

## Volume 5 / Issue 3-4 / 2010 - Country Focus: Netherlands

### Healthcare IT in the Netherlands

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**Healthcare IT in the Netherlands is driven by a combination of political and technological push-pull factors. The political facets in the process are underscored by an explicit commitment to clearing technology barriers astride the pathway to effective and meaningful e-government.**

The government's landmark Policy Programme for 2007-2011 noted that: 'ICT applications, the Internet and digitisation are tools that can improve the service provided by the Government, making the Government more accessible. eGovernment also constitutes an important tool for reducing the administrative burden on the general public and professionals.'

e-Health is understood to be a core ICT application and a component within the broader framework of the 2007-2011 Programme.

In 2008, the Government's national ICT agenda identified interoperability and standards – a core challenge for e-Health – as one of five key priority areas to be addressed by administrative and regulatory measures. The year also saw the implementation of Citizen Service Numbers and a growth in the use of DigiD – both of which have relevance for e-Health. Service providers, on their part, also juxtaposed their offerings on to the State infrastructure, with over two-thirds of government services available electronically by the start of the year.

#### **Establishing and Funding the Foundations for e-Health**

Lending more weight to establishing a solid technological foundation, the Government also published a new vision, known as the National Implementation Programme. This covers both the infrastructure required and the flagship projects that will use the latter. The end of 2008 saw a joint declaration signed by representatives of national, regional and local governments to adopt the National Implementation Programme as a joint strategy for the subsequent three years.

These foundations mean that issues of seamless connectivity, interoperability, security and privacy and above all, the upfront investment required to generate adequate scale will not hamper the takeoff of e-Health in the Netherlands.

#### **EMRs: The Dutch are World Leaders**

Such a lift-off seems, in fact, to be around the corner. At the bedrock level, no fewer than 98 percent of GPs in the Netherlands already used an electronic medical record (EMR) by 2008, giving the country a position of world leadership. By comparison, the figure in the US was just 28 percent and in Germany 42 percent. [In Europe, the

closest to the Netherlands is the UK, where 89 percent of GPs use EMRs.

Meanwhile, a growing number of Dutch general practices and general practice cooperatives are also getting connected to the National Exchange Point for Electronic Health Records.

#### **Impacting on Quality of Care**

EMR data is, in turn, extracted and used to monitor GP care in the country. The LINH Netherlands Information Network of General Practice database holds longitudinal data on morbidity, prescriptions and referrals on about 500,000 individuals, collected from a representative network of about 250 GPs throughout the country. This enables quality-of-care research, whose results are being transferred to set benchmarks and guide health policy.

The maturity of the EMR system in the Netherlands also makes a difference to individual GPs, and their patients. The EMR systems are linked with professional guidelines (updated to reflect latest medical findings and best practices), which GPs can use during a patient consultation.

To optimise drug prescriptions, an Electronic Prescription System (Elektronisch Voorschrijf Systeem, EVS) is integrated into the GP EMR system. The EVS provides advice on pharmacotherapy and patient counselling

tailored to individual patients, whose principal primary care provider is the particular GP; as mentioned in the previous section, patients in the Netherlands are tied to specific GPs.

The introduction of the EVS has impacted directly on the practice of GPs. It has improved the quality of prescriptions and resulted in a reduction of spending on medicines.

Hospitals, too, have begun playing a role in providing decision-support electronic data. The LMR National Medical Registry database collects aggregated data from hospitals on admissions, diagnosis, treatment and discharge, as well as any other relevant characteristics of the patient and the hospital. The LMR, in turn, provides data to Statistics Netherlands (CBS) and inputs for research.

#### **Telemedicine: Early Starter**

The Netherlands has been an early starter in the field of telemedicine too, with more than 200 telecare projects ongoing by 2009. These are principally in the areas of domotics and personal alarms, and cover an estimated 50,000 patients.

The benefit of telemedicine have been convincingly demonstrated in mental health. It has principally meant an end to the exacerbating clinical challenge of isolation in the mentally ill, both in terms of community – self-help groups, chat sessions etc., as well as intervention – screening to ambulatory assistance or transfer to hospitals before the onset of an acute phase psychotic episode.

#### **Basic Gaps Remain – The Grind of Scheduling Appointments**

Nevertheless, there are numerous challenges ahead, and the Dutch are the first to admit this. Some of these are behavioural, while others involve funding and technology.

For example, although a majority of Dutch Internet users wish to contact their GP (or other healthcare provider) through the Internet, such an option is still rarely used. Making appointments or obtaining prescription refills from GPs via the Internet remains confined to only a handful of GP practices. A study in 2009, found that fewer than 25 e-mail consultations were billed for.

On the other hand, a growing number of hospitals offer patients the possibility to make outpatient appointments with specialists via the Internet. Hospitals are also increasingly becoming Internet-savvy, not least because of post-2006 reform pressures to enhance efficiency in the face of a rise in competition.

For example, the State-supported Website ([www.kiesbeter.nl](http://www.kiesbeter.nl)) offers comparative information about healthcare services and data about the record of different hospitals in the treatment of a variety of conditions. Such factors will make insurers more selective in awarding contracts – to the most competitive, and cost-effective hospitals.

#### **Controversies Bedevil the EPD**

Unlike the EMR, implementation of a national-level Electronic Patient Record (Elektronisch Patienten Dossier) remains hotly debated. By mid-2009, about 100 health care providers were connected, with some 350,000 individual EPDs available. The eventual catchment area of the EPD is a total of 6,500 interconnected healthcare providers. Its aim is to prevent medical errors resulting from lack of information about a particular patient's medical condition or medication, especially in after-hours or emergency care – which does not involve the usual provider.

EPD's proponents insist that what is at stake is not a central Big Brother database containing private medical data on everyone in the Netherlands, but rather an infrastructure which draws (in a secure/authorised fashion) from the local databases of individual healthcare providers who retain responsibility (as well as control and ownership) of their own database.

EPD access by healthcare providers would be regulated through an electronic authentication card, and only allowed if necessary for the treatment of the patient.

The Dutch have a tradition of enthusing and stoking consensus, and providing optouts from controversy. Prior to the launch of the EPD, Dutch citizens have been given the right to object to having their medical data (or parts of it) included in the EPD. Physicians too have provisos to exempt themselves from using the EPD.

By 2009, about three percent of the Dutch population had registered opposition to having their private medical data included in the EPD. Opposition from physicians, on the other hand, is far higher. About 35 percent of physicians are believed to have registered their refusal to use EPDs. Other than (long-running) concerns about privacy and safety, physicians also believe an EPD system would be superfluous since interconnected EPRs at the regional level already provide what an EPD would.



Published on : Wed, 15 Dec 2010