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HEALTHCARE

A Better Pill to Swallow

A global view of what works in Healthcare

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"The good news is that there are many **more similarities than differences** between national healthcare systems. The **globalized nature** of healthcare in **developed countries** offers the opportunity to **share knowledge** about **what works** like never before."

Mark Britnell
Chairman, Global Health Practice
KPMG in the UK

Foreword

Global healthcare: same diagnosis, similar remedies

It is becoming increasingly evident that healthcare systems around the developed world are facing many similar challenges – higher quality for less cost. Although healthcare is primarily organized within national geographies, the market trends are truly global. Changing demographic profiles, an aging population, new technologies, pharmaceutical developments and rising consumer demands all create unprecedented fiscal pressures. The good news is that there are many more similarities than differences between national healthcare systems. The globalized nature of healthcare in developed countries offers the opportunity to share knowledge about what works like never before.

To share some practical insights from healthcare organizations around the world that have successfully tackled productivity and efficiency challenges, KPMG worked with the Manchester Business School in the UK to select ten industry best practice examples that could be underpinned with a solid research and evidence base. We draw on in-depth interviews with healthcare leaders in Australia, Canada, Germany, Spain, New Zealand, the UK and the US, all of whom are passionate about their programs and interventions. These findings, together with desk research and insight from KPMG firms' partners seek to offer a global perspective and practical guidance on how healthcare organizations can successfully manage the changes required.

Whether you are a healthcare practitioner who runs, insures or commissions clinical services, we hope you find it useful.

We would like to thank all those who gave up their time to participate in this study.

Mark Britnell
Chairman, Global Health Practice
KPMG in the UK

CONTENTS

EXECUTIVE SUMMARY

Our case studies draw strength from many continents:

- In New South Wales, Australia, large-scale clinical system re-design saved over three million bed days.
- Research at McMaster, Ontario, Canada, demonstrates how expertly stratified long-term condition care provided active case management at around 20 percent of traditional costs.
- At the Techniker Krankenkasse insurance fund in Germany, active health coaching for 'at risk' groups has started to shift responsibility to the patient and has provided attractive rates of return on investment.
- In Catalonia, Spain, primary care center Castelldefels Agents de Salut's (CASAP) improved staff motivation, training and appraisal systems have incentivized dramatic improvements in primary care productivity.
- At Pharmac, the Pharmaceutical Management Agency in New Zealand have made enormous savings in the purchase and use of pharmaceuticals through a dynamic, commercial approach to suppliers.
- In the Geisinger Health System, Pennsylvania, US, the introduction of the 'medical home', where primary and secondary care is provided by a single health system, has resulted in a 20 percent reduction of hospital admissions.
- At Virginia Mason Medical Centre, Seattle, US, the comprehensive application of 'lean' methodologies to all staff has substantially increased productivity and saved millions of dollars in budgeted capital investment.
- Intermountain Healthcare in Salt Lake City, US, praised by President Obama for offering "high quality care at costs below average," transformed its mental health pathway and successfully integrated its service offering in primary care – reducing costs by 10 percent while increasing patient and carer satisfaction.
- Torbay, Devon in the UK already has demographic profiles similar to that predicted for the UK population by 2050. An innovative health and social care organization offers holistic, cost-effective health and social care which, against its benchmarked group, has resulted in only 47 percent of the anticipated emergency bed days for people over the age of 85.
- Finally, the National Institute for Innovation and Improvement in the UK successfully launched 'The Productive Ward' series; this has dramatically released more time for nurses to care for patients through patient flow re-design. This one initiative is now being adopted and delivered throughout the world, presenting a striking example of how the globalized nature of healthcare, once harnessed, can spread rapid improvements to patient care.

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CONCLUSIONS

> "**Patient centric care** has not only been the **Holy Grail** in the quest for quality but it is also the nirvana for **productivity and efficiency.**"
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> Mark Britnell
> Chairman, Global Health Practice
> KPMG in the UK

Three clear characteristics dominate these case studies:

- Firstly, the projects all have inspirational and determined sponsorship from leaders.
- Secondly, clinicians and staff are supported in a variety of ways to critically re-examine care processes and simplify patient flows.
- Thirdly, and most importantly, the most successful and sustainable changes have been made by looking at the care process from the patients' point of view.

Put the patient first

Patient centric care has not only been the Holy Grail in the quest for quality, but it is also the nirvana for productivity and efficiency. High quality, patient focused care can, and does, save money but these benefits cannot materialize without dedicated planning, program management, excellent information and highly supportive technology. Often, disruptive innovation comes from external agencies to the organization but the change has to be owned by the staff.

Work in partnership

There are other characteristics of high performing health systems which may point to some global convergence. A key facet of high performance seems to relate to the individual and organizational capacity to partner – be it with patients, clinicians, social care organizations or insurance companies. In both the UK (Torbay) and Canada (Ontario), the ability to look holistically at an individual's needs and provide funding and care support from 'pooled' budgets has reduced unnecessary bureaucracy and streamlined the care process, thereby making it more personal to the user, and more effective and efficient as a result. Similarly, purchaser-provider partnerships in different parts of the US have demonstrated impressive results in sharing capitation risks and integrating care. Dramatic improvements in productivity

seem to occur where a single organization and dedicated team of clinical staff take responsibility for the entire value chain and use sophisticated information technology to stratify patient need and focus attention and effort for those at risk.

Support innovation with evidence

What is also clear is that sustainable change cannot be 'an evidence free zone'. All of the major clinical change programs noted in our study have relied heavily upon good baseline information, excellent modeling capability, risk stratification and change management skill, often facilitated by external agencies. Radical change often requires disruptive innovation and the ability of any healthcare system to be open-minded and inquisitive is a fundamental pre-condition for success.

Align objectives, accountability and incentives

Finally, countries have different funding and payment systems reflecting both cultural and political differences which range from socialized insurance and state run provision to private cover and private supply of healthcare. This diversity makes meaningful comparison of incentives difficult to ascertain on a global scale, but it would appear that clear clinical objectives, when coupled with full professional accountability and linked to well-defined incentives, can deliver high quality and cost effective care.

Mark Britnell
Chairman, Global Health Practice
KPMG in the UK

"A key facet of high performance seems to relate to the **individual and organizational capacity to partner** – be it with patients, clinicians, social care organizations or insurance companies."

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Case Study

Geisinger Health System

Some medical practices experienced up to a **50 percent reduction** in hospital admissions and an **80 percent drop** in hospital re-admissions.

Utilizing incentives and technology to create a cost-efficient, integrated care service in Pennsylvania, US

Since 2006, Geisinger Health System has trialed and rolled out an innovative, integrated service offering 24 hour access to care, supported by a dedicated care team. The program is driven by a payment system that closely aligns financial incentives to physicians and their practices with patient outcomes.

Using the latest technology, Geisinger can target future high-users with preventative treatment and monitor patients at home in real time, enabling swift interventions where necessary. The program has been very successful, with some medical practices experiencing a 50 percent reduction in hospital admissions and an 80 percent fall in hospital re-admissions.

The challenge

Healthcare providers are under intense pressure to improve efficiency, as demands on their services increase. However, with a range of parties involved in provision of care, it can be tough to achieve a coordinated effort. Geisinger Health System is based in central and northeastern Pennsylvania, US, and serves a population of 2.6 million people. It comprises nearly 800 physicians across 37 community practice sites, 2 acute-care hospitals, a variety of specialty hospitals and numerous ambulatory services.

The approach

Geisinger's health plan is an integral part of its system, covering nearly 230,000 members. In 2006, it launched a series of developments designed to improve quality of care and give better outcomes for patients, while simultaneously lowering costs. One of these initiatives – called 'ProvenHealth Navigator' (Geisinger's patient-centered medical home program) – attempts to gain better coordination of the various elements of the care delivery team and the provider, as well as a greater emphasis on individuals' health. Physicians and practices are encouraged to participate through an incentive scheme. Beginning with three pilot sites, the program has gone through four phases and now covers around three quarters of sites, primarily in Geisinger's community practice sites.

There is now round-the-clock access to primary and specialty care services, enhanced by the use of technology. Each practice site has one or more nurse care coordinators, along with a "personal care navigator" function to respond to consumer inquiries. With an emphasis on proactive, evidence-based care, the program aims to reduce hospitalization, promote health and optimize the management of chronic disease. It also offers care management support and home-based monitoring of patients with chronic disease.

Some of the notable features involve:

Picking out future high-users

"Predictive analytics" uses sophisticated mathematical models and data mining techniques to identify those individuals who have been – or are likely to be – high-users of medical services. These individuals can then be targeted with appropriate interventions to help prevent or mitigate disease.

Monitoring patients at home

With 'virtual care management support,' clinical data is fed directly from individuals at home to a database and care manager. The patient subsequently gets a swift response via interactive voice-response or direct contact. For example: someone with congestive heart failure would weigh him or herself at home, with the results sent to the database. Any significant increase in weight will trigger a contact, asking if the patient is experiencing any other symptoms indicative of heart failure, such as shortness of breath. This may trigger intervention by the patient directly or by the nurse care coordinator or physician.

Patients, physicians and nurses also each have access to the electronic medical record, where they can view lab results and personal performance over time, make appointments and refill prescriptions.

Incentives for doctors

To encourage physicians to participate in the medical home initiative, Geisinger has been paying each physician an additional US$1,000 per month. Practices may also receive payments, based on the number of members enrolled in the ProvenHealth Navigator program, to cover the costs of transformation (such as having additional staff available around the clock).

Incentives to doctors and practices are conditional upon meeting **mutually agreed targets**, as measured by **reliable data.**

"...practice after practice... (is) **creating value** by enhancing quality and **slowing cost growth.**"

Dr. Ronald Paulus,
EVP, Clinical Operations and Chief Innovation Officer, Geisinger

In addition, an incentive pool is created based on savings between the actual and expected total cost of care for patients enrolled in ProvenHealth Navigator. Incentive payments are conditional upon meeting mutually agreed quality targets, as measured by reliable data. To encourage team-based care and support, payments are split between individual providers and their practices. As the program develops, the program is expected to become incentive-only, encouraging even greater efficiency and quality. Physicians continue to be paid on a fee-for–service basis for seeing patients who require specific interventions.

The results

The early pilots have shown promising results, with increased efficiency and improvement in the quality of metrics. Dr. Ronald Paulus, EVP, Clinical Operations and Chief Innovation Officer at Geisinger, reports that this has been a very successful initiative with *"practice after practice, including non-Geisinger practices, creating value by enhancing quality and slowing cost growth."*

Amongst the early benefits is an overall 20 percent reduction in hospital admissions along with a 7 percent saving in total medical costs. In the longer term, patient health status, population health metrics and efficiency are being tracked.

- For the first three phases, patients receiving the medical home initiative compared very favorably with a control group of Medicare patients:
  - Admissions were 23 percent lower.
  - Re-admissions were 23 percent lower.
  - Emergency room visits were 9 percent lower.
  - In-patient costs were 17 percent lower.
  - Total costs were 3 percent lower.
- Some of the most successful sites in the program have shown up to a 50 percent reduction in hospital admissions and an 80 percent drop in hospital re-admissions.

The combination of a close working relationship, and clearly articulated outcomes and results-based payments has produced demonstrable, sustainable improvements in efficiencies and quality. Encouragingly, Geisinger is continuing to refine the program, which should improve results over time.

Lessons learned

- Achieving an operational impact on patient care requires strong cooperation and alignment between the health plan (the insurer) and the care delivery team.
- The care model can be enhanced through sophisticated use of technology, including predictive analytics, remote monitoring and an electronic health record.
- Payments and incentives should be closely linked to desired outcomes in order to motivate the providers. This requires close tracking of performance with reliable data.

Further information

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Sources

- Interview with Ronald Paulus, EVP, Clinical Operations and Chief Innovation Officer, Geisinger Health System, Danville, Pennsylvania, February 2010.
- Elena Conis [2009] The Geisinger Medical Home Initiative, Health Policy Monitor Surveys www.hpm.org/en/Surveys/Emory_University__USA/13/The_Geisinger_Medical_Home_Initiative.html
- Paulus RA, Davis, K and Steele GD [2008] Continuous innovation in healthcare: implications of the Geisinger experience. Health Affairs: 27; 5: 1235-1245.

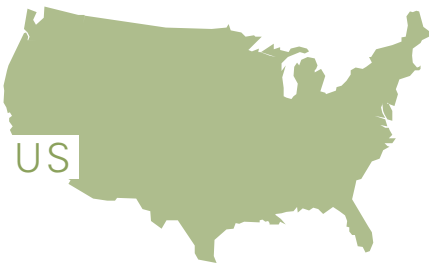
Case Study

Virginia Mason Medical Center

Employing industrial manufacturing principles to drive improvements in healthcare systems around the world

Adapting ideas from world renowned Japanese improvement processes, a Seattle-based not-for-profit healthcare provider has radically enhanced quality and service, while reducing expenditure. The Virginia Mason Medical Center has developed its own system, achieving a top rating for quality and safety, increasing productivity and saving millions of dollars in budgeted capital investment.

In creating an environment of continuous improvement, Virginia Mason has transformed its culture, putting patients first, and encouraging staff to come up with new ideas without fear of failure. The system has been successfully exported to other healthcare organizations around the world through education and training.



The challenge

The Virginia Mason Medical Center in Seattle, US is a not-for-profit integrated healthcare system that includes a 336-bed acute-care hospital and a network of clinics. In the early 2000s, with poor performance threatening its very survival, it reviewed other healthcare providers in the hope of replicating more successful models. However, none of these appeared to offer the kind of organization-wide improvement it was seeking.

The approach

At this point, Virginia Mason took the bold and ground-breaking decision to look beyond its own sector, turning to the Japanese manufacturing industry for direction. Following some successful early experiments, in 2002 leadership committed to adapting a Japanese manufacturing model to healthcare in the form of the Virginia Mason Production System.

The system is based on Japanese manufacturing principles, seeking to continually improve how work is done so that all activities create only value, not waste. Some of the key principles of this approach are:

- Putting patients first, with all processes driven by this objective.
- Creating an environment in which people feel safe and free to engage in improvement, with no layoffs resulting from efficiencies.
- Implementing a company-wide 'patient safety alert system,' where any member of staff can halt processes to tackle errors as quickly and directly as possible.
- Encouraging innovation and 'trystorming:' beyond brainstorming, trystorming involves quickly trying new ideas or models of new ideas.
- Creating a prosperous economic organization primarily by eliminating waste.
- Transparent, accountable leadership, including 'compacts' between different staff groups and the organization as a whole, spelling out expectations and responsibilities.

Virginia Mason has saved **US$11 million** in budgeted capital investment by **using space more efficiently.**

Building an improvement-oriented culture

Virginia Mason uses a variety of continuous improvement tools and activities, and has carried out hundreds of workshops and other events involving thousands of staff members and patients. To ensure that staff understand the philosophy and approach, all employees must attend an introduction course. Multi-disciplinary teams also visit Japan annually to immerse themselves in the principles of the system, analyzing assembly line production in a Hitachi air conditioner plant.

Senior managers must earn a Workshop Leader certification, and additional Kaizen fellowships are available for deeper study of the system (Kaizen is the Japanese philosophy of continuous improvement, embedded in many of the country's manufacturing processes). Ongoing support is provided by 4 Kaizen Promotion Offices, with a total of 20 full-time staff devoted to the planning, implementation work with operational staff and maintenance of the system.

Building excellence in other healthcare providers

Established in 2008 as a separate non-profit entity, the Virginia Mason Institute (VMI) offers education and training to other healthcare organizations, helping them build their own capacity to bring about improvement. VMI has a firm belief in 'learning by doing,' including participation in process improvement workshops and other events, and regular group visits to Virginia Mason to experience the system first hand.

Many visitors are impressed by the way staff and leaders behave towards patients and each other, which gives them the belief that real change is possible in their own organizations. Alternatively, the training may involve working within a process at Virginia Mason, giving in-depth learning about the methods in a supportive environment.

Many long-term partnerships have been formed, including a relationship with the North East Transformation System Coalition, comprising of 10 UK National Health Service (NHS) providers in the North East of England. Virginia Mason has developed a curriculum where its trainers visit the UK and teach local Coalition staff to a certified level, over time giving them the tools to lead improvement work independently.

The results

In its own state of Washington, US, Virginia Mason has streamlined its processes, freeing up staff members to spend more time talking with, listening to and treating patients, resulting in better, safer and more efficient patient care. Since adopting VMPS as its management method, it has:

- Saved US$11 million in budgeted capital investment by using space more efficiently.
- Reduced the time it takes to report lab test results to the patient by over 85 percent.
- Reduced inventory by half, saving more than US$1 million through standardization.
- Reduced the cost of overtime and temporary staff by US$500,000 in a single year.
- Increased productivity by more than 90 percent in targeted areas.
- Been rated among the top 37 hospitals in the US for quality and safety in the 2009 Leapfrog Group survey.

In the UK, the Tees, Esk and Wear Valleys NHS Foundation Trust, a provider of mental health and learning disability services, has achieved substantial early benefits by enthusiastically embracing the Virginia Mason Production System. Replacing weekly ward rounds with daily multi-disciplinary reviews has halved the length of stay on acute psychiatry wards and improved the experiences of patients and staff. Martin Barkley, CEO of the Foundation Trust, commented that, *"The Virginia Mason Production System has been marvelous in so many ways. It is a brilliant way of involving staff in change, and has helped us to transform our in-patient care."*

Lessons learned

- VMPS is not fundamentally about tools; it is about training and supporting staff to transform the culture by delivering customer-focused services.
- It is vital to create a collaborative environment, where staff feel safe to report mistakes and suggest ideas, and see themselves as working for patients rather than for a particular department or care team. Staff who do not buy into this culture are likely to feel uncomfortable and may leave.
- Top leaders should demonstrate visible commitment through words and actions, to create a suitable environment within which bottom-up change can flourish.
- To date, many providers have achieved excellent results by sticking closely to the Virginia Mason principles. Any adaptation of this approach should avoid compromising the overall integrity of the model.

"The **Virginia Mason Production System** has been marvelous in so many ways. It is a brilliant way of **involving staff in change,** and has helped us to **transform our in-patient care.**"

Martin Barkley, CEO, Tees, Esk and Wear Valleys NHS Foundation Trust, UK

Further information

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Sources

- Interviews with Jonathan Erskine, Centre for Public Policy and Health, Durham University; Diane Miller, Virginia Mason Institute; Martin Barkley, Tees, Esk and Wear Valleys NHS Foundation Trust; Allison Welsh, North East Transformation System. February 2010.
- Bohmer, R.M.J. and Ferlins, E.M. (2008). Virginia Mason Medical Center. Harvard Business School Case Study 9-606-044.
- Institute for Healthcare Improvement (2005). Going Lean in Health Care. Innovation Series White Paper No. 7.
- Joint Research Team from the School of Medicine and Health, Durham University, Newcastle University Business School and the Institute for Health and Society, Newcastle University (2008). The North East Transformation System: A Scoping Study of the Background and Initial Steps.
- McCarthy, M. (2006). Can car manufacturing techniques reform health care? The Lancet, Vol. 367, pp 290-291.
- North East Strategic Health Authority (2009). North East Transformation System (NETS).
- Pham, H.H., Ginsburg, P.B., McKenzie, K, and Milstein, A. (2007). Redesigning Care Delivery In Response To A High-Performance Network: The Virginia Mason Medical Center. Health Affairs, 26(4), pp w532-w544.
- Virginia Mason Medical Center (2009). Fast Facts.
- Virginia Mason Medical Center (2009). VMPS Fast Facts.
- Virginia Mason Medical Center (2008). The Virginia Mason Production System: What it Is, and Why it's Better for Your Patients. Virginia Mason Contact, Issue 1, Volume 2.
- Weber, D.O. (2006). Toyota-style Management Drives Virginia Mason. The Physician Executive, Jan/Feb 2006, p12-17.

Case Study

New South Wales Health

Across the state, length of hospital stay **fell by 5 percent,** and **mortality rates** were **cut by 30 percent**

Cutting the length of patient hospital stays through re-design of clinical services in New South Wales, Australia

A major clinical services re-design program has increased access to and improved the quality and safety of health services in 60 public hospitals across New South Wales. Across the state, over a 3 year period the average length of stay fell by 5 percent, with emergency department mortality cut by 30 percent, and waiting lists for hospital surgery down by over 97 percent.

The program, which focused on enhancing the patient journey through the system, saw front-line staff play a critical role, with carefully monitored performance targets. There was continuous, visible support from the very highest levels of leadership, along with tight project management. As Dr. Tony O'Connell, former Program Leader, New South Wales Health, commented, *"I think the edge comes from the system wide impact – a significant improvement in performance across an entire state."*

A dramatic fall of over **97 percent** meant that **waiting lists for surgery** were almost **eliminated.**

The challenge

New South Wales (NSW), the largest health service in Australia, comprises 8 Area Health Services across the state serving a population of almost 7 million people. By 2003, the health system had been showing signs of strain, with delays in access to care and concerns over the quality and safety of care, which in turn impacted on staff morale. There was a recognized need for a fresh and innovative approach, with the main aim to reduce the average length of stay in hospital across the entire state within 3 years.

The approach

The Clinical Services Re-design Program began in 2003, with the aim of improving patients' journeys through hospital systems, making them simpler and better coordinated. After a successful pilot phase, the NSW Government funded a 3-year state-wide program including 75 re-design projects in 60 hospitals.

A focus on results

Front-line staff played a central role in the program, with the state funding the release of certain individuals from their day-to-day duties to work full-time on projects. Crucially, such funding – from the New South Wales Treasury – was dependent upon achieving the following results within 3 years:

- Reductions in length of stay.
- Increased access to surgery.
- Increased efficiency in emergency care.
- A reduction in access block.

A panel of service providers (including KPMG in Australia) was retained to provide specialist advice to the Area Health Services and to coach hospital managers. To maintain momentum, the State Minister for Health and the Director General of Health regularly visited to review progress and encourage senior executives to focus on results. Projects evolved through 3 distinct stages: **process mapping, clinical process re-design** and **implementation**, which together took an average of 12-16 weeks to complete.

Mapping the existing patient journey

A variety of methods were used to evaluate the journey, all of them focused on accurately capturing the actual experience of the patient. This meant involving both carers and patients. Small teams documented each step of the patient journey; interviews were held with staff and patients, and staff members accompanied patients as *'tag-alongs.'*

Re-design

The 75 re-design projects offered a range of new approaches to care. For example, the efficiency of emergency rooms was improved through a better mix of staff skills and a clearer allocation of roles. At ward level, the bed allocations were reviewed regularly to minimize the chance of a patient being in a ward not suited to his or her condition. And throughout the hospitals, mobile phones and other new technologies were utilized more effectively to enhance communication.

Implementation and sustainability

Pushing programs through – and sustaining the benefits – was seen as the greatest challenge. Therefore there was a strong emphasis on thorough implementation planning, along with committed clinical support, strong management and robust performance management systems to track and reward success. The targets and timeframes were designed to stretch staff to stimulate real innovation. Managers in particular were helped to develop their change management skills.

The results

The main target was met ahead of schedule, through a 5 percent reduction in average patient length of stay, between 2005 and 2008, on a base of over 3 million bed days per annum at a cost of Aus$400 per day, per bed. This achievement is half-way towards the target of producing a net present value of more than Aus$250 million over 10 years. Overall, the program showed how system-wide programs can yield significant improvements in performance across an entire state, which in some cases led to unprecedented levels of performance.

For planned admissions for surgery (between January 2005 and June 2007)

- For patients whose admission was considered desirable within 30 days, there was a 97 percent reduction in the number whose surgery was overdue (from 5308 to 135).
- There was a 99 percent reduction in the number of patients who have waited for more than one year for surgery (from 10551 to 84).

For unplanned admissions for surgery (between 2004/05 and 2006/07)

- Improvements in key performance indicators in most areas, including up to 30 percent increase in the number of patients whose treatment commenced within 30 minutes of arrival at the emergency department.
- Thirty percent reduction in emergency department mortality, with a similar improvement in hospital mortality rates state-wide.

"I think the edge comes from the **system wide impact** – a significant **improvement in performance** across an **entire state.**"

Dr. Tony O'Connell,
former Program Leader, New South Wales Health

There were also several examples of improvements and innovations in individual projects, all of which helped to improve efficiency and thus bring down costs.

Improving the journey for surgical patients

- Reduction in surgery cancellations initiated by the hospital.
- Increased utilization of operating theaters, with less down-time.
- Reduction in overtime hours (and therefore pay) for operating theater nursing staff.
- Decreased length of stay for orthopedic patients.

Improving the journey for aged and chronic care patients

- Introduction of a single point of access for community services for these patients.
- Fewer patients hospitalized unnecessarily – freeing up hospital beds and services.
- Improved detection and management of patients with delirium – with a subsequent decreased length of stay for such patients.

Lessons learned

The senior team involved in the program identified the key principles for implementing and sustaining system-wide improvement programs:

- Visible leadership by the Chief Executive and senior management can help set standards, motivate staff and demonstrate the high priority of the program.
- It is vital to engage clinical leaders from the outset, to manage the implications of changes to systems of care.
- Involving the broadest range of parties in the re-design creates a genuine sense of ownership, and helps consider the full impact of changes on systems of care.
- Managers should be supported in developing change management skills to cope with the challenges of implementation.
- Focusing on the overall patient journey (as opposed to individual diseases) can bring wider improvements in care across different patient groups.
- Including patients and carers in the team can help ensure that direct patient experiences are captured.
- All data, regardless of the source, should be robust to build trust and confidence between front-line staff and management and allow accurate monitoring against targets.
- Targets and timeframes should stretch staff to stimulate real innovation.
- External facilitators can be a powerful tool in breaking down the '*silo*' mentality.
- To be ready for real change, an organization – and particularly its leaders – should acknowledge that there is a problem and believe that improvement is necessary and achievable.
- By focusing on 'quick wins' in significant problem areas, and implementing improvements with a sense of urgency, organizations can motivate staff.

Further information

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Sources

- Interview with Dr. Tony O'Connell, former Director, Health Services Performance Improvement, New South Wales Health, Sydney, NSW, Australia, January 2010.
- O'Connell, TJ *et al* [2008] Health services under siege: the case for clinical process redesign. Medical Journal of Australia, 188: 6; 9-13.
- Ben-Tovim, DI *et al* [2008] Patient journeys: the process of clinical redesign. *Medical Journal of Australia*, 188: 6; 14-17.
- O'Connell TJ et al [2008) Clinical process redesign for unplanned arrivals in hospitals. *Medical Journal of Australia*, 188:6;18-22.
- MacLellan DG *et al* Applying clinical process redesign methods to planned arrivals in New South Wales hospitals. *Medical Journal of Australia*, 188:6;23-31.
- McGrath KM *et al* [2008] Implementing and sustaining transformational change in health care: lessons learnt about clinical process re-design. *Medical Journal of Australia*, 188:6; 31-35.

Case Study

CASAP, Catalonia

Many conditions are now treated by nurses alone, **freeing up doctors** to concentrate on more **complex cases**

Improving primary care performance through expanded roles and performance-related pay

By devolving responsibility from doctors to nurses and from nurses to administrative clerks, a care center in Catalonia, Spain has empowered staff to achieve more. This, along with a pay-for-performance scheme, has enabled the primary care center Castelldefels Agents de Salut (CASAP) to continually raise its standards and rise to the top of the Catalan Health Service rankings for drug prescriptions.

CASAP's many performance indicators are showing a continued upward trend, with outstanding efficiency in the use of generic and recommended drugs. There has been a very clear focus on strong organizational values and a real commitment to listen to and develop staff, reflected in high satisfaction scores and low turnover.

"We follow a strategy based on **democratic leadership,** imagination, **flexibility** and professional **empowerment,** promoting **new roles** for professionals."

Antoni Peris i Grao,
Director, CASAP

The challenge

Many health providers around the world are under continuing pressure to do more with limited resources. Making the best use of the talent at their disposal can be particularly difficult, as some staff may have long-held views about the boundaries of their roles. CASAP was established in 2005. Although publicly owned, it is fairly autonomous, with services provided through a contract containing financial penalties if activity targets are not achieved.

The approach

The structure of CASAP gives it a degree of freedom in managing its service, notably in the recruitment and remuneration of staff, and the range of care offered. Antoni Peris, the Director of CASAP, saw such flexibility as an opportunity to realize his vision of a dynamic, empowered primary care team, where staff are encouraged to develop skills by taking on wider responsibilities.

Recruitment played an important part in this vision. When the center was set up in 2005, it inherited a third of its staff from the Catalan Health Institute, which had previously provided primary care services in the area. In hiring the remaining two thirds of employees, it was careful to select people whose values matched those of the new organization, with the skills to take on extended roles, such as nurses with knowledge of eating disorders.

Expanding traditional roles

The new organization set about developing protocols and training to give staff the skills and the motivation to take on a wider range of activities. For example, administrative staff have effectively become 'health clerks,' with the power to decide whether a doctor or a nurse should attend urgent requests for treatment from patients.

With the help of appropriate education, nurses are similarly empowered to deal directly with issues such as urinary tract infections, dizziness, burns and surgical wounds – without the need for any doctor involvement. This in turn enables doctors to focus on more complex cases and to work more closely with the local hospital to improve services for conditions such as heart failure. Naturally, there may be some adverse incidents along the way, but these are analyzed as part of a continuous improvement strategy, with procedures and training updated accordingly.

Performance-based pay

The reward scheme differs between staff groups such as family physicians, pediatricians, nurses, and children's nurses. Many performance indicators relate to clinical issues, with some being assessed at a team level, while others concern individual standards. Indicators differ for each professional group: for doctors they mainly concern the use of recommended drugs, while for nurses they focus on preventative activities or home-care.

What makes CASAP's scheme unique in Catalonia is a further set of indicators based on clinical excellence and organizational commitment, through participating in new activities such as patient training, prick tests, minor surgery or non-midriatic retinography. These activities are reviewed and developed each year to help raise the bar and improve standards.

Staff receive monthly feedback, and bonuses are paid to those hitting at least 60 percent of their targets, with up to about 3 months wages being paid for 100 percent achievement. Actual performance has ranged from 65 percent to over 90 percent, with the median being around 80 percent.

The results

According to CASAP Director, Antoni Peris i Grao, the new organization is starting to realize its visions, *"We follow a strategy based on democratic leadership, imagination, flexibility and professional empowerment, promoting new roles for professionals. Our team shows good clinical results, an excellent prescription profile and professional satisfaction superior to other organizations"*

- Over 84 percent of demands such as injuries, diarrhea and emergency contraception are resolved autonomously by nurses, with only 4 percent of patients requiring a revisit within 3 days.
- 40 percent of emergencies such as thoracic pain, dizziness and shortness of breath are resolved by nurses alone, as are 75 percent of 'triage' conditions such as back pain, headaches, and sore throats, and over 65 percent of other conditions, such as anxiety and joint pain.
- The annual trend is upwards for most performance indicators, with prescription results outstanding (these reflect efficiency and use of generic and recommended drugs).

The implementation of extended roles has helped to increase job satisfaction and led to greater involvement of nurses and clerks alongside doctors in developing services. CASAP conducts an annual professional 'quality of life' survey that includes self-perceptions of workload, information feedback, professional development and relations with managers.

The overall average scores have risen each year, reaching 7.5 out of 10 in 2008. Staff turnover is also very low.

CASAP's achievements were formally recognized in 2009 by the award of a Spanish Health Ministry prize for quality innovation in health services.

"Our team shows good clinical results, an **excellent prescription profile** and professional satisfaction **superior to other organizations.**"

Antoni Peris i Grao,
Director, CASAP

Lessons learned

- It is vital to value and continue to develop staff to motivate them to expand their horizons.
- A clear strategy provides direction and inspiration, but it must be founded on solid, practical clinical and management experience.
- An inclusive management style helps build trust, and involves listening to people on personal as well as professional issues. Trust between management and staff is particularly important when mutually setting performance targets, and may be easier to achieve in a smaller organization.
- Create an environment that stimulates innovation: the Catalan health system has given CASAP some freedom to experiment with its structure.

Further information

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Sources

- Interviews with Antoni Peris, Director, CASAP; Dr Mateu Huguet, Director, Institute of Health Studies, Barcelona; Professor Guillem Lopez, Pompeu Fabre University, Barcelona; Francisca Pavon, nurse, CASAP; Susana Vilalta, specialist in family and community medicine, CASAP.
- Internal performance reports.
- Peris–Grao, A. and Brugues-Brugues, A. (2009). A new model for primary care services. Presentation to the European Health Management Association Conference, 24-26 June, Innsbruck.

Case Study

McMaster University

Elderly patients receiving **proactive care** cost **Can$2,160** per year compared with **Can$10,971** per year for those left untreated

Integrating health services to serve vulnerable people more cost-effectively in Ontario, Canada

A series of recent clinical trials in southern Ontario, ongoing since 1991, have shown that targeting vulnerable people with proactive, integrated care is more effective and usually less expensive than on-demand care. Such an approach typically pays for itself within the same year and/or saves money by avoiding the use of more expensive crisis services.

The research found that social background is a bigger influence on health than clinical factors. By forming strategic alliances, providers can target the high-users of healthcare services. The cost of caring for the elderly at home fell in some cases by 80 percent, while in other examples the cost of offering social help to parents fell by Can$300,000 for every 100 parents offered the service. The trials are continuing to spread good practice through coordination and intervention.

The challenge

It is widely acknowledged that vulnerable people make the greatest demands on health services, largely because they have relatively few personal or social resources to draw upon. In Ontario, the care provided to vulnerable people is typically offered by a range of providers acting independently. Gina Browne, Director of the McMaster University Health & Social Service Utilization Research Unit in Hamilton, Ontario, believes that, "*The most serious barrier to the delivery of these services is the separate funding of the various sectors.*"

In an attempt to reduce the cost of serving this group, the unit has sought to compare the traditional approach to care – which is essentially reactive – to a more proactive approach, where the different providers coordinate more closely.

The approach

Founded in 1991, the McMaster University Health & Social Service Utilization Research Unit specializes in comparing different types of care, using randomized, controlled trials and economic evaluations. Gina Browne is very positive about its impact, *"Over the past decade, the unit's investigators have conducted studies on a variety of samples, settings, sectors and services. What we have found is both simple and profound: helping people to find the means to feel better and function more effectively costs no more than doing nothing and often saves money in the same year, especially in systems of national health insurance."*

Vulnerability is caused by a variety of factors: the interaction between biological factors (such as genetic pre-disposition to specific diseases), personal resources (cognitive, emotional and intellectual capacities) and environmental factors (such as social support). The broad-ranging research program looks at the relative costs of alternative service approaches across different groups of vulnerable people in different settings.

The results

The trials have shown that targeting vulnerable people with a mix of services can lead to greater effectiveness of care and either similar or, in many cases, reduced costs. Such an approach typically covers its costs within a year or less, by avoiding the use of more expensive crisis services. Some of the notable findings are:

Personal factors are more important than the severity of the illness

A number of 'cost of illness' studies found that the disproportionate level of expenditure on vulnerable people was due primarily to their inability to adjust to a chronic illness, and the fact that they were depressed and/or felt their lives had no purpose. These factors had a greater influence on cost than the actual severity of the disease.

Integrated, proactive interventions reduce health disparities for children and parents

In one study of single parents and children receiving social assistance, proactive, integrated human services for families with considerable ill-health was found to be more effective and less expensive than traditional treatment. In-home visits by public health nurses, employment training and child-care, as well as recreation or skill development aimed at children, led to less reliance on social help, creating savings, and avoiding further expenditure on all other human and health services.

Older people living at home can also benefit from alternative interventions

Several trials of home-care interventions focused on older people with chronic needs found that a proactive, integrated approach led to better health outcomes for the same or lower cost (compared to providing services on a limited, reactive and piecemeal basis). As 80 percent of the care for older people with chronic need is provided by family care, such an approach also gives much needed support to carers.

"The **most serious barrier** to the delivery of these services is the **separate funding of the various sectors.**"

Gina Browne,
Director, McMaster University Health & Social Service Utilization Research Unit, Hamilton, Ontario, Canada

"The most **successful strategies** are those that are **cooperative and cross sector…**"

Gina Browne,
Director, McMaster University Health & Social Service Utilization Research Unit, Hamilton, Ontario, Canada

Mental health patients often have wider health problems

Several studies show the high prevalence of unaddressed mental health problems (depression and anxiety) coexisting in people with health and social vulnerabilities. This finding includes chronically ill patients; children aged 10 to 17; recipients of social assistance; parents of children with complex needs and disabilities; parents of children in need of protection; adults and older people in primary care and in receipt of home-care. In all cases, interventions helped reduce the amount and cost of healthcare provision.

Financial savings

According to Gina Browne, *"Savings can be achieved not because an effective service is cheap, but because making people healthier and better able to cope with their life circumstance results in savings elsewhere. The greatest cost savings tend to accrue among those who are high-users of the healthcare system."* The various trials have produced some significant cuts in cost for the different health services often in the same year of the intervention.

- Screening the elderly in primary care:
  - Proactive screening and treatment resulted in between 11 percent and 22 percent gains in social and emotional function for elderly people aged 75 or more living alone. Those receiving proactive care cost Can$2,160 per year compared with Can$10,971 per year for those left untreated.
  - Proactive nursing health promotion is twice as effective (reducing depression and improving function) and no more expensive than reactive, on-demand care.
- Support for parents on social assistance:
  - Proactive, subsidized recreation services improve the competence of children with behavioral disorders. This helps reduce the need for social assistance, bringing down annual costs by Can$200,000 for children in every 100 families offered the service. The program often pays for itself by lowering the use of crisis human services.
  - Proactive intervention reduced the number of parents requiring social assistance by 10 percent within a year. Combined interventions saved Can$300,000 for every 100 parents offered the service.

Future developments

The McMaster University Health & Social Service Utilization Research Unit is continuing to develop models for effective integrated care. Measurement is an integral part of the process, enabling researchers to track the relationship between levels of integration and results. The unit has also created strategic alliances among autonomous healthcare providers. Not only can these various agencies work together more closely, but findings can be shared openly to help spread knowledge and good industry practice. Such momentum is helping to improve cost-effectiveness and enhance the quality of care for patients.

Lessons learned

"The most successful strategies are those that are:

- Cooperative and cross-sector, linking physical healthcare to social services, mental health services and other services.
- Comprehensive and holistic (rather than disease-by-disease), treating the whole person or the whole family in context.
- Proactive reaching-out to those who are unlikely to find the help they need on their own."

Gina Browne
Director, McMaster University Health & Social Service Utilization Research Unit, Hamilton, Ontario, Canada

Further information

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The Health & Social Service Utilization Research Unit is funded by the Ontario Ministry of Health and Long-Term Care.

Sources

- Interview with Gina Browne, McMaster University, Founder and Director, System-Linked Research Unit on Health and Social Service Utilization, January 2010
- The Health and Social Services Utilization website www.mcmaster.ca/slru/
- System-Linked Research Unit on Health and Social Service Utilization [2008] Annual Report 2007-2008].
- Cost of illness studies – and return on investment – of alternative service approaches that reduce disparities in health. Gina Browne, *et al.*
- Interventions for vulnerable populations that reduce health disparities for children and parents, Gina Browne *et al.*
- Aging at home – more effective/less expensive approaches to the delivery of home care services for frail older home care clients and their family caregivers: evidence from Ontario, M. Markle-Reid, *et al.*
- The comparative effects and expense of mental health interventions to reduce health disparities, G Browne, L George, S. Kidd *et al.*

Case Study

Torbay Care Trust

"I've seen **the future. It's Torbay."**

David Nicholson,
Chief Executive of the UK National Health Service

Integrating health and social care in true partnership to meet the needs of an aging population in Torbay, UK

By bringing together local teams of health and social care staff, Torbay Care Trust has successfully provided cost-effective services for an elderly population. Torbay needs substantially fewer hospital beds for older people than other areas in the UK, has virtually eliminated delayed transfers of care from hospital to community care, and improved access to intermediate care such as physiotherapy.

This achievement is founded on a commitment to partnership-working that transcends all other priorities, as well as effective leadership, and a willingness to learn from a successful model in the US. By integrating health and social care, as well as primary and secondary care, Torbay is setting standards for the future, as its population has an age profile similar to that predicted for the UK as a whole in 2050.

The challenge

Many people with healthcare needs, disabilities or mental health problems often have social needs as well – particularly when they are older. Yet despite health and social care agencies recognizing the importance of a coordinated approach to care, this has proven difficult to achieve in practice.

Care Trusts are an effective way of promoting service integration. They combine UK National Health Service (NHS) and local area health authority responsibilities under a single NHS body, with local representatives on its board. Torbay, in the South West of England, established its Care Trust in 2005, with the new entity providing and commissioning both healthcare and adult social care services.

The Torbay area is a popular retirement destination, with 23 percent of the total population of 140,000 aged over 65, compared with a UK national average of 16 percent. Prior to the establishment of the Care Trust, the local authority's delivery of social services was generally rated poorly, while the local healthcare provider had good ratings.

The approach

Torbay Care Trust has created 5 local zones, through which all community health and social care services for adults are delivered and commissioned. Within each zone, district nurses, social workers, physiotherapists, occupational therapists and an intermediate care support worker together form an integrated team, managed by one person. These teams use a pooled budget to commission whatever care is needed, while following a single assessment process.

Each team has a health and social care coordinator, a new role performed by a non-professionally qualified member of staff, who liaises with users, their families and other team members to arrange care and support. A weekend working pilot scheme started in late 2009.

An emphasis on partnerships

Torbay Care Trust is dedicated to partnership-working, which encourages a more holistic way of caring for patients. This approach has taken several years to develop and refine, using training and continuous monitoring, supported initially by an independent external evaluator.

Using practical methods to change the culture

A pilot project in one of the zones during 2004 helped pave the way for cultural change, ushering in a more partnership-oriented approach. The various stakeholders were given concrete examples of the benefits of working together, giving them a much more positive view of their fellow team members' contributions.

Organizational leaders also facilitated the change process by focusing everyone's thinking on an imaginary service user named 'Mrs. Smith.' This character's very ordinariness (Smith is the most common name in England) enables staff to empathize with her and associate her with real-life service users. This has helped concentrate thinking on the needs of ordinary patients and users, and the services they require.

Learning from other countries' experiences

Another inspiration for the Care Trust was the Kaiser Permanente model of integrating care between hospital and the community. This involves actively managing patients in hospital, with a strong focus on those with chronic conditions – who place the greatest demands on services.

One of the pivotal factors influencing the formation of the Care Trust was a visit to Kaiser Permanente in California, where health and social services providers are combined in a single organization, with board representation from both providers. Subsequently in 2006, Torbay Care Trust took part in a national pilot program, where it adapted and implemented various aspects of the Kaiser Permanente model.

Working as **one integrated team** spanning community **health and social care, and pooling budgets,** encourages a more **holistic approach to patient care.**

Delayed transfers of care from hospital to community care have been **virtually eliminated.**

The results

Torbay Care Trust has reduced its use of hospital beds, virtually eliminated delayed transfers of care between organizations and improved access to intermediate care.

- Compared to its benchmark group, Torbay uses only 47 percent of the emergency bed days for people aged over 85 who require 2 or more admissions.
- Delayed transfers of care from hospital to community care have fallen to only 6 per 100,000 for those aged 65 or over (in the year to April 2008), compared with a median figure of 24 for England.
- By October 2008, 97 percent of care packages were in place within 28 days of assessment, compared with 67 percent in April 2006.
- Urgent cases have access to occupational therapists, physiotherapists, and district nurses within 3 and a half hours, with other cases seen within 5 working days.
- User and staff satisfaction have both improved.

In 2008, Torbay Care Trust won a prestigious UK Health Service Journal (HSJ) national award for managing long-term care, and was also highly commended for improving patient access and mental health innovation. In 2009, it was highly commended in the HSJ's primary care organization of the year category.

Lessons learned

- Torbay Care Trust's success has been founded on its dedication to partnership-working, helped by existing good relationships between stakeholders, charismatic leadership and an imperative for change due to poor services.
- Change is easier when staff are focused on practical, real-life issues affecting patients and users.
- Visiting other healthcare providers around the world can inspire innovative thinking and a belief that change is possible.
- Integration can act as a catalyst for service development, for example, greater cooperation was achieved by bringing all staff onto NHS contracts, under the organizational umbrella of a Care Trust.

Further information

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Sources

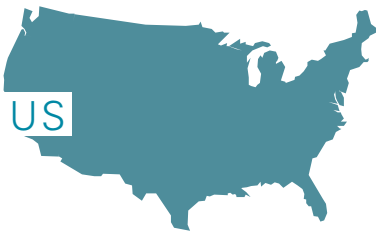
- Interview with Peter Thistlethwaite, Director, integrated care R&D
- Ham, C. (2010). *Working Together for Health: Achievements and Challenges in the Kaiser NHS Beacon Sites Program.* HSMC policy paper 6. University of Birmingham.
- Ham, C. (2009). *Only connect: Policy options for integrating health and social care.* Briefing Paper. The Nuffield Trust: London.
- Currie, C. (2008). *Better can be cheaper: from postcode lottery to cost-effective, system-wide care?* Presentation to the BGS Commissioning Workshop. London, 25th November 2008.
- Hayward-Giles, S. (2006). Commentary – Creation of a Care Trust: Managing the Project. *Journal of Integrated Care.* Vol. 14, No. 5, pp 23-24.
- Torbay Care Trust (2009). *Looking Ahead – Our Promises to You: The Torbay Care Trust Strategic Plan 2008/13 – December 2009.* Draft November 2009 Version 6.1.
- Lavender, A. (2006). Creation of a Care Trust: Managing the Project. *Journal of Integrated Care.* Vol. 14, No. 5, pp 14-22.

Case Study

Intermountain Healthcare

"...high-quality care at costs **below average."**

Barack Obama



Enhancing primary care for mental health patients – at a lower cost

The introduction of an integrated model of care has brought considerable benefits to patients, their families, healthcare providers and community partners in the US states of Utah and Idaho. By focusing on routine primary care for patients with mental health conditions, Intermountain Healthcare has achieved demonstrable improvements in quality with financial savings.

Patients treated in mental health integration (MHI) clinics have a lower rate of growth in charges for all services, with savings of 30 percent to 80 percent. In addition, the number of emergency visits for depressed patients fell by over half. The program places mental health at the heart of primary healthcare and is being replicated by local community health clinics in several other states.

The challenge

Intermountain Healthcare (IH) is a non-profit integrated healthcare system with 22 hospitals in Utah and Idaho. It has more than 2900 affiliated physicians, 700 of whom are employed with the medical group. IH also has over 130 ambulatory care practices and its own health plan.

The group's long-established clinical integration structure enables physicians, nurses and medical assistants to collaboratively treat most patients with chronic illnesses. However by the late 1990s it became clear that doctors in primary care were struggling with the burden of demand. In particular these physicians felt ill-equipped to meet the needs of patients with co-occurring mental health conditions. Dealing with such patients is inevitably more complex and often involves their wider families.

The approach

Over the past decade, IH has introduced a new model of mental health integration (MHI), radically changing the way in which primary care is delivered by improving coordination of services between the various parties involved. As of early 2010, the program has been implemented in over half (69) of IH's 130 primary care clinics. A leadership team has been established at each regional site to design, implement and evaluate the program across all clinic sites.

How the program works

When a patient arrives at the primary care clinic he or she automatically receives both a physical and mental health assessment via a questionnaire. This helps the primary care physician, the patient and their family to identify and determine the nature and extent of any mental health problem, classified as:

- Mild: requiring routine care with care-management or peer advocacy.
- Moderate: requiring care-management with additional mental health support from a mental health specialist or peer advocates within the team.
- Severe: requiring direct consultation with a mental health specialist and support from all team members.

The assessment also notes how much support is available to a patient and family to help them manage their chronic condition. Keeping everyone informed is vital, so information is exchanged routinely between all members of the team including patient, families and specialized mental health providers. The team has a number of common tools available and results are reported centrally, which encourages consistency of practice based on evidence. As Brenda Reiss-Brennan, the Director of MHI observes, "*Standardized assessment tools and meaningful data really drive the clinical decision-making that is matched to the appropriate level of team resource.*"

Such a team-based approach considers the needs and satisfaction of all parties involved – patient, family, physician, and staff – to ensure:

- **True integration:** mental health becomes a fundamental feature of primary healthcare and is accessible to all patients, regardless of complexity of condition or financing. A mutually agreed treatment plan reflects the assessments and any observed problems.

Adult patients treated in **mental health integration** clinics had only an **8 percent increase** in charges, compared with a **90 percent increase** in traditional care clinics.

- Real support to physicians: although patients and their families are the focus, the program also recognizes the challenges facing doctors, both in terms of workload and complexity.
- All contributions are acknowledged: reflecting the involvement of all members of the team in improving the quality of care, including the patients, carers and community members.

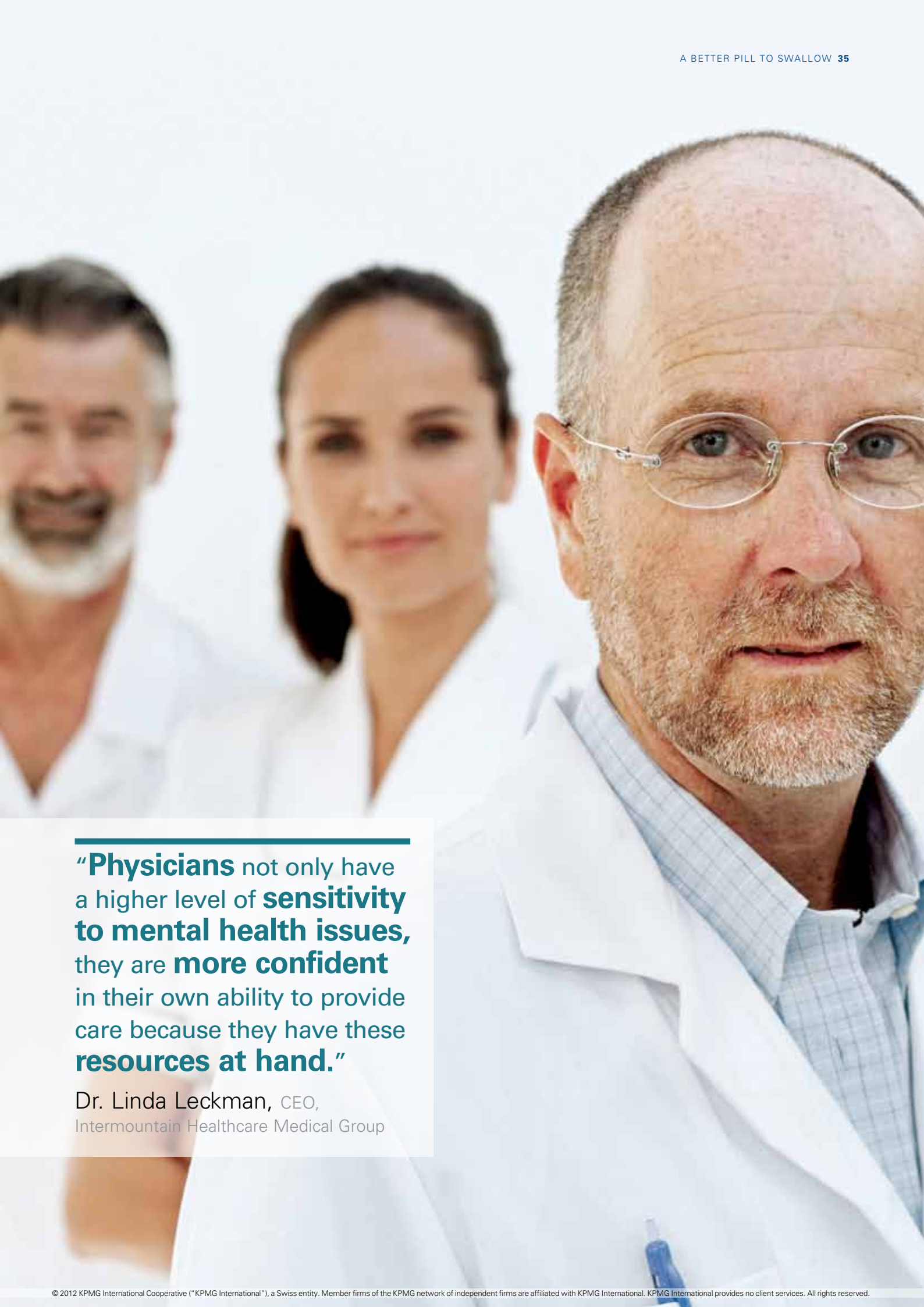
The importance of training

A vital feature of IH's Mental Health Integration is a standardized ongoing training program. This is offered to all team members, with dedicated implementation specialists and analysts working alongside to achieve continuous quality improvement. There are 5 key components of their mental health integration program:

- Leadership and cultural integration: to identify and integrate leadership 'champions' – people with mental health and medical backgrounds – to provide institutional commitment and accountability for the integration goals.
- Workflow integration: training all staff from different provider backgrounds to work together as a team in the primary care setting, utilizing standardized clinical tools and creating complementary team roles. This also helps change the culture, reducing the stigma associated with mental health conditions and helping people identify the physical symptoms linked to such conditions.
- Information systems integration: a secure, centralized repository for data enables all team members to access and update clinical and financial records and communicate with each other. This creates coordination between clinic administrators, physicians, nurses and medical assistants, bringing greater continuity in patient and family care. Patients also have the facility to email their primary physician.
- Economic and financing integration: linking clinical and financial outcomes brings together payers and providers, giving a comprehensive overview of all financial costs in the context of improved quality.
- Integration with the community: one of the most challenging and critical aspects of integration, this training encourages members of the community to become active partners with the MHI team. In this way, the program seeks to enhance community support to patients and families beyond the clinic.

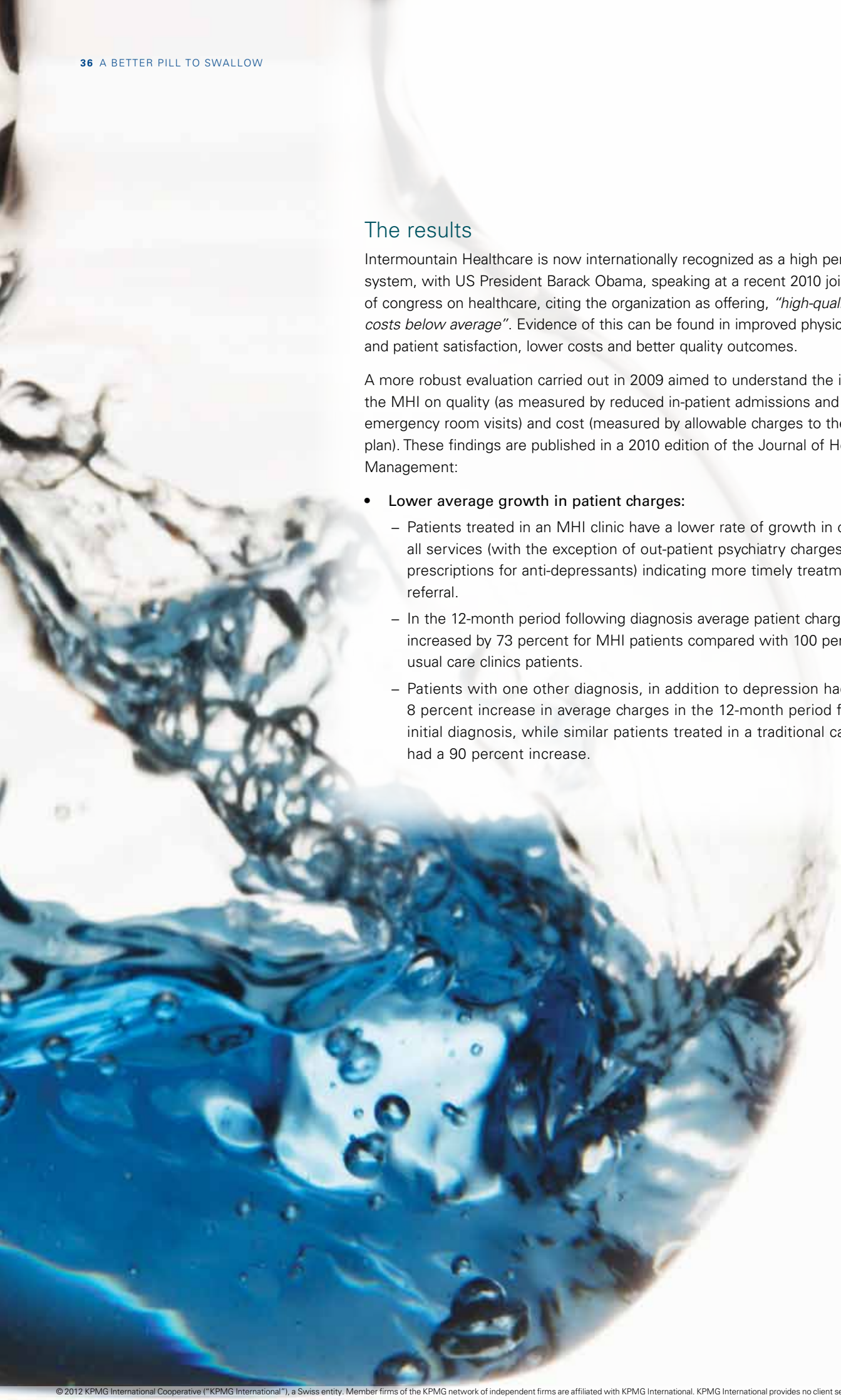
Continuous improvement is a key objective, according to Dr. Charles Sorenson, CEO of Intermountain Healthcare, *"… our organization sets goals around 6 dimensions of care – clinical care and service, physician and employee engagement, operational excellence and community stewardship. What is so promising about the Mental Health Integration initiative is the opportunity it gives us to demonstrate benefit and add value in virtually every one of these dimensions."*

The model developed by Intermountain Healthcare is now being taken up by local community health clinics across the US in Mississippi, Maine, New Hampshire, Oregon and Utah.



"**Physicians** not only have a higher level of **sensitivity to mental health issues,** they are **more confident** in their own ability to provide care because they have these **resources at hand.**"

Dr. Linda Leckman, CEO, Intermountain Healthcare Medical Group



The results

Intermountain Healthcare is now internationally recognized as a high performing system, with US President Barack Obama, speaking at a recent 2010 joint session of congress on healthcare, citing the organization as offering, *"high-quality care at costs below average"*. Evidence of this can be found in improved physician, staff and patient satisfaction, lower costs and better quality outcomes.

A more robust evaluation carried out in 2009 aimed to understand the impact of the MHI on quality (as measured by reduced in-patient admissions and emergency room visits) and cost (measured by allowable charges to the health plan). These findings are published in a 2010 edition of the Journal of Healthcare Management:

- Lower average growth in patient charges:
  - Patients treated in an MHI clinic have a lower rate of growth in charges for all services (with the exception of out-patient psychiatry charges, and prescriptions for anti-depressants) indicating more timely treatment and referral.
  - In the 12-month period following diagnosis average patient charges increased by 73 percent for MHI patients compared with 100 percent for usual care clinics patients.
  - Patients with one other diagnosis, in addition to depression had only an 8 percent increase in average charges in the 12-month period following initial diagnosis, while similar patients treated in a traditional care clinic had a 90 percent increase.

  - For all levels of complexity (mild, moderate, and severe) and overall, patients with depression treated in a MHI clinic cost less in the year following their diagnosis than those treated in usual care clinics. The rate of growth of expenses was US$405 less than for patients in the traditional care group – a 10 percent reduction.
  - In the 12 months following diagnosis of depression, the 429 patients in the traditional care group in the study would have saved almost US$300,000 in charges, had they been treated in an MHI clinic.

- Lower utilization of emergency room services:
  - Depressed patients treated in MHI clinics are 54 percent less likely to have emergency room visits than depressed patients treated in non-MHI clinics.

As Dr Linda Leckman, CEO, Intermountain Healthcare Medical Group, explains, *"Physicians not only have a higher level of sensitivity to mental health issues, they are more confident in their own ability to provide care because they have these resources at hand. So it not only results in better care for the patient, but higher physician satisfaction as well."*

Lessons learned

- When implementing the new MHI model, IH were sensitive to the reactions of primary care physicians and staff, offering them full support through the change period
- The program requires leadership at all levels in the team and a commitment to service integration. Local community leaders should also be involved
- The success of the program shows that it is possible to achieve a paradigm shift from a traditional medical model to a more holistic, integrated model of care

Further information

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Sources

- Interview with Brenda Reiss-Brennan, Mental Health Integration Director, Intermountain Healthcare Medical Group, February 2010.
- Conis, E [2009] A model for mental health integration. *Health Policy Monitor*, October.
- Reiss-Brennan, B., P. C. Briot, L. A. Savitz, W. Cannon, and R. Staheli. 2010. "Cost and Quality Impact of Intermountain's Mental Health Integration Program." *Journal of Healthcare Management 55* (2): 97-114.
- Health Policy Monitor [2009] USA/Utah: Mental health – from isolation to routine healthcare www.HealthPolicyMonitor.org

Case Study

Pharmac

Since 1997 over **NZ$400 million** has been saved from a tender program alone, and **subsequently reinvested in new medicines.**

Negotiating better value from a national pharmaceuticals budget – and reinvesting savings in patient care

Since 1993, the New Zealand National Health Service has saved over NZ$400 million and restricted annual budget growth to under 3 percent through its drug procurement organization, Pharmac. Through a rigorous, commercial approach to negotiation, it has cut the cost of products by up to 90 percent by stimulating strong competition amongst pharmaceutical companies keen to get on the supplier list.

Using tactics such as sole supplier agreements, New Zealand is paying in some cases less than 10 percent of the prices seen in other countries for comparable medicines. Critically, Pharmac is also measured on its ability to improve the health of patients, which has seen savings diverted to valuable new areas of treatment.

The challenge

Pharmaceuticals represent a hefty proportion of healthcare spend globally, and all providers, public or private, are keen to find ways to minimize this cost. In the early 1990s, the New Zealand National Health Service, which offers subsidized medicines to patients, was seeing an annual rise of 20 percent in its drug bill.

The approach

In 1993, the 4 regional public healthcare purchasers in New Zealand set up a company called Pharmac, to apply a far more commercial approach to negotiations with the pharmaceutical industry. Pharmac's main role is to get the best possible value for money by deciding which medicines are subsidized using taxpayer funding, and to agree supplier contracts. As a state entity, it is governed by a Board appointed by the New Zealand Minister for Health.

More specifically, Pharmac:

- Manages expenditure by regional health authorities on all medicines used in the community and in some hospitals.
- Promotes the responsible use of medicine.
- Assists regional health authorities with national procurement initiatives.
- Manages the 'Exceptional Circumstances' scheme which allows for medicine not normally subsidized to be funded for rare and unusual clinical situations.

Its 2009 budget was NZ$653 million and, as the Chair and Deputy Chair of Pharmac mentions in the Statement of Intent, *"In the current economic climate, getting more for less through brand changes takes on even greater significance."*

With an aim of delivering the best possible value to patients and the taxpayer in general, Pharmac identifies and selects the most promising funding proposals and directs supply to those who are most likely to benefit. The proposal process promotes competition between pharmaceutical suppliers to reduce pharmaceutical prices; they know that the budget is fixed. Although Pharmac is measured on the price reductions it achieves, it is also judged on the predicted improvement in health outcomes resulting from the products it buys.

The results

Matthew Brougham, Pharmac's Chief Executive, summed up its success, *"Regarding evidence…our actions have resulted in significant savings relative to alternative management systems. The fact is, no matter how you analyze it, we have constrained expenditure, without constraining growth in prescriptions, to reasonable levels (circa 2.5 percent over the long run) and funded new technologies. No other drug plan in the world (bar a few in the States – notably Veterans Affairs) can make the same claim – certainly none in the EU."*

- Since its establishment Pharmac has increased the volume of drugs while containing costs within a capped annual budget.
- Pharmac's annual expenditure for 2008/09 was NZ$653 million, which was on budget.
- Pharmac employs a variety of purchasing methods (tendering, reference pricing and cross-product negotiations) which together accounted for NZ$32.60 million savings.

Commenting on these achievements, a New Zealand Ministerial Review Group Report concluded that, *"Pharmac is well regarded and has developed widely accepted processes for assessing the relative cost-effectiveness of new pharmaceuticals and making well-informed judgments about priorities for public funding of new and existing pharmaceuticals."*

"…we have **constrained expenditure, without constraining growth** in prescriptions, to reasonable levels (circa **2.5 percent** over the long run)…"

Matthew Brougham,
Chief Executive, Pharmac

"...I **challenge** you to find another drug plan that has achieved that level of **real reduction in prices.**"

Matthew Brougham,
Chief Executive, Pharmac

Saving NZ$400 million through sole suppliers and generics

Tendering for the sole supply of one brand of medicine gives companies a real incentive to offer low prices, as patent protection can create exclusive deals for many years. Further competition is generated through the use of generic alternatives. In some cases Pharmac has made savings of up to 90 percent – which can then be used to either purchase new drugs or widen current supply.

Since 1997, Pharmac estimated over NZ$400 million has been saved in the manner and subsequently reinvested in new medicines. The New Zealand experience suggests that sole supply is more effective than multiple supply, as the following table shows:

Comparative prices of 5 medicines (All prices are in NZ dollars)

Medicine	Price per 30 tablets	NZ Price	Australia Price	UK Price	Canada Price
Paracetamol	500mg	$0.29	$3.10	$1.09	$1.07
Simvastin	20mg	$1.00	$40.78	$2.21	$52.24
Omeprazole	20mg	$3.05	$37.68	$4.02	$41.45
Amoxycillin	500mg	$1.64	$19.62	$4.79	$12.88
Citalopram	20mg	$1.35	$30.20	$2.96	$32.98

New Zealand is the only country that uses sole supply for these drugs.

Pharmac's other procurement strategies include:

- **Therapeutic grouping:** grouping medicines of equivalent therapeutic value and paying a subsidy for the lowest price drug, which encourages price competition between comparable products
- **Cross-product negotiations:** negotiating with pharmaceutical companies for a bundle of products (often involving price reductions on some drugs in exchange for listing new products).

The final word comes from Pharmac Chief Executive Matthew Brougham, *"Our real spending power has increased three-fold over the period of our existence (if we had the prices we had in 1993, expenditure today would be 3 times higher at current levels of volume and mix). I challenge you to find another drug plan that has achieved that level of real reduction in prices (despite the block-busters all coming off patent)."*

Lessons learned

- A single purchasing organization with a clear mission, strategy and commercial focus can achieve significant cash savings
- Combining budget and decision-making responsibilities makes the organization more aware of the opportunity costs of its decisions
- Smart negotiation methods not only keep costs down but also free-up the budget to invest in new drugs
- Sole supply rather than multiple supply of the same drug can save money

Further information

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Sources

- Telephone interviews with Professor Peter Davis and Mathew Brougham [Pharmac CEO] Sources on Pharmac website including the Pharmaceutical Management Agency, Annual Review, 2009 and the Pharmaceutical Management Agency Annual Report 2009/10. www.pharmac.govt.nz
  Davis P [2004] Tough but fair? The active management of the New Zealand drugs benefits scheme by an independent Crown agency. Australian Health Review 28: 2;171-181
- Table: All of the prices are public list prices obtained from the following sources:
  - Australia – Online searchable version of the Schedule of Pharmaceutical Benefits www.pbs.gov.au [accessed 27/10/2009]
  - UK – BNF 58 [September 2009]
  - Canada – Alberta interactive Drug Benefits List
  - https://www.ab.bluecross.ca/dbl/publications.html/ [accessed 28/10/09]
  - Differences in population size and clinical practice have not been taken into account
  - All prices are expressed in New Zealand dollars.

Case Study

Techniker Krankenkasse

Those receiving **coaching** showed significantly **lower in-patient costs** compared to control groups.

Using coaching to successfully change patients' lifestyles, enhance their health and bring down the cost of care

A program of telephone-based coaching has made a big impact on patients suffering from chronic conditions such as heart failure, ischemic heart disease and diabetes. German health insurance provider, Techniker Krankenkasse, reported high satisfaction rates and improvements in patient-reported health.

Although the initiative is in its early stages, there are initial indications that costs of patient treatment and in-patient hospital care are lower than for comparative groups. This success has convinced TK that coaching should be an integral part of its future offering.

"This is one of our most **prestigious projects** and holds great promise in terms of **managing the human and financial burden** of sickness."

Professor Norbert Klusen, CEO, Techniker Krankenkasse

The challenge

Many healthcare organizations worldwide increasingly recognize that the burden of costs for providers and consumers has shifted from acute to chronic care. Although patients with chronic illnesses receive ongoing support from doctors, nurses and family members, this can often be insufficient. Consequently these patients are more likely to suffer deterioration of their condition, expensive and potentially distressing unplanned hospital admissions, and early death.

Techniker Krankenkasse (TK) was established in 1884 and is now the second largest statutory health insurance fund in Germany with around 7.3 million customers. For 4 years running it has come out overall 'best' in Focus Money magazine's national comparison of 140 funds. Statutory health insurance funds in Germany all have to provide the same basic coverage and range of services. They differentiate themselves in how they look after their insurants, the quality of clinical care they buy and their overall financial management.

The approach

One way to counter the personal and financial cost of chronic care is through health coaching, to encourage a better lifestyle. TK has embraced this approach enthusiastically, as Klaus Rupp, Head of Health Care Management, explains, *"Regarding the demographic change, TK takes the challenge to counter the rising number of chronic diseased insurants, providing a patient-oriented case management. In this context, we developed the TK-health-coach to strengthen the patients' understanding and perception of the disease on the one hand and to encourage them in changing their health behavior on the other hand. A healthy lifestyle does have a great influence on the progression of many chronic diseases. Thus with this program we aim at increasing the compliance and the self-management skills of our clients in order to improve their quality of life."*

The coaching aims to:

- Delay or reduce progression of the illness.
- Cut the cost of the illness.
- Avoid hospital admissions.
- Avoid payment of sickness benefits.

The coaches are carefully selected on the basis of excellent clinical or psychological qualifications and appropriate personal qualities. Coaching begins with a once-weekly contact, which after a period comes down to once a month. By working closely with the patient, the coach aims to motivate him or her to change behavior in terms of nutrition, exercise, drinking, use of medicine and smoking (if needed). Progress for each patient is carefully documented, helping TK to better understand which approaches work best, and which are less effective.

TK started to provide personal coaching in January 2008, through a telephone-based service for a group of patients with heart failure. This was followed in October 2008 with a similar offering for patients with type 2 diabetes, myocardial infarction and ischemic heart disease. As of early 2010 the insurer has 15 coaches, with around 5000 insurants having benefited from the interventions. Having achieved a critical mass, TK regularly reviews the service to determine the optimum number of customers a coach should handle, and the appropriate level of teaching for patients.

Those taking part were given an independent evaluation at 3 different stages:

- Before coaching started.
- After the active coaching finished.
- Three to four months later to measure medium-term effects.

The results

Early responses have been very encouraging, with participants reporting high satisfaction levels and comfort with the style of coaching. There are also early indications of a decrease in out-patient and hospital in-patient treatment costs for the patients involved:

- 80 percent of patients were "very" or "highly satisfied."
- 96 percent were "highly satisfied" with the friendliness of the intervention.
- 88 percent found the information provided to be reliable.

In a further evaluation, Freie Universitat, Berlin analyzed the coaching data of 1300 heart failure patients taking part in the program and found:

- A patient-reported improvement in health status irrespective of age, gender, socio-economic circumstances or severity of illness.
- A positive correlation between the intensity of the coaching (i.e. the number and frequency of the coaching contacts) and improvements in patient-reported health.

- The topics with the most impact were exercise and drinking.
- The topics with the least impact were nutrition and the use of medicines.

Another group of over 1100 patients suffering from congestive heart failure was assessed at the end of 2009. Those receiving coaching showed significantly lower in-patient costs compared to control groups.

There will be a broad-ranging two-year evaluation in 2012, with TK confident that this study will confirm clinical and cost benefits, as CEO Professor Norbert Klusen confirms, *"This is one of our most prestigious projects and holds great promise in terms of managing the human and financial burden of sickness."*

Lessons learned

- The design and style of coaching should be adapted to meet different types of patients.
- Coaches should be professionally trained and able to win the trust of patients.
- Coaching topics that focus on exercise and drinking habits are likely to have more impact than those that focus on nutrition and the use of medicines.
- Regular and frequent contact between patient and coach leads to more positive changes in behavior and improved health.

Further information

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Sources

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In participating **London hospitals, the efficiencies** equate to having an extra **255 full-time** nurses, who would have cost about **£7.5 million** a year to employ.

Case Study

National Health Service

‘Lean-Thinking’ approach leads to simple, everyday improvements in wards to reduce waste, free-up staff and gain efficiency savings

By employing principles of ‘lean thinking,’ hospitals in the UK and internationally have enabled nurses to spend far more time with patients, while reducing the number of hospital stays. Known as the ‘Productive Ward’ program, the approach encourages the implementation of simple yet effective ideas that make a big difference to overall efficiency.

Patient satisfaction typically rises by 7 percent and time spent on direct patient care by 13 percent – which is equivalent to employing more nurses at no extra cost. With visible and continuing support from senior leadership, the program has the potential to bring sustainable improvements.

The challenge

The ward is the basic work unit within the hospital in-patient system, where patients interact most extensively with staff. Quality of care varies greatly across the UK National Health Service (NHS) however, and patients can experience wide differences in service between wards within the same hospital. One national survey found that over 70 percent of nurses and therapists felt that they did not spend enough time on direct patient care. More than 4 in 5 of those staff said this had an adverse impact on the care of patients.

"...Now the ward team are **motivated,** we have **not had a complaint** for 7 months, the number of falls has **decreased** and there are **no longer errors."**

Matron, NHS Foundation trust North East region, UK.

The approach

In early 2006, the NHS began to work with industry partners on a project to apply 'lean-thinking' concepts to drive efficiencies and streamline patient-care in hospitals. Known as the 'Productive Ward' program, this step-by-step process was piloted in 4 hospital sites, and was then modified and tested in a further 10 locations (with 2 additional pilots covering entire hospitals).

The focus of the program is on simple ideas such as altering patient handover time, reorganizing storage facilities and making better use of patient data. Staff are given the information, skills and time they need to initiate and carry out improvements, often gaining new skills in the process.

The program comprises 13 modules or steps together with instruction guides for ward leaders, project leaders and executives. The modules cover issues such as patient status, shift handovers, patient hygiene and nursing procedures. A number of tools are also available to improve services including interviews, timing processes, cost/benefit analysis and audit planning.

Expanding the concept around the world

In 2008, UK£50 million was invested in the program to spread it across the UK. Over 60 percent of local NHS acute-care providers are implementing the approach in at least one ward, as are healthcare organizations in a variety of countries. These include 17 wards/facilities in Saskatchewan, Canada, 4 acute medical units in Ontario, Canada, 15 District Health Boards in New Zealand and several wards in Australian healthcare organizations. In each case, vital support is offered by national or regional organizations experienced in rolling out quality healthcare initiatives.

The results

The Productive Ward program has helped ward leaders and nursing teams significantly improve their ward environment and processes. Patient satisfaction typically has risen by 7 percent and time spent on direct patient care has gone up by 13 percent. In London, this equated to having an extra 255 full-time nurses, who would have cost about UK£7.5 million a year to employ. There have also been increases in staff satisfaction and retention, while nurses have been able to make more patient observations. Further benefits include reductions in hospital stays and falling levels of stress and absenteeism.

Individual wards in the UK have experienced:

- Savings of up to UK£30,000 through more effective processes and use of resources.
- Handover time reduced by a third – with a significant improvement in quality.
- Medicine round-time reduced by over 50 percent.
- A reduction in meal wastage rates from 7 percent to 1 percent.
- An average drop of 30 percent in the rate of patient falls.

Overall 64 percent of staff across the UK say that the program has produced measurable impacts, with many considering the new approach to be, "of great value." One matron from a UK hospital summed up the change, *"When we started the project we had complaints from relatives, a high number of falls, high incidence of errors, the nurses were worn-out and demoralized, and the patients felt the domestics looked after them. Now the ward team are motivated, we have not had a complaint for 7 months, the number of falls has decreased and there are no longer errors."*

In Saskatchewan, Canada

Patient satisfaction scores have increased, while in one hospital, something as simple as installing a doorway between two rooms on the surgical unit saved 270 hours per year. One staff member enthusiastically commented, *"The great thing about (the program) is that it's us directing the change, directing the improvements. That's what going to make it sustainable."*

In New Zealand

Nurses at one hospital now spend 57 percent of their day with patients – up from 39 percent. Meanwhile the time spent collecting equipment has reduced by half.

According to Helen Bevan, Chief of Service Transformation, NHS Institute for Innovation and Improvement, *"The Productive Ward is a program you cannot afford to overlook if you are serious about embedding improvement capability into everyday work, harnessing the support of senior leaders whilst driving change from the front line."*

"The **Productive Ward** is a program you **cannot afford to overlook** if you are serious about **embedding improvement capability** into everyday work..."

Helen Bevan, Chief of Service Transformation, NHS Institute for Innovation and Improvement, UK.

Lessons learned

- The Productive Ward is not a 'quick-fix' and requires ongoing project management and support to realize and sustain benefits.
- Staff are more likely to be engaged if they truly perceive a need for improvement and are convinced that the new approach can bring practical benefits.
- Begin the program in wards where staff are enthusiastic – their success can subsequently inspire other wards.
- The program should be aligned with strategic priorities and other initiatives and be visibly championed by senior staff.
- Dedicated resources are essential, including a project leader, allocated budgets and training support.

Further information

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Sources

- Interview with Mel Moffatt, February 2010.
- Morrow, E., Jones, S., Maben, J., Griffiths, P., Robert, G. and Wood, V. (2009). The Productive Ward: Releasing time to careTM. Learning and Impact Review: Final report (pre-publication version). King's College London and the NHS Institute for Innovation and Improvement: Coventry.
- Hughes, H., and Thompson, V. (2009). Releasing Time to Care Evaluation. July – December 2008. NHS Scotland: Edinburgh.
- Evans, O (2007) Nurses want more time on patient care, says survey. Health Service Journal, 12 April, http://www.hsj.co.uk/nurses-want-more-time-on-patient-care-says-survey/56449.article
- NHS Institute website, www.institute.nhs.uk
- Saskatchewan Health Quality Council website, www.hqc.sk.ca

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"**Radical change** often requires **disruptive innovation** and the ability of any health system to be **open-minded and inquisitive** is a fundamental **pre-condition for success.**"

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