Germany</th>
<th>The Netherlands</th>
<th>Canada</th>
<th>USA</th>
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</thead>
<tbody>
<tr>
<td>Remuneration of doctors</td>
<td>Capitation + FFS + some PI</td>
<td>Capitation + FFS + PI</td>
<td>Capitation + FFS + deprivation weighting + PI</td>
<td>Capitation + FFS + Cost per case/lump sum payments</td>
<td>Capitation + FFS</td>
<td>Varied arrangements including FFS, salary + PI</td>
<td>Mainly FFS, some salary, some mixed FFS and capitation, with increasing emphasis on pay-for-performance</td>
</tr>
<tr>
<td>Fee for service (FFS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Performance incentives (PI)</td>
<td></td>
<td></td>
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**Information technology**
- Percentage using electronic health record in primary care/hospital settings (Jha et al., 2008; Schoen et al., 2012)
- Percentage primary care doctors with “multifunctional” EHRs (Schoen et al., 2012)

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<tr>
<td>92/10</td>
<td>97/10</td>
<td>97/8</td>
<td>82/5</td>
<td>98/5</td>
<td>56/10</td>
<td>69/N/A</td>
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<tr>
<td>60</td>
<td>59</td>
<td>68</td>
<td>7</td>
<td>33</td>
<td>10</td>
<td>27</td>
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**Quality**
- Adverse events percentage of admissions (Landrigan et al., 2010; Wilson et al., 1995; Vincent et al., 2001; Davis et al., 2002)

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<tr>
<td>16.6</td>
<td>12.9</td>
<td>11.7</td>
<td>N/A</td>
<td>N/A</td>
<td>7.5</td>
<td>3.7-10.0</td>
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<tr>
<th>Primary Care</th>
<th>Australia</th>
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<th>Germany</th>
<th>The Netherlands</th>
<th>Canada</th>
<th>USA</th>
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<tbody>
<tr>
<td>Commonwealth Fund “Quality Care” ranking (Davis et al., 2010)</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Commonwealth Fund “Safe Care” ranking (Davis et al., 2010)</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Readmitted to hospital or visited ER during recovery from hospitalization (percentage of chronic care patients) (Schoen et al., 2009b)</td>
<td>11</td>
<td>11</td>
<td>10</td>
<td>9</td>
<td>17</td>
<td>17</td>
<td>18</td>
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**Sources:** As cited plus authors’ analyses
### Primary care, quality and information technology policies in comparison

<table>
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<tr>
<th>Australia</th>
<th>New Zealand</th>
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<th>Germany</th>
<th>The Netherlands</th>
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<tbody>
<tr>
<td><strong>Primary care</strong></td>
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<tr>
<td>Divisions of General Practice established in early 1990s to promote GPs working together. Incentives introduced promoting best practice, new workforce models, health plans, and multidisciplinary care planning. Recent health reforms have introduced a national network of Primary Health Care Organizations – Medicare Locals – to integrate services and improve 24/7 access. New National Primary Healthcare Strategy and the National Preventative Health Strategy developed.</td>
<td>Private GPs have been organized into regional associations since the early 1990s promoting ICT use, clinical guidelines and clinical governance. Several Maori and other community health groups have long worked with local populations, with capitation funding and no/low patient charges. Considerable new government funding injected into primary care since 2002, creating Primary Health Organizations, of which 98 percent of New Zealanders are enrolled with. These groups receive additional government money for chronic disease management, improving patient access, and health promotion. In 2009, the government commenced creation of Integrated Family Health Centers, offering family medicine, 24/7 care, and day surgery.</td>
<td>Care is organized by three tiers of government from national, intermediate (Strategic Health Authority) and local (Primary Care Trusts, GPs and hospitals). Recent policy change to introduce GP-led commissioning with GPs holding £2bn of the £10bn healthcare budget. This policy is designed to decentralize healthcare and encourage more clinically led decision making. “Any willing provider” will be allowed to enter into primary care provision. In secondary care the policy intention being consulted upon is to allow greater physician leadership/ownership of hospitals. Private doctors are compulsory members of the associations of panel doctors, which have the status of public corporations. Their task is to guarantee health service provision and to control suitability and economic efficiency of medical outpatient services. Since 2003, the admission of physicians for the outpatient sector has been regulated by legally defined ratios for different groups of doctors; and for the first time, the percentage of GPs and specialists has been defined at a ratio of 60 to 40. GPs are not gatekeepers in Germany, although their coordinating competencies have been strengthened in recent years. Since 2004, sickness funds have been obliged to offer the option to enrol in a “family physician care model”, with a bonus for complying with the gatekeeping rules. Private GPs are organized in small local groups and in regional collaboratives for providing 24-hour care. These collaboratives also coordinate disease management for diabetes, COPD, heart failure and cardiovascular risk management, which is paid for through additional contracts with healthcare insurers. Prices for regular visits are set by government. Competition is stimulated on additional services. A number of national primary care policy initiatives have been established over the last decade. However, with provincial jurisdictional responsibility for health care, primary care reforms are not coordinated nationally. Key policy foci include establishing infrastructure and capacity to support electronic health records, develop multidisciplinary teams and address implications for payment models. However, approaches and progress on each of these foci is highly variable by province.</td>
<td>Private GPs are compulsory members of the associations of panel doctors, which have the status of public corporations. Their task is to guarantee health service provision and to control suitability and economic efficiency of medical outpatient services. Since 2003, the admission of physicians for the outpatient sector has been regulated by legally defined ratios for different groups of doctors; and for the first time, the percentage of GPs and specialists has been defined at a ratio of 60 to 40. GPs are not gatekeepers in Germany, although their coordinating competencies have been strengthened in recent years. Since 2004, sickness funds have been obliged to offer the option to enrol in a “family physician care model”, with a bonus for complying with the gatekeeping rules. Private GPs are organized in small local groups and in regional collaboratives for providing 24-hour care. These collaboratives also coordinate disease management for diabetes, COPD, heart failure and cardiovascular risk management, which is paid for through additional contracts with healthcare insurers. Prices for regular visits are set by government. Competition is stimulated on additional services. A number of national primary care policy initiatives have been established over the last decade. However, with provincial jurisdictional responsibility for health care, primary care reforms are not coordinated nationally. Key policy foci include establishing infrastructure and capacity to support electronic health records, develop multidisciplinary teams and address implications for payment models. However, approaches and progress on each of these foci is highly variable by province.</td>
<td>Most primary care physicians are in partnerships or group practices, with the numbers of solo practitioners decreasing over time. The US historically has had an imbalance with PCPs in short supply, accounting for only 40 percent of active physicians. As coverage expands under the ACA of 2010, a major challenge will be the shortage of primary care physicians in many parts of the country. Medical students continue to flock toward specialty careers, and the nation’s medical schools are unable to produce PCPs fast enough to meet growing demand. An increased supply of physician assistants and nurse practitioners will be needed to assure access to primary care.</td>
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Government efforts commenced only in 2003 and have been piecemeal and insufficient. Performance indicators reported quarterly for public hospitals. Private hospital data are not reported. A public hospital sentinel events report has been issued since 2008 by a National Quality Improvement Committee, which also oversees a series of pilot improvement projects in public hospitals. A new National Quality and Safety Commission, which was created in 2010, aimed at driving a national quality program.

Since 1989, the Dutch College of General Practitioners has provided a comprehensive package of guidelines, now covering almost 80% of the problems seen in general practice. Performance measurement is needed for practice accreditation. Quality improvement initiatives and monitoring quality is part of practice accreditation. At the national level, various activities include development of standard quality data to help patients choose amongst providers. In 2013, a national quality institute will be established to drive quality improvement and reduce widespread variation in service quality.
### Information technology

<table>
<thead>
<tr>
<th>Australia</th>
<th>New Zealand</th>
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<tr>
<td>Near universal use of EHRs in GP practices with more limited usage in hospital sector. Federal government funded HealthConnect is a change management strategy and established National E-Health Transition Authority (NEHTA) to accelerate the adoption of e-health. Uptake is patchy with limited connectivity between primary care and acute care. A voluntary online personally controlled electronic health record is due to be available nationally in 2012/2013.</td>
<td>Private GPs moved quickly into EHR use in the 1990s but IT has lacked government leadership or coordination. Most GPs issue electronic prescriptions; order/ receive electronic tests. There is limited interoperability between GP and hospital systems or within each of these sectors. Several reviews have pointed to the need for national solutions and shared EHRs. This is now a goal for 2014, to be facilitated by a new National Health IT Board (created 2009).</td>
<td>EHRs are used in all GP practices. This has been achieved through the use of reimbursement, incentives and locally led commissioning from private providers. The use of health IT in secondary care is still rare. This is largely because of the faltering of the national, centrally commissioned IT program, which has incurred significant cost over-runs and is behind schedule. Information strategy is in place to ensure that patients have access to quality of care data and can participate more fully in their care.</td>
<td>There is high uptake of relatively sophisticated IT in primary care settings, including for disease management and referrals. Interoperability between hospitals and primary care settings is limited. There is no national strategy for health IT. The introduction of an electronic health card starts in 2011 to be fully implemented in 2014. Patients will decide whether medical data are saved on the card.</td>
<td>All GPs use IT for health recording and for administrative purposes. Increasingly, they are opening their records for colleagues in 24-hour care. Drug prescription, communication with specialists, and performance measurement is facilitated in EHR systems. Hospitals have comparatively low levels of EHR use and poor interoperability. A National IT Institute for Healthcare intends to improve the situation and coordinate future developments.</td>
<td>Development of EHRs has been ongoing for almost two decades with limited progress. Canada Health Infoway, an independent not-for-profit agency created by Canada’s provincial premiers in 2001, aims to foster and accelerate the development and adoption of EHRs. Privacy legislation, a major stumbling block, has now been established in most provinces, and although there have been high profile setbacks (e.g. the eHealth scandal in Ontario), there are signs that EHR coverage is expanding.</td>
<td>Few hospitals (&lt;2 percent) have &quot;comprehensive&quot; EHR systems and less than a third of physicians’ offices currently have &quot;high functionality&quot; EHRs. EHR adoption is a priority of the federal government, with DHHS providing grants to hospitals and physician practices over the next ten years to purchase necessary equipment. Starting in 2015, hospitals and providers may be subject to penalties from Medicare if they are not using an EHR.</td>
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**Source:** Authors’ analyses
comparatively. The next section examines the backgrounds of the seven countries. Following that, initiatives across the three areas of interest are compared. The discussion revisits key findings, along with the shortcomings and benefits of the comparative approach.

**Seven countries: background information**

Table I presents data on the seven countries, all which are market-based economies. The USA is the outlier with higher total health expenditure and a lower proportion of public versus private expenditure. The seven have differing methods of financing healthcare. Australia, Canada, New Zealand and England have predominantly tax-financed healthcare systems, although Australia’s Medicare scheme, albeit tax-financed, functions as a form of social insurance. Insurance underpins the financing of care in several of the systems, while the methods for each differ. Germany features social insurance, offered by multiple organizations with a common fee payment schedule. The Netherlands has mandatory insurance offered by competing private organizations/agencies, so what was previously considered to be the public proportion of total health expenditure is no longer reported to the OECD. The USA has a mix of public and employer-based private insurance that covers different groups, with a substantial portion (16.7 percent) of the population uninsured. With implications for policy activities around the three issues discussed below, England, The Netherlands and New Zealand have unitary, centralized political systems. The remaining four countries have federal systems with varying levels of central control and differential capacity for intervention in state-level activities.

Table II focuses on the three principal areas of concern in this article. Five of the seven countries have primary care gatekeeping, in which a primary care physician acts as first point of contact with patients and provides referrals to specialized services. But only in New Zealand, The Netherlands, and England are there national policies or incentives for primary care practitioners to formally enroll patients, thereby providing the potential for population-based approaches to care. The proportion of primary care physicians in sole practice varies considerably among the seven. The US contrasts with the other six countries in not having universal access to primary care services. The funding model in most of the countries features primary medical care co-payments at point of service which is reflected also in the predominance of fee-for-service as part of the physician remuneration package.

Each of the seven countries faces challenges with quality of care and patient safety. Medical error studies show that patients are at considerable risk of having an adverse event occur in the process of care received in hospital. Meanwhile, data from patient and physician surveys used by the Commonwealth Fund to compose performance rankings reveal varying performance across and within healthcare systems (Schoen et al., 2009a, b). New Zealand, for example, ranks highly in terms of overall quality of care, but considerably lower on safe care measures. A significant proportion of patients with chronic conditions report readmission following hospitalization.

The application and use of information technology also varies widely among the systems and between primary care and hospital settings, with all nations having consistently low electronic health record (EHR) usage in hospitals. Australia, New Zealand, England and The Netherlands stand out with almost all primary care physicians using EHRs, in contrast to Canada, the USA and Germany.
Zealand and England are notable for having more sophisticated EHRs as measured by number of functions.

**Primary care, quality improvement and information technology policies in comparison**

Table III summarizes the policies in place and approaches in the seven countries to each of the three issues that are the central focus of this article. The sections below highlight similarities and differences between the seven countries.

**Primary care**

Primary care is being promoted in all seven countries, with some points of difference. Australia, New Zealand, England, Canada and the USA are notable for the fact that central government has actively placed primary care on the policy agenda. Various initiatives with associated funding to stimulate developments in primary care have been implemented. For example, in 2010, the Australian Federal government introduced “medicare locals” designed to improve the organization of primary care by focusing on coordination of providers for captive populations, and to bolster the place of primary care within the health system. Primary care has long been a core focus in the English NHS and New Zealand with recent reforms reinforcing its role within the health system. In England, GPs are being handed responsibilities for commissioning services for their patients while, in New Zealand, considerable government funding has been injected into improved service organization, with a specific focus on reducing inequality and chronic disease management. That said, England and New Zealand have experienced ongoing health system reforms, including primary care reforms, that can be distracting for those engaged in service development. In the USA, 2010 reforms have aimed to promote the development of new organizational forms, such as accountable care organizations that foster “patient-centered medical homes” with a primary care focus. There is likely to be considerable variation in organizational models, whereas in Canada, regional variation is a function of a large geographic area combined with a federal political system. The governments in Germany and The Netherlands, while supportive of primary care, have been more passive in terms of explicit policy development.

**Quality improvement**

All seven countries feature national institutes or agencies that aim to promote quality improvement activities or to report on national quality indicators. However, as with primary care, variations in the extent of government commitment to quality improvement are evident. New Zealand, for instance, has had quality improvement initiatives in place since 2003, yet these have been largely written policies. Practical efforts have lacked leadership and coordination and only in 2010 was a national body created to stimulate and proactively steer activities amongst service providers. Australia and Canada have had a similar history, with Australia only recently intensifying policy implementation activities. In contrast, for a decade the British NHS has featured a series of agencies focused on driving improvements in quality and patient safety, most notably the Care Quality Commission and National Patient Safety Agency. Activities have ranged from hospital inspection through to promoting service redesign, while, at the primary care level, pay for performance has been attached to
quality improvement. Financial incentives for performance enhancement have also been part of US efforts, where 2010 reforms have seen an increased national emphasis on quality and creation of new payment arrangements intended to enhance quality improvement activities amongst providers. Meanwhile, the approach in both Germany and The Netherlands has been more passive and focused on data collection and feedback.

**Information technology**

With the exception of Germany, all countries have developed an explicit policy to promote health information technology and have put in place a national agency or initiative to improve use amongst providers. In New Zealand there has also been an attempt to engage patients in information technology usage by making EHRs and other applications available to them. England has been the most ambitious among the seven countries with its endeavor to implement national, centralized electronic health record systems but, in this, has experienced serious technical challenges and major cost over-runs. The USA has been implementing a major IT initiative that attempts to define national “meaningful use” standards with incentives for local health providers (physicians and hospitals) to procure their own systems. Despite considerable federal government investment, implementation has been slow and fewer than half of all hospitals and physician practices have, to date, implemented EHRs. The scenario in Australia, New Zealand, The Netherlands and Canada has been broadly comparable, with an approach involving central government finance and strategy aimed at improving IT usage and coordination and rectifying interoperability problems. In this sense, government is serving a mediating and steering role that might be described as one of stewardship.

**Discussion**

Clearly, there are considerable differences between the seven healthcare systems covered in this article in terms of how each is funded and structured. There are also differences in political systems meaning that, for some of the countries, especially those with federal structures, developing specific policy initiatives will be more difficult than for others. Nonetheless, each of the seven countries faces similar challenges when it comes to healthcare system performance improvement. Data show that healthcare expenditure growth continues to outpace the rate of general expenditure growth (Organisation for Economic Co-operation and Development, 2012) while, as cited in this article, shortcomings in the quality of care, in information technology utilization, and in access to care are evident to varying degrees in each.

The comparative material presented in this article demonstrates that there are substantial differences in how the countries are responding to demands for improved primary care, quality and information technology. Efforts are, at best, patchy and, in several cases, only recently have policy makers committed to promoting and coordinating activities across their healthcare systems in one or more of the three policy areas. In primary care, Australia and the USA are cases in point with their 2010 reform initiatives. However, in the USA these developments are taking place after years of relatively little attention paid to primary care. They are not alone in their endeavors as there appears to be positive commitment to improving primary care in several of the healthcare systems studied, with aims of bringing together providers to
focus on improving the health of an enrolled or geographically based population. In quality, the seven countries show an emerging pattern of central government leadership demonstrated by creation of central government agencies or policy strategies aimed to focus the healthcare system on improvement and to support the activities of service providers. A common theme is the branding of quality and patient safety as important policy planks that, at the level of a provider organization, have been shown to lead to improvement (Blackmore et al., 2011), but also stimulating activities amongst providers – from demanding standard data collection and reporting, through to focusing on patient care process improvements. In information technology, the seven countries have variously prioritized a single accessible electronic medical record and policy makers are attempting to address the common pattern of low interoperability levels and, in Canada and the USA, poor uptake of IT amongst providers. In all countries, the focus is also on a national overview to ensure provider-led developments are coordinated, which is a crucial underpinning of robust information systems (Chaudry et al., 2006).

A question central to the analysis in this article is whether each of the countries is doing enough to improve health system performance in the three areas. It may be reasonable to suggest that, as a group, the seven countries demonstrate commitment to the three policy areas but are only really commencing their journeys. Some have obviously focused more on specific areas, such as primary care, than others. With regard to primary care, the World Health Organization’s 2008 report provides a useful framework for assessing performance. This suggested that policy makers should promote universal access to primary care, reforms that make primary care the hub within the health care system, and a leadership model that facilitates coordination and participation of the various health care providers – from primary care to hospital services (World Health Organization, 2008). While some of the seven countries have instigated policy that moves their health systems in these directions, there is demand for additional effort, especially around reducing patient access barriers. Similarly, while there is not necessarily a single best way to invest in or promote quality improvement (Ovretveit, 2009), the policy directions in each of the seven countries are promising with national agencies or government-funded initiatives in place. In this regard, there appears to be some convergence in approaches that focus on consistent data collection, mixed with emphasis on process redesign. Clearly, however, given persistent medical error rates and other quality problems, greater effort is needed. There seems, similarly, to be considerable convergence in approaches to IT policy, with the emphasis on national consistency and agencies to promote this. Again, greater effort and investment is demanded if high performance in IT is the aim of policy makers.

The notion that policy matters was raised in the introduction of this article. If so, then what should policy makers be doing to better promote the three areas? Obviously, a strategy aimed at improvement that encapsulates primary care, quality improvement and IT is important, and health systems that have cohesive strategies and a concerted approach to delivering on these have shown considerable performance improvement (Oliver, 2008; James and Savitz, 2011; Blackmore et al., 2011; Bohmer, 2009). In general, leadership has played a pivotal role in developing and implementing strategy although what exactly leaders should do is not an exact science (Ovretveit, 2010). What also appears important is involving key stakeholders in policy and strategy development
and, in the process, ensuring that their interests are aligned. Analysts of policy have long noted that the best of policy intentions are distorted in implementation through failure to account for the needs and perspectives of service managers and providers (Pressman and Wildavsky, 1973; Exworthy et al., 2002). In areas such as IT, there can be additional problems if legacy systems are in place as these may work against attempts to build interoperability (Gauld, 2004). Primary care poses similar challenges if an aim is to build inter-professional groups as it means traversing traditional professional boundaries between, for example, medical professionals and others working in primary care (Hill et al., 2007). Improving integration between primary and hospital-based care presents comparable challenges (Satinsky, 1998). Finally, there is emerging evidence that both clinical leadership and carefully crafted incentives can improve commitment to health system improvement initiatives (Dorgan et al., 2010; Goodall, 2011; Williams, 2011).

As noted, the approach to comparing health system performance in this article is not uncommon, but subject to some limitations. First, the sample of countries selected was one of convenience, drawing on the expertise of a research collective. With different countries included, the findings may well have been different and so the potential for selection bias, overstatement or understatement of results needs to be recognized. Second, the policy activities covered in the article were relatively “high-level”, but intentionally so. However, this means that we may have overlooked many developments occurring in the seven countries within individual states, regions or service provider groups, or oversimplified what is a possibly a rather complex reality. With these caveats in mind, the intent of this study was to highlight the extent to which policy makers from a series of countries are working to develop and implement policy that is known to support health system improvement in three key areas. With variable but promising starts made in most of the countries, the challenge now is for policy makers to consolidate their activities, including looking at how their countries are performing compared with others and over time. For the research community, additional research into country efforts is needed, especially using the comparative approach. With policy makers often looking abroad for lessons and for performance metrics against which they can gauge their own system’s performance, the research in this article provides insights that have not been available elsewhere; it also offers a baseline that follow-up studies could compare progress against.

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**Corresponding author**

Robin Gauld can be contacted at: robin.gauld@otago.ac.nz

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