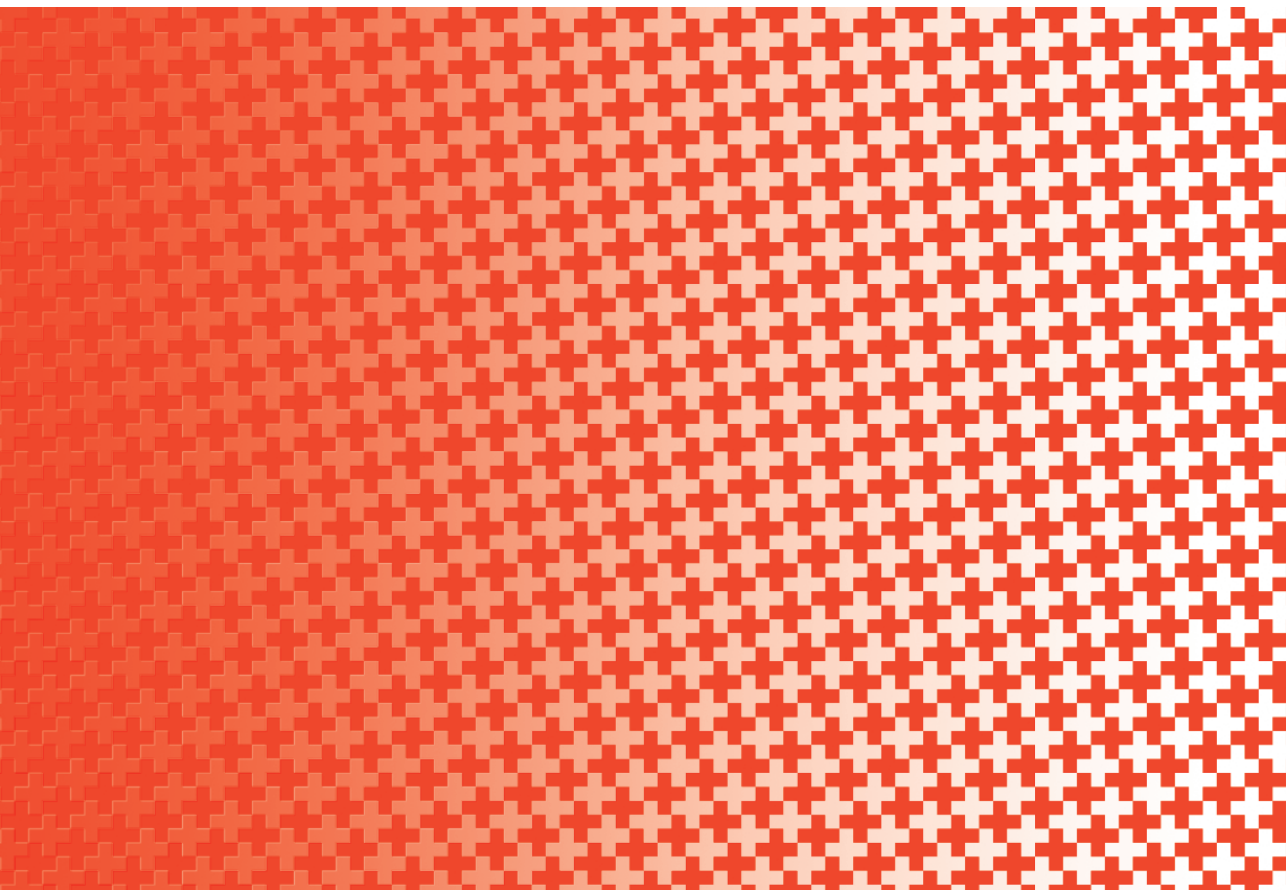


Opportunities for Value-Based Competition

in Swiss Health Care



Elizabeth Olmsted Teisberg, Ph.D.
Darden Graduate School of Business
University of Virginia, USA

Opportunities for Value-Based Competition

in Swiss Health Care

Elizabeth Olmsted Teisberg, Ph.D.
Darden Graduate School of Business
University of Virginia

August 2007

Publisher:

economiesuisse, Zurich (Switzerland);
Klinik Hirslanden AG, Zurich (Switzerland);
Interpharma, Basel (Switzerland);
Swiss Insurance Association SIA, Zurich (Switzerland) und
Swisscom IT Services AG, Bern (Switzerland)

Funding:

economiesuisse, Zurich (Switzerland);
Batten Institute, Darden Graduate School of Business,
University of Virginia, Charlottesville VA (USA);
New England Healthcare Institute, Cambridge MA (USA)

Design: Continue AG, Basel (Switzerland)

Ordering: Through the publishers (German version in print only)

10th July 2008



Table of Contents

Executive Summary.....	8
1 Swiss Health Care and the Need for Reform.....	11
1.1 The Context of this Study.....	11
1.2 Redefining Competition in Health Care.....	13
2 The Swiss Health Care System.....	18
2.1 The Structure of Swiss Health Care.....	18
2.1.1 Insurance.....	18
2.1.2 Access to Care	21
2.1.3 Delivery of Care.....	21
2.2 The Status of Swiss Health Care	22
3 Redefining Health Care in Switzerland	27
Principle 1: The goal should be increasing value for patients, not just lowering costs.	27
Principle 2: Competition must be based on results.	29
Principle 3: Competition should center on medical conditions over the full cycle of care.	34
Principle 4: High quality care can dramatically improve efficiency	38
Principle 5: Value must be driven by experience, scale, and learning at the medical condition level.	40
Principle 6: Competition to improve value should be regional, national, and international, not just local.....	43
Principle 7: Results information must be widely available.....	46
Principle 8: Innovations that increase value must be strongly rewarded.	48
4 The Road to Reform: Enablers, Challenges, and Distractions	50
4.1. Enablers of a Value-Based System	50
4.1.1. Enabling Attributes of the Swiss Health Care System	50
4.1.2. First Steps to Build Upon.....	51
4.1.3. Problems Already Avoided	52
4.2. Challenges in the Transformation.....	54
4.2.1. Untested Assumptions	54
4.2.2. The Absence of Electronic Health Records.....	55
4.2.3. Cantonal Interests	56
4.3. Distractions from Reform	56

5	Recommendations	54
	Recommendation 1: Retain the strengths of the current system that provide a good basis for reform.	59
	Recommendation 2: Measure and report risk-adjusted outcomes by clinical team and by medical condition.	60
	Recommendation 3: The federal government should actively support outcome measurement.	62
	Recommendation 4: Hospitals and physician teams should reorganize care delivery around medical conditions over the full cycle of care.	62
	Recommendation 5: Health plans should compete on value and to measure the health and health care outcomes of their membership.	63
	Recommendation 6: Encourage individual responsibility for health, not cost-shifting to individuals.	66
	Recommendation 7: Develop comprehensive electronic health records that are owned and controlled by the individual and that enable innovation to improve value for patients.	67
	Recommendation 8: Open competition on value among all the cantons, and encourage the domestic competition that will enable Switzerland to attract international patients.	68
6	Appendix	70
6.1	List of Figures.....	70
6.2	Bibliography.....	71
6.3	List of Abbreviations	82
6.4	Glossary	83
6.5	Persons Interviewed in Switzerland.....	89
6.6	Members of the Working Party economiesuisse.....	91

Acknowledgments

I would like to thank the many people whose intelligent, diligent, and good-humored assistance added considerable value to this project. The framework and ideas that form a foundation for this work were developed in collaboration with Michael E. Porter and may be found in our joint publications, *Redefining Health Care* (2006) and *How Physicians Can Change the Future of Health Care* (2007). Christopher Citron's many invaluable contributions include his research into the Swiss health care system and his able assistance during our visit to Switzerland. Stefan Brupbacher of economiesuisse played a crucial role by facilitating interviews and discussions during that visit, and by generously sharing his knowledge and insights. The economiesuisse Working Party and the many other people we spoke with in Switzerland were similarly generous with their time and knowledge. They are listed in the appendix and bibliography. Regina Seitz translated key documents with efficient expertise. And I'm especially grateful to my colleague Helen Benet-Goodman for her many and significant contributions to the research and in shaping and editing this report.

With appreciation for the contributions of all of the above, the views expressed in this report remain my own.

Funding for this project was provided by economiesuisse in Zurich, and in the United States by the Batten Institute of the Darden Graduate School of Business at the University of Virginia and by the New England Healthcare Institute. Many thanks to Interpharma, Hirslanden, the Swiss Insurance Association and Swisscom for the publication.

A handwritten signature in black ink, reading "Elizabeth Teisberg". The script is fluid and cursive, with the first name "Elizabeth" and last name "Teisberg" clearly legible.

Elizabeth Olmsted Teisberg

Executive Summary

Switzerland's health care system has served the country well, yet is facing rapidly increasing pressure from rising costs, an increasing incidence of chronic disease, and an aging population. Federal regulation requires that all residents have health insurance coverage and access to health care of high quality, with services that are effective, appropriate, and efficient. Given the pressures, reform discussion tends to focus on costs. The paradox, however, is that the more that health care reform focuses on restraining costs, the more those costs will spiral out of control.

The *opportunity* of health care reform is that good health costs less than illness. Poor coordination, waste, errors, and practices inconsistent with medical evidence result in worse health outcomes at higher costs. Reforms that reorganize care on the level of improving **VALUE FOR PATIENTS**¹ make it possible to achieve a system that efficiently and effectively provides high quality care for all.

The principles articulated by Michael E. Porter and Elizabeth O. Teisberg in *Redefining Health Care* (2006) sustain care that is results-driven, patient-centric, and physician-led. The reorganization of clinical care around the goal of improved health outcomes (i.e., better health) aligns the interests and actions of the participants and makes it possible to achieve dramatic changes.

Within the context of Swiss health care, focusing on value for patients yields these eight recommendations:

- 1. Swiss health care should retain, as a good basis for reform, its uniform and generous coverage package, mandatory universal insurance, per capita contributions, and subsidies for those who need them.** Universal coverage is essential for equity and efficiency, but not sufficient to drive dramatic and ongoing improvement in health care value for Swiss citizens. Redefining health care delivery systems will enable value improvements so that Switzerland can continue to afford high quality health care for all citizens and residents.
- 2. Switzerland needs to measure and report **RISK-ADJUSTED OUTCOMES** by clinical team and by medical condition; this is the most important reform priority in the short term for everyone in the system.** Measuring outcomes will align interests, focus all participants on improving value, and provide the information all participants require to make sound decisions. Information on results (outcomes and prices) by clinical team and by medical condition should be widely available. Developing and publicly disseminating results data should proceed in stages.

¹ Terms in capital letters are defined in the glossary at the back.

3. **The federal government will need to support outcome measurement.** It needs to do so by requiring the development of metrics and the reporting of results as the only way to implement the LAMal's intention of making health care effective, appropriate, and efficient. Public funding is appropriate and will help overcome initial hesitation. Non-government organizations can create the metrics with input from physicians or medical societies and collect and analyze the results.
4. **Hospitals and physician teams should reorganize care delivery around medical conditions over the full cycle of care.** Improving processes within existing organizational structures will be helpful, but in order for health care in Switzerland to be dramatically more effective, appropriate, and efficient, care must be reorganized around medical conditions, that is, at the level that value is created from a patient's point of view. This fundamental change is already underway at some world-renowned medical centers. Switzerland's cantons or public cantonal hospitals, as well as its private hospitals, could also achieve this change and redefine Swiss health care.
5. **Health plans should compete on value and measure the health and health care outcomes of their membership.** Switzerland's multi-payer system can add value if health plans are not just payers, but measure their success by the health of their member populations. Health plans offering multi-year contracts and measuring health outcomes of subscribers will have incentives to encourage effective, timely treatment rather than delaying care to shift costs. Health plans can compete in driving innovation that improves public health as well as the results of health care in Switzerland.
6. **Reform should encourage individual responsibility for health, not cost-shifting to individuals.** Although well-informed, involved patients make choices that result in better outcomes and lower costs, and although there are myriad ways to improve information and involvement, these are not central to today's health systems. Every participant in the health sector can catalyze changes for individuals. The array of possibilities includes varied approaches such as: services that facilitate understanding the choices among clinical teams, services that inform and support patients who are selecting among alternative treatments, services that enable home monitoring and clinical communication for disease management, public health education, provision of individually owned medical records, counseling and support for lifestyle changes, and patient support or advocacy groups. Financial incentives such as lower deductibles as rewards for meeting health goals could be added as well, though they are less directly tied to enabling improved health and improved choices.

7. **The current goal of electronically streamlining billing and administration should be broadened so that eHealth (health IT) can support and leverage the change to a value-based system.** Developing information technology (IT) to support the transition to integrated care over the full cycle should include: formulating common definitions and interoperability standards to support the collection and comparisons of data on results, integrating health systems and electronic medical records to support medical decision making and to reduce errors, and ensuring the security and integrity of patient data while allowing the collection and comparison of outcomes data. The costs of instituting information technology along these lines are more than offset by the gains in value that result when technology is used to reorganize care around medical conditions, improving efficiency and outcomes over the full cycle of care. Using technology to computerize the current care system, however, does not offer similar gains to offset the costs. Financial incentives, consistent with the LAMal, could be used to facilitate the adoption of IT systems that enable the restructuring of care by medical condition over the full cycle. Interoperable IT systems in combination with results measurement will accelerate the redefinition of care delivery around medical conditions to improve value for patients.
8. **Policy reform should open competition on value among all the cantons and encourage the domestic competition that will enable Switzerland to attract international patients.** Every clinical team needs to compare its results to others throughout the nation, the continent, and the world. Excellence in medicine and scientific knowledge are not local. Clinicians making these comparisons and holding their teams to international standards of excellence will continually improve care and outcomes for their patients. This will benefit the health of Swiss citizens directly, as well as enable Switzerland to develop international renown for excellence in health care.

Switzerland has the enviable luxury of not yet confronting a health care crisis, yet on its current course, the Swiss health care system will not drive rapid, ongoing improvements in quality or value. The assets of the system – generous, uniform insurance coverage with subsidies; mandatory universal insurance; per capita contributions; a mandate for quality; and access for all without waiting lines or apparent rationing – provide a strong platform for reforms that will make Switzerland a model for providing excellent health care for all.

1 Swiss Health Care and the Need for Reform

Switzerland's culture traditionally values quality. In the Swiss tradition, article 58 of the LAMAL guarantees a high QUALITY of health care for the country's citizens. Swiss spending on health care is relatively high; as Figure 1 shows, Swiss health care, measured on a per capita basis, is the third most expensive care in the OECD, behind only the United States and Luxembourg (OECD). Like other nations, Swiss expenditures on health care have been increasing – a process depicted in Figure 2. And although Switzerland's rate of increase is relatively moderate, there is no guarantee that future increases will remain moderate.

The question, then, is how to provide and improve high quality in health care while improving efficiency. In other words, the question is how to achieve excellent value. In health care, value is health OUTCOMES per unit of cost. A focus on costs alone misses the contribution made by health outcomes in creating value. In *Redefining Health Care*, Michael E. Porter and Elizabeth Olmsted Teisberg (2006) describe a systematic approach to improving value that analyzes the role of health care's multiple PARTICIPANTS. This redefinition of health care around VALUE FOR PATIENTS is particularly congruent with the Swiss emphasis on quality.

Assessing Swiss health care from the perspective of the Porter and Teisberg framework reveals the Swiss system's characteristic strengths: the unrationed access to care that all Swiss residents enjoy, and the broad scope of coverage that the Swiss system provides. Swiss health benefits covered by insurance are legally required to be «effective, appropriate, and efficient» (OECD & WHO 2006, 33). In Porter and Teisberg's terms, this means that the mandated goal is to provide high value for patients. The analysis also shows, however, that the structure of health care delivery in Switzerland needs reform to achieve this goal. Building on the strengths of the Swiss system as a platform for reforming the structure of care offers the potential for large and continued improvements in efficiency, as well as dramatic improvements in the appropriateness and effectiveness of care.

1.1 The Context of this Study

Throughout the world, health care is in crisis. Despite high and rising costs, quality is variable, disparities abound, errors are frequent, and coordination is lacking. The limited access to care experienced by many people around the world is revealed in long waiting lines in some nations and in a lack of appropriate treatment or an absence of insurance coverage in others (Blendon et al. 2003). Attention focuses on rising costs, and debate swirls around questions of how to pay and whether systems should be public or private. But fundamentally, there is an even more critical issue. **Worldwide, improvements in the value of health care are urgently needed, so that better health and better care are available to all. Policy debates tend to center on cost and payment systems, but no matter how those questions are handled, the critical actions must be improving health and health care value.**

Figure 1 | **Total Per Capita Expenditures in 2003 on Health Care and Prevention in Selected OECD Countries**

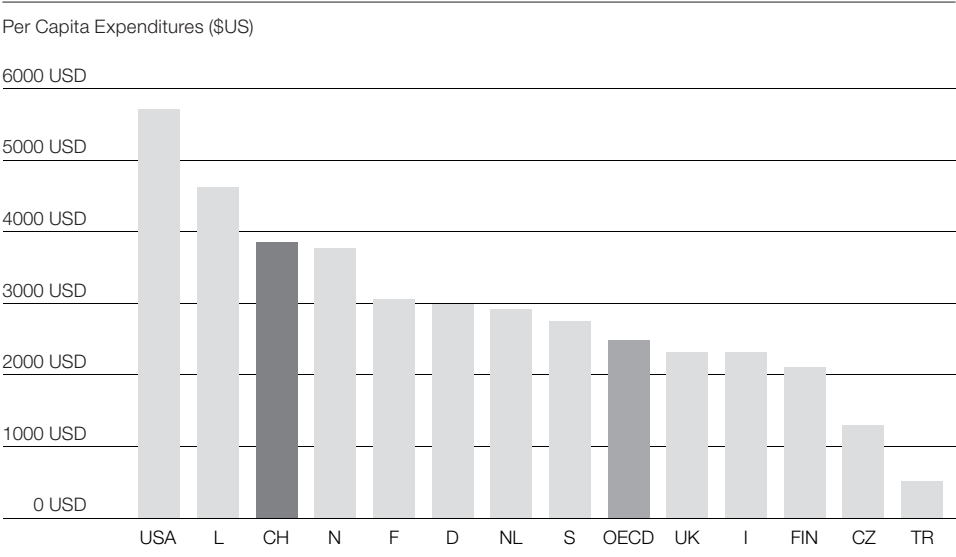
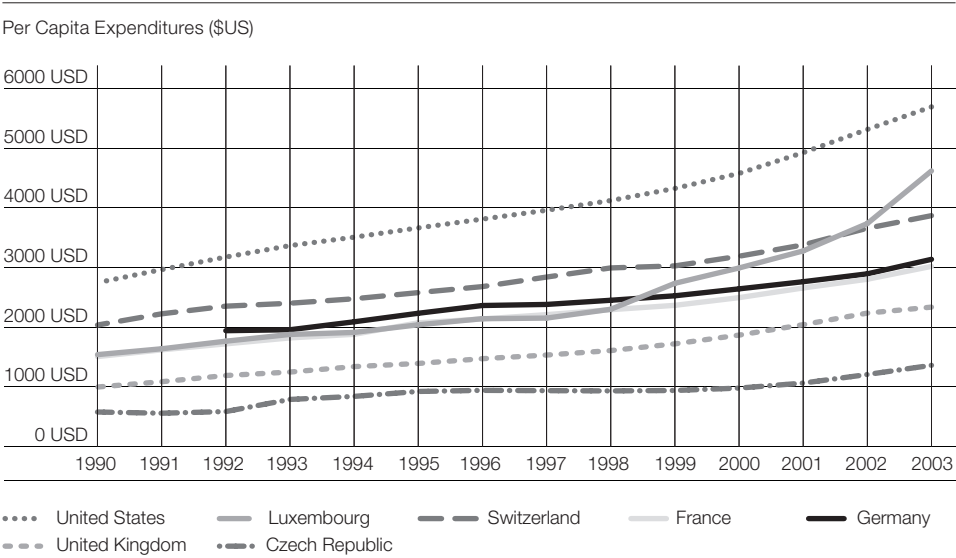


Figure 2 | **Increase in Total Per Capita Expenditures on Health Care and Prevention in Selected OECD Countries, 1990–2003**



Costs in Switzerland, as elsewhere, are rising, although Switzerland does not yet feel the crisis-level pressure on health care costs felt in much of the world. The Swiss confederation has successfully enabled generous health insurance for all, with subsidies for those who need them. According to a review of the Swiss health system conducted jointly by the OECD and the World Health Organization (WHO), 86 percent of the Swiss population consider themselves to be in good or very good health (OECD & WHO 2006, 26). Life expectancy has increased from 70.1 years in 1960 to 80.2 years in 2002 (OECD & WHO 2006, 25). CHRONIC DISEASES have not reached epidemic levels. For example, Switzerland has one of the OECD's lowest rates for death from cardiovascular disease (OECD & WHO 2006, 67). Nevertheless, some worrisome trends indicate that these advantages may be difficult to preserve. The percentage of Swiss adults who are overweight or obese has increased about 7 percent in the last decade to over 37 percent (OECD & WHO 2006, 74). This suggests that many of the 86 percent of the population who describe themselves to be in good health actually have weight problems and thus at least elevated health risks. Also, the number of overweight children has tripled over the past twenty years (OECD & WHO 2006, 75), again pointing to more health problems in the future. Obesity, a lack of exercise, and an unhealthy diet will put increased pressure on health care costs. Moreover, as in many countries, the population is aging: the dependency ratio (the ratio of the population over 65 to the population aged 19-64) is expected to increase from 48.5 percent to over 80 percent by the year 2050 (OECD & WHO 2006, 22). These factors suggest the urgent need to right the system before costs balloon. To protect Swiss health care in the face of rising costs, the value of care delivered must be improved.

In *Redefining Health Care*, Porter and Teisberg (2006) present the theory, strategy, and frameworks that facilitate an analysis of the opportunities in the Swiss health care system for achieving VALUE-BASED COMPETITION. This report begins with an overview of Porter and Teisberg's redefinition of competition in health care (Porter & Teisberg 2006). Section two reviews the structure and status of the Swiss health care system. Section three reviews the eight principles that support the Porter-Teisberg model and applies them to the Swiss example, thereby identifying the opportunities for reform in the Swiss system. Any plan for reform will begin with the advantages, challenges, and distractions outlined in section four. The report ends in section five with a blueprint for action: recommendations for achieving value-based competition.

1.2 Redefining Competition in Health Care

Competition in health care is often viewed as inappropriate. Competition in the economic context is not about one-upsmanship, or even about winning and losing – it is about working to create more value. This is a POSITIVE-SUM situation: creating a better product or service creates value. Developing effective ways to treat a MEDICAL CONDITION creates value. Improving someone's health creates value. Value-based competition on results is about driving improvements in health and in the value of care delivered to patients. It is not about the ZERO-SUM COMPETITIONS of COST-SHIFTING, or limiting customers' choices, or RISK SELECTION, or serving only advantaged populations.

Improving value is the dynamic in most industries. For most businesses, competition drives simultaneous improvement in quality and efficiency, creating better products and services at lower costs. But health care is different. Competition has performed poorly in health care, as the current problems in the U.S. health sector aptly illustrate. And although most industrialized countries are far ahead of the U.S. in terms of access and coverage for their citizens, issues of variable quality, frequent errors, and rising costs are unfortunately being experienced globally. Moreover, in spite of tremendous efforts to reform health care and to correct skewed incentives, the problems are tenaciously resistant to change. The real problem, though, is that competition in health care has been the wrong kind of competition; most competition thus far has not been occurring when and where value is created for patients. **The only way to drive sustained improvements in health care is to reform the nature of health sector competition. No matter who pays for health care, no matter whether systems are public or private, the key issue is driving improvement in** VALUE FOR PATIENTS.

Current systems perpetuate skewed incentives, faulty assumptions, unfortunate strategies, and counterproductive regulations. One participant's gains are another participant's losses – the primary symptom of a zero-sum dynamic. Even in SINGLE-PAYER SYSTEMS such as those in Europe, dysfunctional zero-sum competition often determines how resources are allocated. If the question is how value is divided, then the result is zero-sum competition to shift costs, to gain bargaining power, to restrict choice, or to limit services. **Competition becomes dysfunctional because it takes place at the wrong levels and on the wrong things. Instead of competing to control or shift costs, however, participants should compete to increase value.**

To transform health care, competition must drive improvements in value for patients. Value is defined by outcomes relative to cost. Thus, other things being equal, value can increase when outcomes improve, when costs decrease, or when both occur together. Patients experience value when their medical conditions are resolved effectively and efficiently, or when prevention enables them to avoid becoming ill or injured. Further, patients experience value over the entire cycle of care for a medical condition. Yet currently, health care is structured around separate medical specialties, discrete treatments, and individual episodes of illness or injury. **The structure of health care delivery needs fundamental change. Switzerland shares this challenge in common with the world.**

Competition will be positive and effective only if it is focused at the level where value is created. Patients experience value when their medical conditions are treated effectively, efficiently, and compassionately. Medical conditions, in this work, are defined as a set of interrelated health circumstances best treated in an integrated way. This is true for diseases, injuries, and events (including examples such as diabetes, prostate cancer, back injury, stroke, pregnancy, and congestive heart failure). Medical conditions also include what are sometimes characterized as CO-OCCURRENCES, for example, diabetes with hypertension or vascular problems. From the patient's perspective, this interrelated set of circumstances is his or her medical condition. Not all health circumstances are interrelated: an ulcer and a broken arm are two medical conditions because

they do not typically occur together and integrating care is not critical to improving results.

Medical conditions are the appropriate focus of productive competition because this is the level at which the efforts of medical teams and suppliers of drugs or devices directly affect results. Competition that occurs only at the aggregated level of hospitals or health plans is too indirectly connected to the activities of the individuals and teams providing health care (or developing drugs and devices).

To enable and drive dramatic improvement in value for patients, addressing medical conditions must involve the **FULL CYCLE OF CARE**: prevention, monitoring and assessing risk, diagnosis, preparation and treatment, and ongoing rehabilitation or long-term disease management. Care needs to be far better coordinated, not only over the care cycle, but also for a patient's medical condition: among interrelated patient health circumstances that would benefit from coordinated care (so that the patient with diabetes is seeing a team rather than a succession of specialists). Health care delivery should not persist in the current model of fragmented care delivery, nor should it be an amalgamation of focused factories for particular procedures. Rather than being organized by medical specialties (i.e., from the physician's perspective), health care should be **ORGANIZED BY MEDICAL CONDITIONS** (i.e., from the patient's perspective). Health care delivery by medical condition requires multi-specialty coordination that is organized along service lines as patients experience them, in contrast to organization by traditional medical specialties. While this change is not easy to make, it simplifies and clarifies efforts to improve value for patients.

Redesigning health care delivery around medical conditions will enable dramatic leaps in learning, quality, waste reduction, and efficiency. With such changes, Switzerland can improve the quality of health care already mandated for all of its citizens, and can afford those improvements, even as the population ages.

Such strategic reorganization is possible, though arguably radical. The paradox is that such radical change can be brought about through the efforts of many actors, each taking achievable steps; it does not require a «big bang» governmental solution. Most importantly, clinicians must perceive the enormous opportunities for improvement.

Thus, the first step is to measure **RISK-ADJUSTED RESULTS** (patient outcomes and costs) by medical conditions and by clinical teams. In the absence of measured medical outcomes, the prevailing assumption is that all health care is roughly equal. That is far from true. Variance in processes and outcomes is large, and disparities in care persist. Typically, **MEASURING RESULTS** reveals these enormous variations and disparities. When participants become aware of them, they become motivated to change. Competition to improve results for patients accelerates. This dynamic can be seen at work in internationally renowned clinics and hospitals, such as the Cleveland Clinic and the M.D. Anderson Cancer Center (Porter & Teisberg 2006, 175-176).

Health plans, too, will need to rethink their strategies and reorganize. Rather than being only «payers,» insurers will develop roles as value-added health organizations. Their new roles will include enabling informed choice about treatment alternatives and health outcomes, communicating to clinicians the insights garnered from outcome comparisons, providing information services to diffuse best practices (without mandating PROCESS COMPLIANCE), helping members to understand the full cycle of care for their medical conditions, enabling DISEASE MANAGEMENT, and simplifying administrative transactions. Rather than competing on risk selection or by minimizing premium increases, health plans should compete on improving health results for their members.

This view of health plans stretches the imaginations of many people who have had adversarial interactions with public or private health insurers. But, like the suggested changes in clinical organization, some companies already pursue these approaches. For example, in Europe and the Middle East, Preferred Global Health provides services for patients who have any of 15 specified diseases. While not an insurance company, Preferred Global Health's services offer a model for insurance companies to consider. They not only help patients locate excellent clinical care, but also educate and counsel patients in order to improve their health and care outcomes in the face of serious diseases. Preferred Global Health provides a personal care manager to help their members navigate highly complex, fragmented, and error-prone health care systems and thereby improve the quality of care delivered by those systems (Preferred Global Health 2001). In the United States, United Resource Networks is another example, identifying medical teams who have excellent results for particular medical conditions, counseling patients to understand the outcome data, and helping referring doctors to understand the data and to support informed patient choice (Porter & Teisberg 2006, 247-250). For other plans, the development of multiple disease management programs is spurring organization by medical condition (Porter & Teisberg 2006, 253-258). And some plans are tracking measures of member health and health care outcomes, as the first step in measuring the plan's success in terms of health (Porter & Teisberg 2006, 253-258).

Competition to improve value for patients will drive rapid improvement in all areas of health care. Such competition requires information on the results of care for medical conditions over the full cycle of care, measured by treatment approach and by medical team. These measurements should be risk-adjusted and should be widely available. This information becomes a crucial catalyst for value-based competition, spurring significant and rapid improvements in value for patients. Where it has already occurred, the measurement and reporting of risk-adjusted outcomes by medical condition has created substantial and rapid improvements in PATIENT VALUE (Porter & Teisberg 2006, 127-134; Porter & Teisberg 2007).

Measuring and reporting risk-adjusted outcomes provides both the incentive to learn and the information needed to identify what truly works. The dramatic, ongoing gains in learning thus drive improvements in value for patients.

Competition to improve value creates an irresistible force for transforming health care delivery. Often, analyses of health care implicitly and mistakenly identify treatment as the goal of care. But treatment is not the goal. The goal is better health outcomes (better health and better quality of life), not necessarily more health care. Health has intrinsic worth for human beings. Health care and medical treatment are not valuable in and of themselves; their value derives from the effectiveness, appropriateness, and efficacy with which they achieve the desired goal. Because the good being created is not treatment, but health, (and quality of life), improving quality reduces costs even more. Efficiency is enhanced by quality improvements that yield effective prevention, more accurate diagnoses, fewer treatment errors, fewer complications, faster recoveries, less invasive treatment, less disease progression, more effective treatment, and less disability. **Preventing the progression of disease creates enormous cost savings. Simply put, health costs less than illness.** In Switzerland, as in other countries, saving on costs by improving health and health care outcomes becomes critical as the incidence of chronic disease increases.

Value for patients must be the beacon of inspiration. The goal of improving value for patients aligns the interests of all participants, rather than pitting them against each other in a game of cost-shifting. When a team of care givers improves someone's health, the team wins, the patient wins, the suppliers win, the payer wins, the family wins, and society wins. **With positive-sum competition to improve results, health systems can achieve stunning improvements in both health and care. That is what health care systems must be about: improving health and care for all.** Nevertheless, controversy brews around the idea that competition is appropriate in health care. Switzerland and the Netherlands embrace the idea of competition in health care to a greater extent than most European countries, but whether competition is good for patients and public health depends critically on whether it is a cost-based zero-sum competition, or a value-based positive-sum competition.

Measuring risk-adjusted health results (outcomes and costs) is a critical enabler of value-based competition on results. Measuring outcomes is often justified as enabling consumers to shop for care, but that justification misses three major points. First, in the current organization of care by traditional medical specialty, well-informed choice is nearly impossible because of the lack of relevant information. Every care cycle is fractured into many, many parts, and no one can reasonably choose integrated care on a part-by-part basis. Second, clinicians themselves are the most critical audience for outcome measures. When clinicians know the risk-adjusted outcomes, they improve. And indeed, stunning improvements characterize those areas of care in which outcomes are measured and reported, such as cystic fibrosis, organ transplants, coronary artery bypass graft surgery, pediatric cancer, end stage kidney disease, and diabetes (Porter & Teisberg 2006, 127-134; Porter & Teisberg 2007). Third, measuring and reporting risk-adjusted outcomes is critical to driving quality care for everyone. When outcomes are reported, disparities in care are unveiled and thus become intolerable. Moreover, even if care does not appear to be worse for any identifiable group or geographic region, poor outcomes for any patient reflect on the clinical team that provided the care. So incentives are strengthened to ensure the best possible outcomes for all patients.

2 The Swiss Health Care System

2.1 The Structure of Swiss Health Care

Governance of the Swiss health care system is shared among the federal, cantonal, and municipal governments. The LAMal allocates responsibilities to specific parties and defines three objectives: first, strengthening SOLIDARITY by requiring the same coverage conditions for individuals with different health risks; second, containing health expenditures; and third, guaranteeing high-quality basic health services (OECD & WHO 2006, 32).

This last point is the most poignant: Switzerland has a federal mandate to ensure high quality. This has since become governed by the individual cantons, which may pursue that objective in very different ways. The potential to use quality enhancements to reduce overall costs has not yet been tapped. Yet Switzerland's legislated goal of high quality health care provides an important foundation for value-based competition on results.

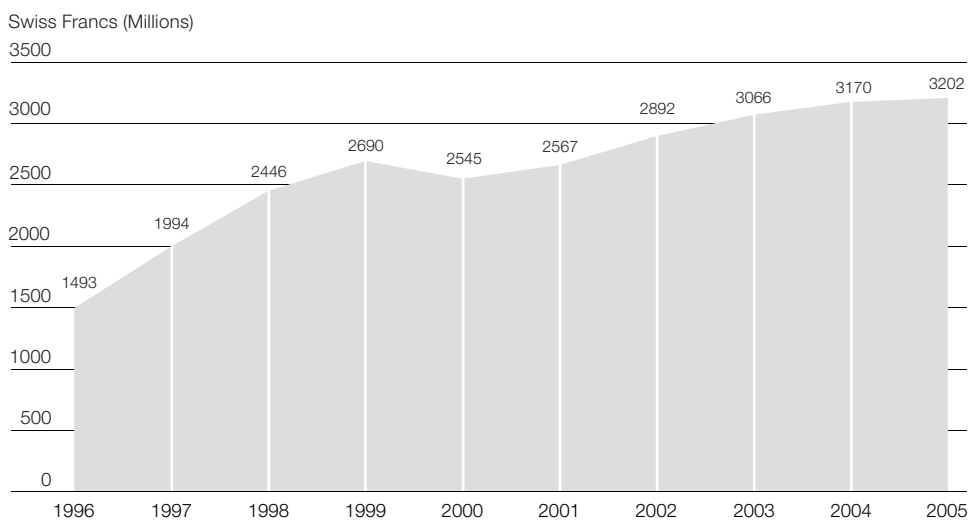
This brief overview describes how other components of the Swiss health care system affect the possibilities for value-based competition on results.

2.1.1 Insurance

Switzerland has compulsory insurance for all of its residents, as stipulated by the LAMal. Each individual is responsible for purchasing at least the basic insurance package. All residents therefore have health insurance. They contribute to its cost to the extent that they are able. The federal and cantonal governments subsidize insurance premiums for those who incur costs greater than 8 percent of their income (Civitas 2002). Currently, 41 percent of Swiss households are subsidized by the government (OECD & WHO 2006, 99). Although increases in health insurance premiums averaged 5.5 percent per year from 1996 to 2005 (OECD & WHO 2006, 115), the increase in government contributions averaged 10.6 percent over the same period (OECD & WHO 2006, 103). In absolute terms, the government's contributions, shown in Figure 3, have more than doubled. Under the pressure of these realities, much of the policy discussion has been about how to contain costs in the health care system.

The insurance mandate is administered at the cantonal level. If an individual fails to select a package, the canton assigns insurance to that individual. Responsibility for choosing insurance lies with the individual, rather than employer, as is the case in Germany, the U.S. and to a lesser extent, the Netherlands. Advantageously for Switzerland, the lack of employer involvement in the choice of plans reduces the number of administrative layers and some of the skewed incentives. The advantage would be greater if consumers could choose among health plans that were competing to enable health and high value care. Now, however, they choose among health insurance products that have different payment structures, and choosing a payment structure has less influence on the value of health care.

Figure 3 | **LAMal Subsidies Paid by the Swiss Government, 1996–2005**



Sources: Federal Office of Public Health (2006), cited in: OECD & WHO (2006).

The MANDATORY HEALTH insurance in Switzerland offers several options summarized in Figure 4. Insurance premiums are set by insurers competing within each canton but must comply with government-defined constraints (OECD & WHO 2006, 32-33). As described in the OECD Review of Health Systems – Switzerland, ordinary basic insurance has a standard premium and deductibles set by law; it allows a free choice of providers (OECD & WHO 2006, 36). Individuals choosing the second option pay premiums lower than those for ordinary basic insurance, but also have higher deductibles). In the third option, individuals purchase BONUS INSURANCE, which requires a five-year commitment and has a higher premium in the first year. The cost of bonus insurance is reduced each year if the subscriber has not filed any claims; by the fifth year, the premium is about 45 percent of the premium charged for ordinary basic insurance. Finally, in the MANAGED CARE option, subscribers have a limited choice of providers. The premium for the restricted network is lower, though it cannot be more than 20 percent below the premium for ordinary basic insurance (OECD & WHO 2006, 34).

Besides choosing one of the options for mandatory insurance, residents may also purchase SUPPLEMENTARY INSURANCE. This insurance is used for improved HOTEL SERVICES during in-patient hospital stays (e.g., occupying semi-private or private rooms), for services not covered by mandatory insurance (e.g., dental care), and for the services of physicians or hospitals not on the canton's reimbursement list (OECD & WHO 2006, 39; Cueni 2006). Insurance firms may make a profit on the supplemental insurance they offer. They may price the supplement by assessing the individual's risk, and unlike OBLIGATORY INSURANCE, they may deny requests for coverage. Customers are not required to purchase supplementary insurance from the same insurer that provides their MANDATORY INSURANCE (OECD & WHO 2006, 39).

Figure 4 | Special Insurance Contracts Within the Mandatory Health-Insurance System (LAMal)

	Ordinary basic health insurance	Insurance with choice of deductible	Bonus insurance	Insurance with limited choice of providers (HMO, «réseau de santé»)
Premium level	Ordinary premiums are set competitively by each LAMal insurer for each canton; within each canton, insurers can apply a maximum of three premium scales to different geographical areas of each canton	Premiums must be 50% of the premium for ordinary insurance. Premiums are reduced in relation to the deductible level, up to a maximum reduction of – adults: CHF 160; 560; 960; 1360; 1760; – children (<18 yrs): CHF 80; 160; 240; 320; 400; 480.	Annual premium reductions if no claim is made during the period. The initial premium paid in the first year is 10% higher than the ordinary insurance. Then premia may decrease up to 45% from ordinary premiums after five years.	Premium reductions on ordinary premiums are fixed by the fund, but may not exceed a 20% reduction.
Cost sharing¹	Deductible: CHF 300 per year. Co-insurance: 10% of the cost of health goods and services beyond the value of the deductible. Co-payments: for each patient stay in hospital, CHF 10 per day Ceiling: the 10% co-insurance may not exceed an annual cumulated individual amount of CHF 700 for adults and CHF 350 for children.	Deductibles: Insurers can offer insurance products with five possible levels of deductibles – adults: CHF 500; 1,000; 1,500; 2,000; 2,500. – children: CHF 100; 200; 300; 400; 500; 600. Co-insurance, co-payments, and ceilings: as in ordinary insurance.	As in ordinary insurance.	As in ordinary insurance. Insurers may offer policies with a limited choice of providers that are totally or partly exempted from cost sharing.
Choice of doctor/hospital	Free, among all doctors and hospitals entitled to be reimbursed by mandatory health insurance.	As in ordinary insurance.	As in ordinary insurance.	Restricted to providers participating in the network.

¹Cost-sharing exemptions are available to large families, women during maternity, social-assistance beneficiaries, and recipients of supplementary old-age and disability benefits. The deductible levels and relative premium reductions are those approved for 2005.

Sources: Colombo (2001); Federal Office of Public Health (2005), cited in: OECD & WHO (2006)

The federal government regulates the premiums for health insurance, which are COMMUNITY-RATED. Financial RISK POOLS for insurance companies were created in 1993 for a period of ten years, as it was assumed that by 2003 risks would be spread throughout the insurance companies. This did not occur, so parliament authorized a five-year extension which has not yet expired (OECD & WHO 2006, 37). Financial risk pools reduce the skewed incentive for insurers to compete through risk selection, but because the incentive is not fully offset, Swiss insurers still select on risk.

2.1.2 Access to Care

In addition to choosing among insurance packages, Swiss residents can also choose who within their cantons provides their health care. The LAMal currently states that all insurance companies offering obligatory insurance must contract with all providers of AMBULATORY CARE within the canton, as well as with all the hospitals that are on a certified cantonal list (Civitas 2002). The Swiss government has been debating whether to stimulate price competition by allowing insurance companies to SELECTIVELY CONTRACT with providers (OECD & WHO 2006, 151), but thus far, only managed care plans may select networks.

Under the LAMal, individuals are covered for services rendered outside their cantons, in case of emergencies or for treatment not offered in their canton. Individuals who want to travel to a different canton for inpatient care for other reasons may face higher charges and may be individually responsible for part of the cost of the care (OECD & WHO 2006, 60).

The LAMal specifies that medical services and goods must be «effective, appropriate, and efficient» (OECD & WHO 2006, 33). Curative services are covered by the basic insurance unless they are specifically excluded. In contrast, preventive care, drugs, and laboratory analyses are covered only after they have been evaluated. The entity applying for authorization, for example, a pharmaceutical company, provides the evidence supporting the application. In recent years, these evaluations have resulted in the exclusion of five methods of complementary medicine (homeopathy, anthroposophical medicine, traditional Chinese medicine, neural therapy, and phytotherapy), although homeopathic drugs are still covered (Scuola Universitaria Professionale della Svizzera Italiana 2006). The Swiss basic coverage is generous in comparison to systems that ration care with spending caps or waiting lines, reduce covered services for people over an age threshold, fail to cover primary care for all citizens, or ban provision of care by private institutions and practitioners.

2.1.3 Delivery of Care

The federal, cantonal, and municipal governments all regulate the delivery of care. The federal government licenses physicians and can limit the supply of doctors. For example, it tried to curb escalating health care costs by controlling the supply of care in 2002 via a three-year moratorium on new physicians' offices. Despite a lack of success in restraining costs (OECD & WHO 2006, 121), the moratorium was renewed in 2004 for an additional three years.

Cantons regulate the organization of health care delivery. They decide which hospitals are on the approved list (with which the health plans must contract), approve hospital construction or expansion, and own the public hospitals (with which private hospitals compete for cantonal selection). The LAMal does not, however, specify how hospital planning should occur, leaving it to the discretion of the cantonal government. Accordingly, cantonal hospital planning both varies from canton to canton and lacks transparency (OECD & WHO 2006, 46). The cantons delegate to the municipalities responsibility for nursing homes and for Spitex, the non-profit organizations that provide home health care, domestic aid, and other home-based services for the disabled and elderly.

2.2 The Status of Swiss Health Care

Satisfaction with health care in Switzerland is broad but not universal. A Swiss government survey found that 54 percent of the Swiss population agreed that Swiss medical services are adequate, and in an earlier survey, two-thirds of respondents expressed overall satisfaction with the way the system functions (OECD & WHO 2006, 108). The OECD and WHO's report, *Reviews of Health Systems - Switzerland*, summarizes and identifies some of the possible components of this satisfaction. Long waits for care are uncommon (OECD & WHO 2006, 100). Switzerland currently has 3.6 physicians and 10.7 practicing nurses per 1000 citizens, above the OECD averages of 2.9 and 8.0, respectively (OECD & WHO 2006, 41). Switzerland has 3.9 acute care beds per 1000 people, slightly below the OECD average of 4.1, but its rate of 14.2 MRI units per million people almost doubles the OECD average of 7.7 MRI units per million (OECD & WHO 2006, 41). An additional factor in Swiss satisfaction is the free choice of provider: Seventy-two per cent of the people surveyed classified this choice as either «important» or «very important» (OECD & WHO 2006, 110).

Concern about costs may be dampening satisfaction. In one survey, 75 percent of the Swiss population called the premiums for the obligatory insurance either high or very high (OECD & WHO 2006, 108). In another study, 87 percent of polled Swiss classified insurance premiums as a matter of concern, either ongoing, occasional, or bearable (Longchamp et al. 2006). Nor is the cost of the premiums the only source of concern. Out-of-pocket payments as a percentage of total health care costs are at 31.5 percent, ranking Switzerland fourth highest among OECD countries, compared to an average of 19.8 percent (OECD & WHO 2006, 98). Rising costs are a growing concern, and further increases are anticipated as the population ages and as obesity and chronic diseases become more common.

These trends suggest that Switzerland stands at a crossroad. If discussions continue to center only on containing costs, the country is apt to find itself trudging along the path towards rationing, decreasing satisfaction, and ironically, increasing costs and more cost shifting. One of the paradoxes of health care is that the more attention focuses on holding down costs, the more costs escalate. Because poor health is inherently more expensive than good health, cutting costs in ways that undermine health only drives costs further up. A far more effective approach is to focus on increasing value for patients by using quality improvements to drive costs down.

Data on the quality of care in Switzerland is scarce, however, as it is in most countries (OECD & WHO 2006, 86). The combination of a lack of quality information and confidence in one's chosen physician tends to create an impression of high quality that may not be borne out when the quality of care is measured. As was the case in the U.S. before data on variance and errors were aired, the assumption in Switzerland has been that quality of care is high. One survey, for example, found that 95 percent of the Swiss believe that quality is «rather good,» «good,» or «excellent» (Longchamp et al. 2006). What data exists on quality of care in Switzerland, however, presents a more complicated picture.

Switzerland ranks better than the OECD average on mortality rates for acute myocardial infarctions (7 percent versus 23 percent) and for asthma (0.2 versus 0.8, deaths per 100 000); Switzerland ranks lower, however, on the number of women receiving a mammography (27 percent versus the OECD average of 61 percent, ages 52-69), and on the number of children vaccinated for measles, mumps, and rubella (68 percent in Switzerland, 89 percent in the OECD) (Mattke, S. et al. 2006, cited in OECD & WHO 2006). A comparison of international data on five-year survival rates for four types of cancer (breast, prostate, colon, and lung), shown in Figures 5, 6, 7 and 8, documented mixed results for Switzerland, with survival rates ranging from comparatively poor to above average, and with an excellent survival rate only for women with lung cancer.

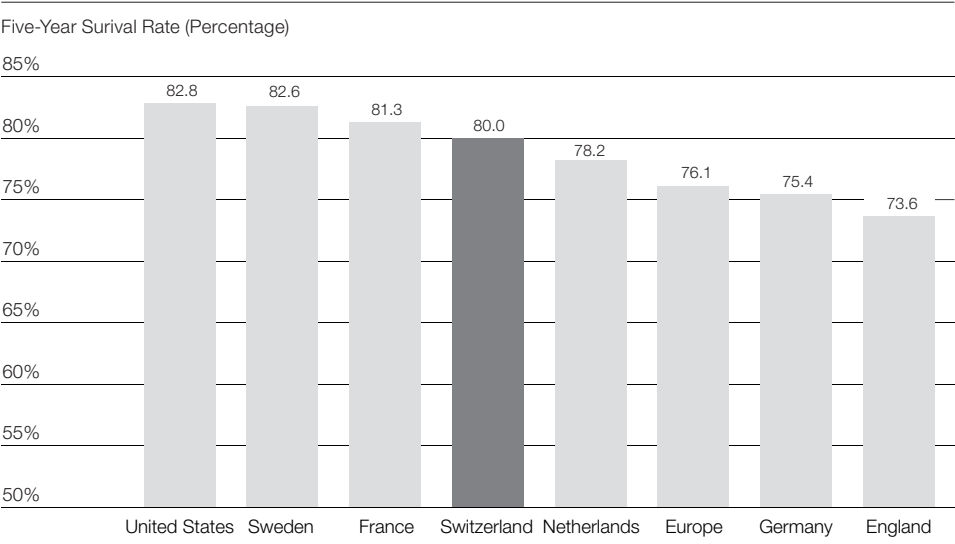
Deaths from preventable medical errors are estimated generally at 400 to 700 per million of population in industrialized nations other than the U.S. (Eckbo 2005). Studies in the U.S. document between 360 and 675 deaths per million, roughly the same range (Kohn et al. 2000; Healthgrades 2004). Rates of inpatient adverse medical events (i.e., those not necessarily resulting in death) are conservatively estimated at 3.2 - 5.4 percent in the United States, 9 percent in Denmark, 10.6 - 16.6 percent in Australia, 10 - 11.7 percent in the United Kingdom, and higher in developing countries (World Health Organization). Several countries, including Canada, Denmark, the Netherlands, Sweden, New Zealand and France, have concluded that their health care systems are suffering from serious quality problems (Applied Research and Analysis Directorate 2003; Michel 2004). Switzerland is unlikely to be immune from these problems.

Another study aggregated data on nosocomial infections for each of 10 countries during the years 1984 - 1996. It found that Switzerland had the second highest rate of infections at 11.6 percent of patients, better than Belgium's 14.8 percent, but worse than the rates in England (11.2 percent), Hong Kong (10.5 percent), Lithuania (9.2 percent), France (9 percent), Australia (8.8 percent), Spain (8.6 percent), Norway (6.5 percent), and Germany (4.4 percent). Those data are relatively old; a subsequent study limited to two Swiss hospitals shows a reduction over time in their rates of nosocomial infections (Conen 2006).

In Switzerland, a 1999 study of outpatient adverse drug events found that 6.4 percent of the patients admitted to one hospital's internal medicine department were experiencing an adverse drug event at the time of admission, and that for 4.1 percent of the patients, the adverse drug event was the primary reason for admission (Lepori et. al. 1999). Recently, Comparis began to publish on its web site the rates of infection, error, and re-hospitalization for individual hospitals, demonstrating variability in the rates for individual hospitals (Comparis 2007b).

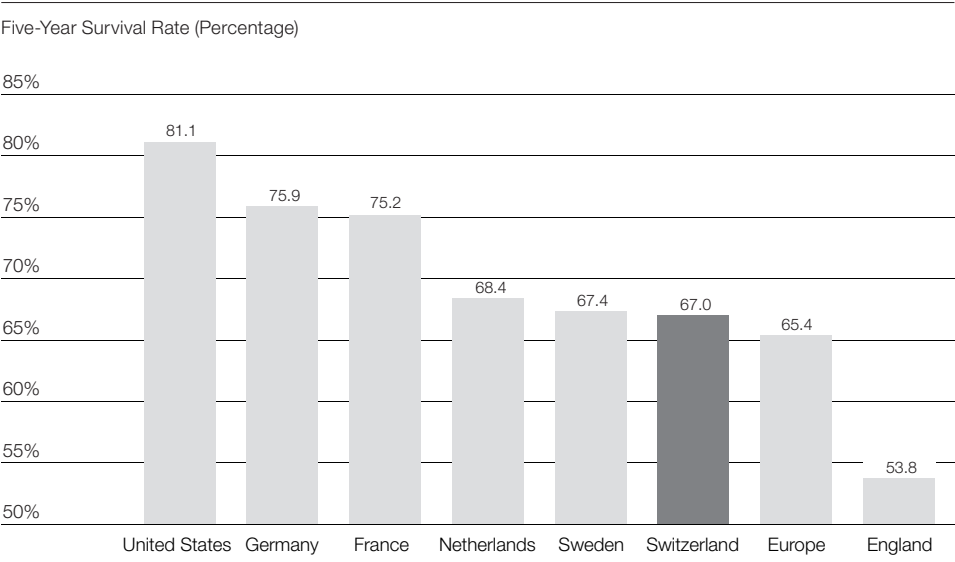
The data summarized above vary greatly in what they measure, when they measure it, and at what level quality is measured. Taken all together, however, the information suggests that Switzerland is not immune from the problems of variations and errors in care that plague most countries. The existence of the more recent studies also suggests that attention in Switzerland is beginning to focus on the issue of quality. The Comparis data, for example, although only a beginning, nevertheless shows that attention is turning towards improving quality rather than on lowering costs. It is, however, methodologically questionable because it is based on patient surveys – eventually, data should be gathered directly from hospitals and should be presented by medical condition for individual clinical teams or practitioners. When patients experience a lower rate of re-hospitalization, or fewer errors, or fewer infections, then the costs of care will decrease as well.

Figure 5 | **Comparison of Five-Year Cancer Survival Rates for Selected OECD Countries, Breast Cancer**



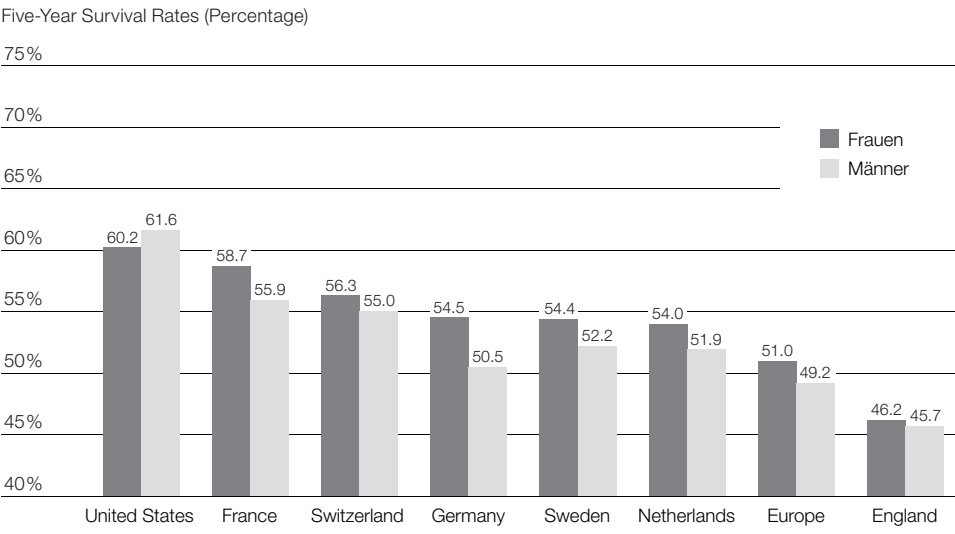
Note: European figures for cancer first diagnosed between 1990–1994; U.S. figures for cancer first diagnosed between 1986 and 1988. Source: European figures: EUROCARE (2003); U.S. figures: National Cancer Institute (2002), cited in: National Auditing Office (2003).

Figure 6 | **Comparison of Five-Year Cancer Survival Rates for Selected OECD Countries, Prostate Cancer**



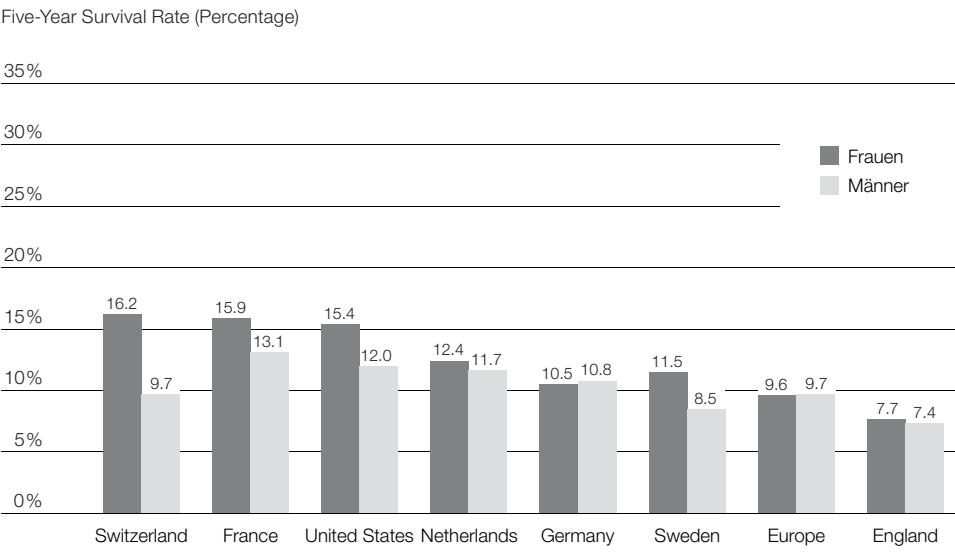
Note: European figures for cancer first diagnosed between 1990-1994; U.S. figures for cancer first diagnosed between 1986 and 1988. Source: European figures: EUROCARE (2003); U.S. figures: National Cancer Institute (2002), cited in: National Auditing Office (2003).

Figure 7 | Comparison of Five-Year Cancer Survival Rates for Selected OECD Countries, Colon Cancer



Note: European figures for cancer first diagnosed between 1990-1994; U.S. figures for cancer first diagnosed between 1986 and 1988. Source: European figures: EUROCARE (2003); U.S. figures: National Cancer Institute (2002), cited in: National Auditing Office (2003).

Figure 8 | Comparison of Five-Year Cancer Survival Rates for Selected OECD Countries, Lung Cancer



Note: European figures for cancer first diagnosed between 1990-1994; U.S. figures for cancer first diagnosed between 1986 and 1988. Source: European figures: EUROCARE (2003); U.S. figures: National Cancer Institute (2002), cited in: National Auditing Office (2003).

3 Redefining Health Care in Switzerland

Increasing value in health care is possible within a strategic framework that enables competition at the level at which value is created for patients: in the prevention of and care for medical conditions. *Redefining Health Care* (Porter & Teisberg 2006) defines eight principles of value-based competition on results. These principles set the compass for improvements by aligning the interests of all participants in the system towards the goal of improving patient value. Applying these principles will create multiple opportunities for creating value-based competition on results within the Swiss health care system.

Principle 1: The goal should be increasing value for patients, not just lowering costs.

The goal of health care is value for patients, defined as the quality of patient outcomes relative to the cost. If cost alone were the objective, painkillers and compassion would be the least expensive and most efficient care possible. Obviously, cost reduction alone is not the goal. Nevertheless, many discussions surrounding health care focus solely on reducing costs. When cost reduction receives all of the attention, costs are often simply shifted from one participant to another or from one part of the care cycle to another. Cost-shifting efforts create or exacerbate poorly organized care, lack of communication, inadequate attention to improving health and quality of life, increased bureaucracy, and errors. Thus cost shifting does not reduce costs; rather, it leads to an increase in costs overall. Nor does cost shifting improve value for patients. To improve value for patients, cost savings must result from true efficiencies, not from shifting costs, rationing care, or reducing quality.

Value for patients is created at the level of care for the medical conditions they experience. But in Switzerland, as in health care globally, the delivery of health care is physician-centric – organized according to medical specialties and the traditional disciplines of medicine. Health plans reimburse providers for individual procedures or supplies and for each episode of care. From the patient's perspective, the fragmentation is acute. A patient with a complex medical condition may need to see multiple poorly coordinated specialists, each of whom bills separately for services, even though from the patient's perspective, all the care is addressing the same condition. Value is created at the level of treating the entire medical condition of the patient. To shift the focus to this level, the structure of health care delivery needs fundamental change in the direction of clinical integration for the entire cycle of care. To know how to improve patient value, insurers and physicians (and information services) must track results at the level of medical condition over the full cycle of care.

Leading organizations are already pushing this frontier. The Cleveland Clinic in the U.S. is explicitly pursuing improvement in patient value as the heart of its mission. Rather than take its international renown for granted, the Cleveland Clinic several years ago began developing clinical measures of patient outcomes for *every* service it offered in order both to drive internal improvement and to provide information to the

public about the quality of its patient results (Porter & Teisberg 2006, 387-395). In 2007, The Clinic began reorganizing all its staff and facilities into integrated practice units around medical conditions defined from the patient's perspective (Cosgrove 2007). In another example, Novo Nordisk, already focused on products and services for patients with diabetes, is expanding its efforts to improve results over the full cycle of care. It is developing a «barometer» of measures to be used in more than 20 countries as a means of developing shared insights about what improves patient health and what needs to change (Wolffhechel 2007; Novo Nordisk 2007). Their goal is to accelerate effective and efficient improvements in diabetes care, driving better health and better health care value around the world.

In Basel, Switzerland, MedGate is offering a new care delivery model that improves value for patients. MedGate offers telemedical care throughout Switzerland 24 hours a day, seven days a week, to 2.5 million eligible insured members. The staff (45 physicians and 20 nurses or practice assistants) handles as many as 1600 contacts each day, largely via telephone and the Internet (Medgate 2007d). Traditional telemedicine is essentially nurse triage, with most callers needing a subsequent office visit. In Medgate's program, however, a nurse takes the initial call and places the patient in an electronic queue for the appropriate physician. Only about 10 percent of the calls to Medgate require the immediate attention of a doctor in a clinical setting, and another 35 percent are set up with an appointment to see a doctor. Medgate estimates that 55 percent of its calls can be handled via telecare alone, without a trip to a physician's office, thereby reducing health care costs up to 21 percent (Fischer 2006; Medgate 2007c). The Medgate telecare physician has immediate access to all the records that the patient has previously established with Medgate, as well as to a large knowledge data base to support diagnoses and treatments. The convenience and efficiency benefit both patients and physicians. For patients with chronic conditions or multiple prescription drugs, this fast and well-informed response improves care. To ensure quality and improve outcomes, Medgate tracks outcomes and errors, with particular attention to measuring and improving the accuracy of diagnoses. And, although Medgate is currently focused on distinct episodes of care, its model could enhance continuous, clinically integrated service over the full cycle of care.

The path-breaking efforts around the world of the Institute for Healthcare Improvement (IHI) to reduce unnecessary deaths during medical treatment illustrate the importance of focusing on value, and the international need for structural change in health care systems. Even simple changes, which could save millions of lives, require substantial effort because driving improvement in value is still far too uncommon. For example, in the U.S., the 5 Million Lives Campaign identifies 12 process changes that will reduce errors and update protocols in ways consistent with medical evidence (Institute for Healthcare Improvement 2006). These processes (for example, establishing an emergency response team that can be deployed quickly to a patient's bedside, conforming to practices that reduce rates of infection, or reducing adverse drug events) do not require advanced technology or huge financial investments. They do require awareness, education, attention, and motivation, which IHI is creating. The changes that IHI are promoting not only improve safety, but by reducing errors and unnecessary compli-

cations, they also reduce costs. In today's systems, these changes require charismatic leadership supported by significant efforts because the systems' incentives are skewed and quality is too rarely tracked.

The organizations at today's leading edge exemplify unusual talent and vision. With their innovations, they are helping to create the structural change that is needed to enable improvements in health and health care value that are both dramatic and system-wide. Health care organizations, however, should not have to depend on extraordinary leadership to be effective. Fundamental change is needed to create systems and structures that will provide the incentives and information needed for everyone involved to drive ongoing improvement in health care value. The principles that follow create a framework for shaping such a system.

Principle 2: Competition must be based on results.

Results (outcomes and prices) define value for patients. Competition to improve results will drive ongoing improvements in value. And for this to occur, the relevant results must be measured. Until clinical teams see comparative measurements, most teams assume that their results are well above average. And until health plans see comparative measurements, there is a tendency to assume that health care services are all the same and can be purchased solely on price. When results are measured, the opportunities to drive improvement will become apparent not only to clinicians, but also to suppliers, health plans, and patients. Measuring patient value must include measuring the multiple dimensions of patient outcomes, including not just mortality or medical errors, but also outcomes such as improvements in functioning, time until return to work or normal activities, occurrence of later complications, or amount of pain.

Prices for the full cycle of care for medical conditions also need to be measured, but comparing prices before comparing risk-adjusted outcomes over the care cycle creates skewed incentives in two significant ways. First, comparing prices without attention to quality treats health care services as if they were commodities (as if they were identical) and encourages cost-cutting in ways that allow quality to decline. Second, comparing prices for services or DRG (diagnosis related group) categories that do not capture the full cycle of care exacerbates cost-shifting from one part of the care cycle to another and promotes false efficiencies that drive costs up over time, often in ways that simultaneously detract from the quality of outcomes. For example, if the costs of hip surgery are measured separately from the costs of rehabilitation, and outcomes are not measured, then hospitals will prefer to shift costs to rehabilitation facilities by delaying physical therapies or by releasing patients early, and rehabilitation facilities will prefer that rehabilitation begin in the hospital. What creates the most value for the patient or the most efficiency in the system is ignored. Thus, the introduction of RISK-ADJUSTED OUTCOME MEASURES for full cycle care is crucial.

Measuring outcomes creates the motivation to improve results. This motivation need not be actuated by having consumers shop for the best care. In Sweden, patients exercise little choice, receiving their care within each LAN (a region similar to a canton or state). Physicians nevertheless compete to improve their results, which are reported in

government-funded quality registers. The National Board of Health and Welfare has supervisory authority over health care quality and the registers, although it neither specifies the measures nor mandates participation. The registers are developed by the groups that use them; this involvement in developing content is believed to be a key to the success of voluntary participation. Public availability of the data varies among registries, which are used by researchers and by clinicians to improve care. The resulting efforts have dramatically reduced waiting times and the number of hospitalizations in gastroenterology in Etesjö (while the total number of appointments remained constant), increased adherence to myocardial infarction treatment guidelines by at least 50 percent in ten hospitals, and improved safety dramatically in Jönköping, so that the rates of infection and mortality from errors are about one-fifth of the rates in American hospitals for patients with the same conditions (Baron 2007; Porter & Teisberg 2006, 376-377). Without significant shopping and without performance pay, the professionalism and ethics of informed clinicians nevertheless drove competition to improve results. No doctor wants outcomes that are low in the metrics, nor to have his or her patients experiencing below average results. VALUE-BASED COMPETITION acts powerfully to improve results.

In the United States, measurement has sometimes come from insurers tracking problems. For example, in 1985, the mortality rate from problems in surgical anesthesia was 1 in 5000 (Hallinan 2005). Anesthesiologists, seeing these outcomes and facing high malpractice insurance rates, asked suppliers to standardize valves, to make hoses for different gases in different diameters, and to change the packaging shapes for different drugs. They also adopted OXIMETRY and CAPNOGRAPHY to measure the blood gas levels of oxygen and carbon dioxide. Today, the mortality rate in the U.S. is 1 in 200 000 to 300 000 (Hallinan 2005). The drive to improve outcomes, in this case patient mortality, motivated intense attention to the process of care, and brought about a dramatic change.

In countries around the world, documenting variable quality and frequent errors is leading to intense efforts to fix the processes. Rather than focusing on results, however, attempts to fix quality problems often specify compliance with requirements.

Although PROCESS COMPLIANCE can produce initial improvements in a dysfunctional system, it is not a long-term solution for several reasons:

- First, process compliance does not guarantee quality. Studies document that even with widespread process compliance, large variations in outcomes remain (Porter & Teisberg 2006, 87, 128; Gawande 2004). Thus, it is better to have clinical teams and suppliers focus on achieving better results. Information about best practices can suggest ways to begin improving results, but the crucial goal of improving health and health care outcomes must remain the focus.
- Next, the administrative costs of specifying and monitoring process compliance are burdensome and high, compared to the costs of gathering and sharing outcomes information. Measuring outcomes usually requires many fewer metrics than does measuring processes. Also, in essence, process compliance requires the government or other organizations to learn about what works. Sharing outcomes in-

formation – and the discussions about practices and processes that follow it – situate learning at the level of those who will be using the knowledge, a simpler and more effective approach.

- The state-of-the-art understanding of best processes changes over time. Administrative specifications cannot always keep up.
- Specifying processes limits the ability of the best clinicians to innovate by forcing them to comply with processes that they could improve upon.
- Most importantly, complying with processes will not drive a dynamic of ongoing significant improvements in outcomes.

Competition to improve results, however, does drive dramatic and sustained improvements. Physicians need measures of results in order to know what needs to improve and to know when it is improving. If results are measured and reported, teams will seek out information about best processes and analyze and improve their own processes. The diffusion of best practices occurs rapidly when organizations or teams compete to improve results. When this dynamic is operating, process compliance measurements may create a distraction from the goal of improving results.

The Helios Hospital Group, comprising 58 clinics throughout Germany, provides another example of the improvements that occur when results are measured. Since 2000, the group has been publishing data on procedure volume and mortality rates (adjusted for age and sex) for ten conditions and procedures. Between 2000 and 2005, all ten measures improved. Two dramatic examples were the mortality rate for cardiac infarctions for the age group of 65 to 84, which fell from 15.7 percent to 8.9 percent, and the mortality rate for sepsis, which fell from 41 percent to 22 percent. In 2005, Helios management increased the number of measures to 30, thereby encompassing 30 percent of its patient admissions (Helios Kliniken Gruppe 2005). The hospital group sets improvement goals based on the national quality benchmarks set by German federal agencies, on literature reviews, on international benchmarks (such as the U.S. Agency for Healthcare Research and Quality), or internally if other standards are not available.

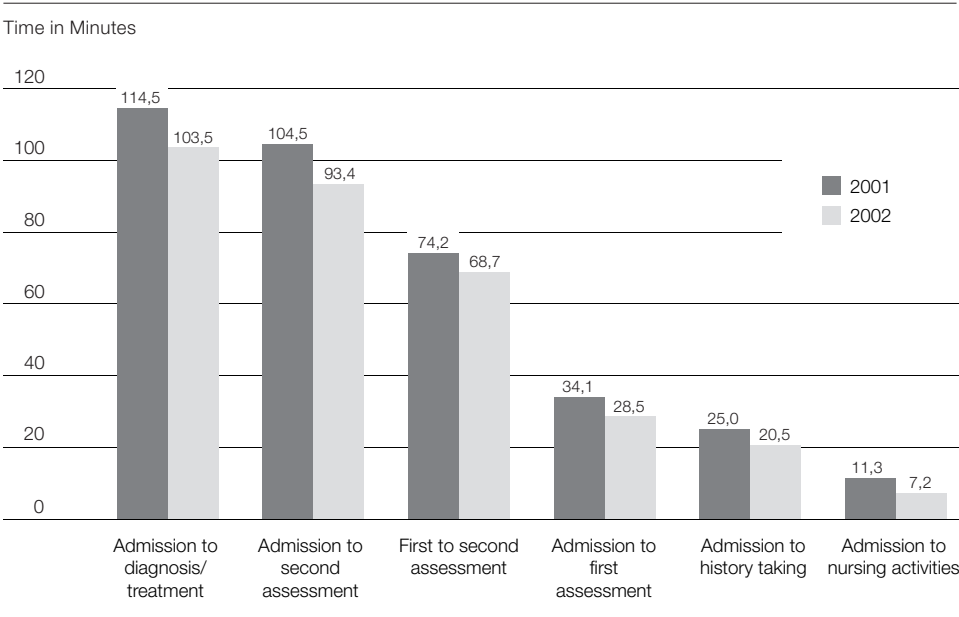
In Switzerland, the «Emerge» project of Verein Outcome benchmarked clinical performance in emergency care. They evaluated a group of twelve community hospitals on two outcomes: whether the diagnosis was correct, and how long it took for the patient to receive care. But instead of merely measuring how long patients waited in the emergency room, Verein Outcome identified the component stages of emergency room care and collected data on each stage, as shown in Figure 9. The data were shared with all the hospitals, and a year later the same data were collected again. In the course of this year, as Figure 9 shows, the hospitals lowered the average waiting time at every stage of an emergency room visit. The accuracy of the diagnoses improved as well. A later review of the «Emerge» project notes that as the year progressed, initial diagnoses and subsequent reviews were performed more often by senior and attending physicians and fellows and with decreasing frequency by interns and residents (Schwappach et al. 2003). Thus, even before final results were gathered and circulated, the hospitals were changing their procedures in the direction of improving results – in this case, accuracy of diagnosis.

The «Emerge» project highlights several features of moving towards competing on results. First, having an outcomes-based benchmark drove improvement. Second, emergency departments were not competing directly with each other for market share; instead, they were competing to improve PATIENT OUTCOMES in the context of shared data. Third, the departments did not mandate process measures as a means of facilitating improvement. Finally, the process of moving towards value-based competition had immediate rewards. Improving results does not require an immediate and complete transformation to value-based competition. Benefits from a more gradual transition begin immediately and compound as more and more participants compete on results and improve value for patients. And throughout the transition, the measures themselves expand and improve.

The «Emerge» project is one of many efforts by Verein Outcome, which is working with groups of organizations to measure risk-adjusted outcomes by medical condition and to discuss these results in order to enable learning. Again, enabling learning is a critical step. The point of measuring outcomes is to identify and share insights about what improves value in patient care. Verein Outcome's data show significant outliers in the results, in spite of expectations that there would be little variation in outcomes among hospitals in Switzerland (Aellig & Osswald 2006). This suggests that, as in other nations, significant opportunities exist for improvement and for those with the best results to share insights that others can act upon. Verein Outcome, however, is being pressured to move from outcome to process measures (Aellig & Osswald 2006). Physicians often prefer process measures because processes are more controllable. Even below-average physicians and teams can comply with process specifications. Additionally, process measures are less threatening because they can hide variations in results. But results are what really matter to patients. **While there is a role for process measures, foregoing outcomes measurement would be a mistake, because it would slow both innovation and improvement in results. Expanding the measurement and analysis of risk-adjusted outcomes will support the dynamic of improving health and health care value in Switzerland.**

Outcomes data drives improvement when it is used as an enabler for physicians and teams, rather than used as a critique, surveillance system, or report card. The goal is to support open communication, better decision making, and more effective organizational learning. While it is true that measuring and reporting risk-adjusted outcomes unveils clinicians' responsibility for their patients' results, success comes from encouraging thoughtful discussion of what works most effectively. In the «Emerge» project, for example, «all parties agreed that interpretation of measurement results and benchmarking should be guided by a culture of organizational learning rather than individual blame» (Schwappach et al. 2003). Such a culture invites participation, improvement, and multiple winners. The Institute for Clinical Systems Improvement in Minnesota encourages its membership's open exchange of insights with the advice to «share selflessly and steal shamelessly.» Everyone wins when patients' health improves.

Figure 9 | **Selected Results from the «Emerge» Project:
Time Sequence of Patient Assessment and Treatment**



Source: Schwappach et al. (2003).

In spite of strong evidence that measuring results drives improvement, some physicians voice concern about the quality of the measures. Perfection, however, is not required. The commitment to reporting will push improvements in the measures themselves, in the methods for adjusting risk, and in the patient outcomes (as well as in the quality of care). More and more hospitals and clinical teams are publishing results (Porter & Teisberg 2006, 136-140). Early movers will lead others in their understanding of how to improve health and health care results for patients. National and international medical societies can participate in developing measures. For example, Swiss teams could work with counterparts internationally to develop and choose outcome measures and appropriate risk adjustments. Moreover, every organization need not reinvent its own measures. In Canton Thurgau, the hospital system, in implementing the fast-track approach for total knee and hip replacements, benchmarks and uses metrics developed in the U.S. (Kohler 2006).

Health plans, public or private, also need to think about improving results for patients. They, too, can focus on improving health results. Developing into true service organizations allows them to differentiate themselves in the health market. For example, support for health plan members could include disease management services, counseling on healthy lifestyles, risk-reduction counseling, and information and support services that compare treatments and providers. In Switzerland, such services are uncommon; insurers restrict themselves to the role of payer. Part of the reason is that

health care is viewed at an aggregate level so the mechanism for equalizing financial risk does not reflect the health conditions of subscribers. Risk equalization has adjusted for age and gender, creating incentives to try to select good risks. It might soon include hospitalizations during the previous year, but nothing more specific. Moreover, there are institutional constraints on health plans that limit their ability to track results for particular medical conditions. Health insurers get only the first three digits of the ICD code (International Classification of Diseases), so they cannot track results by medical condition (Bitterli & Vautravers 2006), and there are not yet public outcome measures to support counselling patients about which treatments and which providers have better outcomes. Enabling insurers to gather information on results, however, would give them the opportunity to add value for their members by providing services to clinicians and to patients that provide insight about the array of outcomes achieved and the treatment approaches that appear to enable better outcomes. Insurers need not use results information to limit the freedom of choice for patients. Instead, they could truly become *health* plans.

Principle 3: Competition should center on medical conditions over the full cycle of care.

Competition at the medical condition level means driving to improve value for patients in the prevention, diagnosis, and care for medical conditions. Again, medical conditions are defined as combinations of medical circumstances that are best treated in an integrated way. Value for patients is created as their medical conditions are treated effectively, appropriately, and efficiently. The level at which care is delivered is the level at which results are relevant to the choices and actions of clinicians. Accordingly, the organization of care delivery and the development of meaningful results measures must be centered at the level of medical conditions. Measures at the hospital or health system level do not connect directly enough to the efforts of each doctor, nurse, or team.

This suggests a significant reorganization from the perspective of clinicians. Most physicians, when asked about their practices, answer in terms of their specialty, rather than in terms of the conditions or medical circumstances their patients are experiencing. Many clinicians have not thought about their service lines in terms of the patient's medical circumstances, and once they do, they begin to see the many opportunities for improvement. No physician, no team, and no hospital is equally good at everything it does. Doing more of what one does best and eliminating what one does relatively poorly increases the value of the services provided. This does not mean exiting medical practice or going out of business. It means spending time on what one does well. And it implies redistribution. The strategy of any business or service, whether a health care provider, a telephone company, or an international relief agency, must address the crucial decisions about what not to do. Trying to do everything makes it virtually impossible for a conscientious doctor to keep up to date with all that occurs in his or her field.

It is important to realize that organizing care around medical conditions from the patient's point of view will not create hyper-specialized physician practices. Instead, physicians will broaden their expertise throughout the care cycle for the conditions that they most often treat. Nor is organization by medical condition about offering each

service or procedure at a separate facility. It is about reorganizing along service lines, making strategic choices and improving care cycles, to increase value for patients.

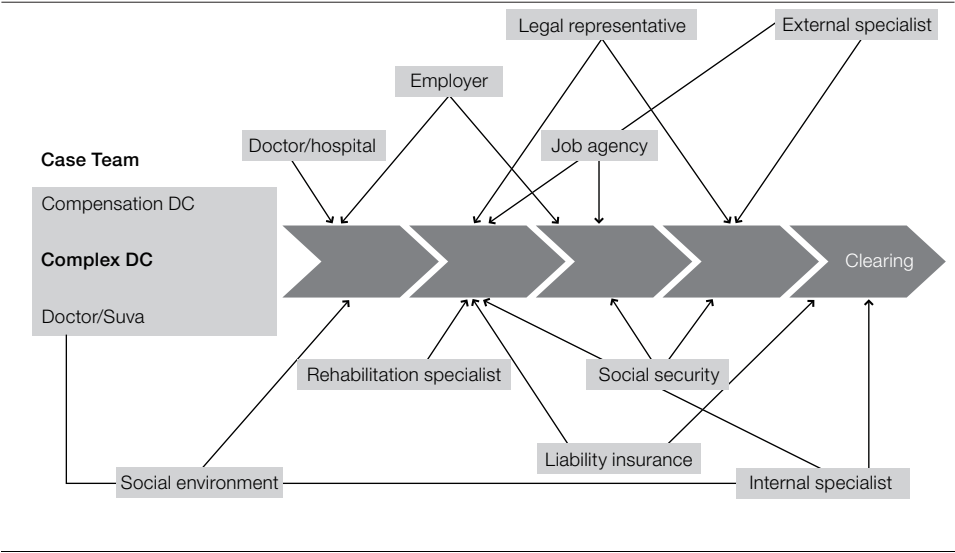
In Switzerland, as in other countries, most reform efforts are at the wrong level – focusing on health plans or hospitals. Hospitals often argue that in order to serve patients, they must provide all the services that any patient may need. But providing all these services, all organized by medical or surgical specialty, usually results in piecemeal and fractured processes from the patient’s point of view, even when all the care is situated within the same hospital or system. In a system with poor coordination, information is poorly shared, tests are repeated, waiting time is compounded, and quality is compromised.

When competition and reform efforts occur at too aggregated a level, no one really has to compete to improve results for patients. Competition among health systems or hospitals can inadvertently protect or obscure the existence of substandard clinical teams for particular conditions. Because each provider organization needs to offer a full array of services to stay competitive, some substandard services will escape notice unless there are egregious or obvious quality problems. Data revealing variations in processes and results suggest this is happening in many countries. Little data on variance of outcomes by medical condition in Switzerland exists, but the OECD Review of Health Systems notes a variance among the cantons in deaths from preventable causes such as pneumonia, chronic liver disease, and cirrhosis (among others), a variance that cannot be linked to the availability of health services (Crivelli & Domenighetti 2003, cited in OECD & WHO 2006). Other studies have cited large national variation in rates of coronary arteriography and operations for hip fractures (Luthi et al. 2002). Another documented variance in western Switzerland is the outcomes of kidney dialysis (Saudan et al. 2005). It is unlikely that Switzerland has avoided variations in care when they are so prevalent elsewhere.

In some extreme situations, the overwhelming need for coordinated care has motivated unusual attention to the cycle of care for medical conditions. For example, the Swiss Paraplegic Foundation in Notwil, Switzerland, was founded in 1975 with the intent of providing holistic care to paraplegics, tetraplegics, and all others suffering from spinal cord injuries (Swiss Paraplegic Foundation 2007). The services it provides cover the range from acute trauma care to rehabilitation and ongoing assistance with everyday life. The Foundation is the umbrella organization for several other entities. The Paraplegic Center provides around-the-clock emergency services, as well as rehabilitative care for trauma patients suffering from spinal cord injuries. The Swiss Paraplegic Association helps patients re-orient into society, with departments focused on culture and leisure, sport, social and legal advice, obstacle-free building, and vocational guidance. Swiss Paraplegic Research investigates improving the quality of life for patients with spinal cord injuries. What these organizations provide is not hyper-specialization, but a more comprehensive service for patients with similar medical circumstances.

World class multi-specialty practices also are demonstrating patient-centric innovation by reorganizing their care delivery systems around medical conditions. The Cleveland

Figure 10 | **SUVA Case Team Management**



Source: Suva (2003).

Clinic is developing INTEGRATED PRACTICE UNITS around disease systems and organ systems, and is progressively reorganizing its nine community hospitals, three affiliate hospitals, 1700 staff physicians and 3000 independent physicians into this new structure (Cosgrove 2007, Harris 2007). For example, The Clinic's new neurosciences institute integrates neurologists, neurosurgeons and psychiatrists in a new care model (Harris 2007). Combining medical and surgical departments is a radical change from a physician's point of view, but is natural and logical from the patient's perspective. The Clinic's ongoing commitment to state-of-the-art information systems and to measuring results for all its services will allow continuous assessment and ensure continuing improvement in the delivery of care. Indeed, as each integrated practice unit is developed, the group develops outcome measures for the coordinated care of patients, creating integrated goals for the newly formed group of clinicians.

In contrast, most of today's systems are far less coordinated. Amidst this fragmentation, empirical studies demonstrate the high value of disease management services in improving results (Goetzel et al. 2005), which is symptomatic of a system that fails to integrate care and manage risk otherwise. Disease management creates significant value and should be a normal part of providing full-cycle, integrated care.

In Switzerland, SUVA (Schweizerische Unfallversicherungsanstalt) routinely uses case management workers for those who are injured or have an accident. Case managers concentrate on getting injured workers to the appropriate doctors and on coordinating their care. These managers can help with issues beyond the management of immediate medical needs (Morger 2006), coordinating an array of resources, as depicted in Figure 10.

SUVA finds that patients get better faster when they receive support that addresses the stress-inducing aspects of a patient's situation, such as worries about job retention or medical bills. This agency reduces its costs by accelerating recovery and return to work.

Medgate offers disease management programs for patients with arterial hypertension and for patients with chronic obstructive pulmonary disease or asthma. Patients receive a physical exam, are educated about the disease, and then trained to use a home bio-monitoring device. The device sends diagnostic information to the central server at Medgate, where it is collected and analyzed. The analyses are then sent to the patient's treating physician. So rather than seeing a doctor at preset time intervals, the patient can be seen when medical circumstances (e.g., air volume and flow rate within the lungs, or blood pressure) signal a need for attention. Medgate says that their pulmonary program has reduced hospitalizations by more than 30 percent, and that over 85 percent of the patients in that program are pleased with it (Medgate 2007a; Medgate 2007b). Similar approaches that remotely monitor blood sugar for patients with diabetes allows appropriate adjustments to their medications without an office visit, thus improving management of the disease, convenience for the patient, and efficiency for the physician.

The roles of primary care physicians will also evolve as integrated practice units are developed, coordinating care across the full care cycle. Rather than being a catch-all category, primary care will increasingly be the tailored front-end of coordinated care delivery. During this transition, state-of-the-art information systems can enable complete medical records, improved patient education, and both remote monitoring and remote consultation, as demonstrated by organizations such as The Cleveland Clinic and the Veteran's Health Administration. Rather than computerizing care across a fractured delivery system, these organizations are using information systems to enable innovations in integrated care delivery.

In Germany, this type of thinking has spawned an impressive pilot project delivering care to patients with frequent migraines. Initiated jointly by a sick fund and a community hospital, patients with frequently occurring migraines are invited to participate in an integrated program for migraine care. Instead of seeing a neurologist, psychologist, or physical therapist separately (or sequentially), patients are initially evaluated in a hospital day clinic where they are seen by all three and where the three meet to diagnose causes and prescribe care. Generally 10-15 percent of patients are found to be addicted to pain medication; they undergo a five-day in-patient or one-day out-patient detoxification treatment. After the in-patient treatment, they, like the majority of the evaluated patients, participate in a five-day outpatient program that includes coordinated treatment provided by a neurologist, a psychiatrist, a physical therapist, and other health professionals working together. Normally this level of care would not be available to a member of a public sick fund, as these specialists charge five to seven times the normal tariff. Following treatment at the migraine center, patients are given a detailed treatment plan and discharged to the care of specially trained neurologists in their communities. After two years, the pilot has demonstrated its effectiveness: the number of patients missing six or more days of work dropped from 58 percent to 11 percent, and

69 percent of the patients reported a significant reduction in the number of days they had migraines (Porter & Schönermark 2006; Porter 2007). The program has attracted more patients and the hospital has built a facility particularly dedicated to serving this type of care (Porter & Schönermark 2006).

Even initial approximations of organizing care by medical condition and to considering the full care cycle can have large effects. For example, a first approximation to coordinating care by medical condition occurred in a New Hampshire hospital when the various doctors treating the same patients conducted rounds at the same time, discussing their patients together. This relatively simple change improved clinical communications and markedly reduced errors, cutting the mortality rate to 2.1 percent from an expected 4.8 percent (Uhlig et al. 2002).

In Switzerland, gains from moving towards a full cycle view were illustrated by the improvements in melanoma outcomes derived from increased attention to prevention and early detection. International studies also suggest that improved screening and early detection of breast cancer could reduce mortality significantly; in Switzerland, one expert reviewing the literature states that a national mammography screening program could achieve a larger reduction in female mortality than any other possible intervention (de Wolf 2006).

Drug and device manufacturers working in conjunction with clinicians can also orient their businesses around improving results for medical conditions over the full cycle of care. Some, such as Novo Nordisk and Genzyme, attempt to ensure that their products are embedded in the right care delivery processes, actively working with physicians to improve those processes and to improve results (Porter & Teisberg 2006, 289, 293; Novo Nordisk 2007). Synthes, spun off from the AO Foundation, is another example of a supplier working with physicians to improve patient care. Synthes licenses products created by the AO Foundation after clinical testing is complete (Synthes 2006). In another example, IBM Research worked with the university hospital of Heidelberg in Germany to remotely monitor weight and blood pressure for patients with chronic kidney failure so that a form of hemodialysis could be done reliably and safely at home (Kirsch et. al. 2007). As these examples illustrate, value improvements will accrue more rapidly when all participants work to improve results over the cycle of care for the medical conditions they address.

Principle 4: High quality care can dramatically improve efficiency

The opportunities for simultaneous improvement in quality and efficiency are huge in the health sector. First, much of the delivered health care lags behind the best practices. Large opportunities exist for the simultaneous improvements in quality and efficiency that occur whenever production of a good or service is underperforming its known potential. Moreover, this result is stronger in the health sector than in other economic sectors, because better health is inherently less expensive than worse health. This is in direct contrast to other industries, such as automobile manufacturing, where improvements, such as leather interiors and greater horsepower, are necessarily more expensive.

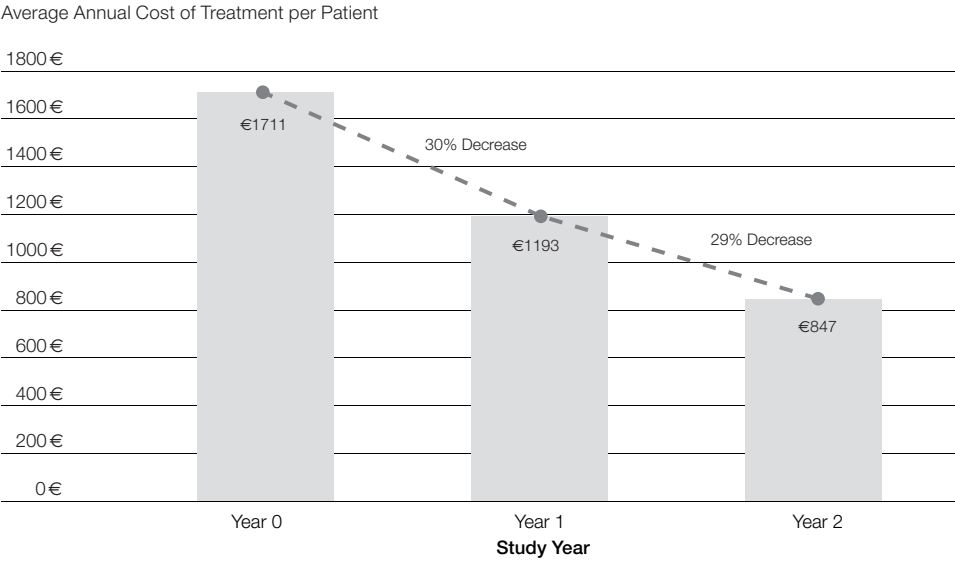
More than in other sectors, better quality health care inherently reduces costs, for myriad reasons. Some are obvious: fewer mistakes or less repetition costs less; a faster recovery is less expensive than convalescence; less invasive treatments enable less expensive recoveries; reduced long-term care costs less; reduced disability costs less and enables more productivity; prevention is more efficient than treatment; and disease management costs less than disease progression and treatment. Other reasons are less frequently discussed: an accurate diagnosis enables effective, efficient treatment – mis-diagnosed patients experience the costs and risks of treatments that are bound to be ineffective. Treatment earlier in the causal chain is less costly. For example, treating the bacterial cause of an ulcer is more effective and less expensive than an invasive surgery. Medgate's reductions in hospitalizations through telemedicine provide another example of earlier treatment proving effective and efficient. Getting the right treatment to the right patients also reduces costs. Greater individualization of diagnoses will enable more effective treatment at lower costs (Grove 2005).

The «good» or «product» in health care is not treatment, but health. More treatment is not necessarily better; indeed the opposite is often true. Inappropriate care, errors, repeated efforts, and lack of coordination are huge sources of waste. The waste, errors, inefficiency, and lost opportunities to improve health and care all point to the need to restructure the delivery of care. Practice units integrated around medical conditions could improve health and the outcomes of care in ways that dramatically reduce waste. Refocusing health sector strategies to drive improvements in value could make a difference of staggering proportions.

The German example of migraine treatments illustrates a dynamic of simultaneous improvement in quality and efficiency. Patients received better treatment, and the hospital attracted enough patients to warrant a facility strictly dedicated to serving this condition. The average annual cost per patient fell from 1,711 Euros to 1,193 Euros in the first year and to 847 Euros in the second, as shown in Figure 11 (Porter & Schönermark 2006). The reduction in costs occurred while providing care at a level and of a type not normally included in migraine treatment; measuring outcomes and costs over the full cycle of care, however, documented the simultaneous improvement. Focusing on improving care over the full cycle simultaneously yielded improved health for the patients, increased volume for the hospital, and reduced costs for all involved, including the insurance company. Not only have patients and their families benefited, but the employers of these patients have benefited from fewer absences (Porter & Schönermark 2006). This win-win example is a prime illustration of the principle that high quality reduces the costs directly associated with health care.

Discussion of the rising costs of health usually focuses on the direct costs of care and insurance, even though they are only part of the total costs experienced by the nation. Indirect costs include the losses incurred when employees are temporarily out of work because of illness, and may more broadly include reduction in productivity when a worker or family member is ill, injured, or needs long-term care. The statistical challenges of estimating indirect costs have yet to be resolved, but executives of international corporations in private conversation estimate that their indirect health care costs are

Figure 11 | **Financial Results of the German Migraine Pilot Project**



Source: Porter & Schönermark (2006)

two-and-a-half-to-three times more than they pay for health care benefits. Even when the government pays for health insurance for its citizens, the burden of these indirect costs still has a tremendous impact. Improving health and health care value yields benefits for the payer of insurance, and will also ameliorate the large indirect cost burden on individuals, on employers and businesses, and on the economy as a whole.

Principle 5: Value must be driven by experience, scale, and learning at the medical condition level.

It might be quipped that «practice makes perfect,» even in medicine, but the point is more sophisticated. First, bigger and broader is not better. Quality in treating breast cancer is not improved by experience in hip replacement. For a patient undergoing an appendectomy, it is irrelevant how many patients the hospital has had with congestive heart failure, or how expert the neo-natal intensive care staff is. The experience and learning that matter are those that are directly relevant to the patient’s medical circumstances.

Experience data are not definitive indicators of quality, although they can help reveal the particular conditions with which a physician has expertise, rather than just the broad specialty areas in which the physician practices. Experience data can also reveal lack of expertise, especially if there is a true lack of experience. Nevertheless, experience alone does not guarantee expertise or good results. Mistakes and poor processes can be repeated over and over, and sometimes are. Experience matters when it propels

learning. Clinicians will learn and improve faster when they measure, compare and analyze the results achieved by their team relative to the results of others, and when they compare the results of different treatments or approaches for particular conditions. When coupled with active learning, experience can develop expertise in the treatment of specific medical conditions or combinations of conditions.

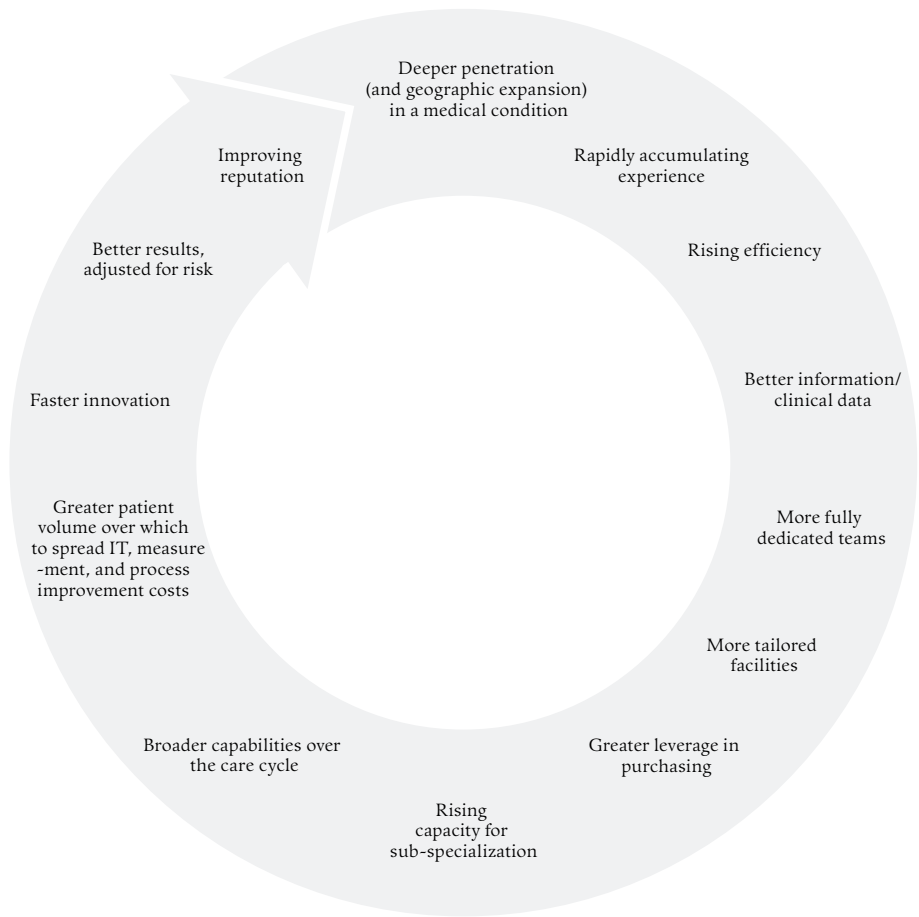
Empirical studies show a THRESHOLD EFFECT for experience. The thresholds vary by condition and procedure, but in general are not high, in terms of number of patients per period of time for a specific medical condition. For example, for coronary artery bypass graft surgery, outcomes for patients are better for a team with experience of over 100 patients per year and efficiency also is better when the team has experience with over 200 patients per year (Shahian & Normand 2003). The implication is that it does not make sense to treat patients at organizations that offer a service in order to have a «full line,» but that do not perform the service often enough to reach the threshold for quality. Verein Outcome has had some difficulty in gathering data for some medical conditions, because some providers have not had enough patients to make analyses statistically significant (Aellig & Osswald 2006). This suggests that some practices may not have enough patients to be over the threshold level of experience for developing or maintaining excellence. In such cases, it does make sense to report the lack of experience during the data collection period.

Learning, quality, and efficiency improve as a team achieves deeper penetration in a medical condition or combination of co-occurring conditions. Doctors do not need to hyper-specialize, nor become bored by doing the same thing over and over. When reorganized around medical conditions, their practices will acquire breadth as well as depth, becoming broader as they include co-occurring conditions and as they extend care along the cycle of care. Most physicians will develop service lines for multiple related conditions. What constitutes a co-occurring condition can change over time as quality improves. At Fairview Hospital in Minnesota, the increase in life span for cystic fibrosis patients to an average of 47 years means that patients now live long enough to have and raise children. With pregnancy now a co-occurring condition of cystic fibrosis, Fairview includes a specialized obstetrics service as part of their cystic fibrosis practice (Porter & Teisberg 2006, 160). Fairview has broadened its view of what needs to be included in the definition of care for that condition.

Today, most medical care is organized around procedures or to provide a full array of services, exacerbating the fragmentation of care. This has implications for payment, because the most powerful reward for excellence may be more patients with similar conditions, to drive the *virtuous circle* depicted in Figure 12. Excellent physicians should earn higher margins, but that may not require higher prices, because excellence also improves efficiency and thus lowers costs.

Systematic knowledge development consists of at least three components: measuring and analyzing results, identifying process improvements, and developing experience with the new methods. The effort needs ongoing management by physicians and skilled staff who work together as a team under active leadership. It also requires a structured,

Figure 12 | **Virtuous Circle in Health Care Delivery**



Source: Porter & Teisberg (2006).

data-driven approach. Integrated practice units need to set aside time for regular meetings to review results, examine the causes of problems, explore possible solutions, and learn from anomalies and variations in results across patients. Substandard outcomes, as well as unusual successes, must be discussed and analyzed so the entire group learns and improves. This approach has been more common in surgery, but it must spread to every medical condition. New ideas must be actively sought from outside, from top-performing units elsewhere, and from all members of the team, not only the physicians. Finally, the physicians and other skilled staff must be responsible for progress. In larger organizations, shared resources can supplement practice unit teams. At Intermountain

Health in Utah, for example, physicians have access to a decision support database. At M.D. Anderson Cancer Center, informatics teams assist clinic heads in compiling data and analyzing results (Porter & Teisberg 2006, 217).

The experience of Intermountain and MD Anderson suggest another dimension of learning. Well designed information systems can be tremendous enablers of error reduction, learning, and efficiency improvement. But the existence of a database of medical records does not guarantee these benefits. Information systems need to be designed to support decisions, analyze outcomes, and improve coordination. Switzerland may be lagging many European countries in establishing medical records, but it could leap forward by designing an electronic information system that could support integrated practice units, learning, error prevention, and waste reduction.

Principle 6: Competition to improve value should be regional, national, and international, not just local

Competition in the context of health care is often too local. Rather than competing to deliver the best value in the region or nation for specific conditions, hospitals tend to be intent on being the biggest and broadest in the local area to compete for contracts or to get on governmental lists of approved providers. But thinking locally makes little sense in the context of value-based competition on results. The relevant scope for comparing results of health care delivery is regional, national, even international, and not just local. Physicians and teams must compare their risk-adjusted results to those of the best providers anywhere, not just providers nearby. Medical and scientific knowledge are not local, and insights about best practices usually work in many geographic settings. Even when an area has only one hospital or clinic, comparing results with those of others will drive improvement and keep practices up to date.

In Switzerland, most competition among providers is within cantons. There are exceptions, like the university hospitals in Zurich, Geneva, Bern, Lausanne, and Basel, which can treat more complex cases (OECD & WHO 2006, 46, 104). But for the most part, public hospitals attempt to corner the market within the canton. Because the LAMal prevents most cross-cantonal reimbursement, competition usually remains at the local level. This model of competition will not unlock value. Health care value for the citizens of a canton is best created by providing excellent, efficient care for their medical conditions, not by ensuring local treatment for everything without considering the results of the care provided.

Emergency care, routine and preventive care, disease management, and follow-up care need to be available locally. Some argue that every hospital must provide all services and specialties, but this argument is often made by hospitals located near several others. No one institution needs to provide every service. There is also no reason, in terms of health care value, for a patient to be cared for by the same hospital, physician group, or network for different conditions that occur at different times. Value for the patient is determined by how effective a provider is in addressing that patient's specific medical condition, not by previous results for some other condition. Hospitals should offer services for which they have enough experience, scale, and expertise to meet a standard of true excellence.

This need not endanger the existence of community hospitals. Although community hospitals now operate as isolated, stand-alone organizations, they could become organizations connected through close working relationships. These relationships would be dedicated to integrated care in particular medical conditions over the full care cycle. This again points to the benefit of measuring results, which enables a distinction between relationships that improve value for patients and associations that only increase bargaining power. Similarly, clinicians can pursue relationships with national and regional centers for consultations, second opinions, and coordinated services for referred patients, thereby ensuring that they can meet the higher standards of value, even if they serve a less populous area.

Cooperation beyond the local area can confer local benefits. For patients with traumatic brain injury (TBI), better outcomes take the form of improved functionality or reduced disability. Better outcomes thus dramatically reduce costs of long term care (Centers for Disease Control 2006; Fakhry et al. 2004; Watts et al. 1999; Watts et al. 2004). Nevertheless, the standards of care that have been approved by the American Association of Neurological Surgeons are fully implemented in only 16 percent of the hospitals treating TBI in the U.S. (CarePath 2005a; Hesdorffer et al. 2002). CarePath, in the U.S., is delivering to local hospitals web-based information on TBI, backed up by leading experts who can coach or answer questions from emergency physicians over the telephone (Porter & Teisberg 2006, 122). The same sort of relationship could be developed between local hospitals and a leading national brain trauma center. Such relationships, which today are rare and sometimes resisted, would markedly increase quality and value throughout the system.

Patients benefit when their care is good relative to other patients with the same condition, even if the other patients are geographically dispersed. Competition must be to achieve results comparable with the best results in the country, on the continent, and in the world. This is best supported when patients, referring physicians, and services providing information may seek out the excellent care that best meets patients' needs, wherever that care is located. Even for emergency and chronic care, which will normally be delivered nearby, a regional perspective on results is important.

The most important competition is the competition of every hospital, physician, and supplier to improve results for patients compared to other patients with the same condition. The notion that identifying and using the best regional facilities will improve the quality of care is not a new one. Trauma centers in the U.S., for example, replaced the 1970s practice in which every local emergency room treated patients involved in car accidents or who had sustained other serious injuries. The advent of trauma centers has saved many lives and reduced disabilities. Today, there is active discussion in Switzerland, the U.S., and other nations about adapting this approach to emergency care for stroke victims in order to save lives and reduce disability (De Reuck 2006; Arnold et al. 2004). More generally, for non-emergency care, patients will benefit tremendously from a system in which hospitals and clinics offer the services that they can offer with excellence and refer patients to other providers for other services.

While traveling to a preeminent regional facility may sound expensive and inconvenient, cost savings and better short- and long- term medical outcomes can make travel clearly worthwhile for both patients and health plans. The cost and inconvenience of travel are easily justified by avoiding other higher costs that arise with inferior outcomes (longer recovery times, less complete recovery, chronic pain, complications, and mistakes). Today's tendency for patients to consider only local care is the result of an almost total absence of relevant outcome information. Patients, referring doctors and health plans simply do not know just how wide the variations actually are. For example, parents of children with prenatal diagnoses of heart anomalies may be reassured that the best possible care will be provided (implicitly meaning the best local care), but may not see data revealing that the long term physical and cognitive results for their child depends critically on having an expert team perform the surgery. (Indeed the local team may not know the extent of variations.) Organizations that counsel patients on the variations in outcomes for neonatal heart surgery or for transplants find that many patients are eager to travel for care after seeing the data (Migliori 2005).

Most patients will not travel, but it should be an option because competition on results both improves average results and narrows variance in outcomes. For example, in the U.S. comparisons of outcomes for patients with cystic fibrosis led to insights about best practices that increased by 15 years the average life expectancy of patients. Overall variation decreased, even while the best centers continued to push the life expectancy for their patients to fourteen years above the new average (Gawande 2004). Opening up competition and encouraging the comparisons of results across providers and geography will jump-start condition-by-condition geographic competition, even if just a small fraction of patients actually elect to travel. Doctors explain that when they realize some patients are choosing to go elsewhere for care, they become more introspective and more inclined to explore new approaches (Porter & Teisberg 2006, 120).

Ironically, broad geographic competition reduces the need for travel. When relevant information, choice, and support for non-local care is expanded, patients and referring doctors can choose when to seek regional or national care, based on the patient's condition and preferences. The pressure to meet or exceed the value offered by regional and national competitors will accelerate local improvement in value. Over time, as more and more physicians hold themselves to national benchmarks, differences in results and thus the incentive to travel for care will decline, though the opportunity should remain.

Regional and national competition accentuates the need for providers to develop unique excellence in some services. It also expands the opportunities to develop expertise and scale. Excellent providers in a medical condition will expand geographically by managing services in multiple locations, thereby leveraging scale, expertise, care delivery methods, staff training, measurement systems, and reputation. Patients will benefit tremendously from the acceleration in improving results.

Principle 7: Results information must be widely available.

Publishing outcomes measurements accelerates the process of learning and improvement. When results measures are made public, the attention to improving processes will be animated. When New York State began publishing mortality rates for coronary artery bypass graft surgery, the mortality rate fell by 41 percent in the first four years (Chassin 2002). Moreover, leaders of the Society of Thoracic Surgeons (STS) explain that public reporting motivated their development of better risk-adjusted outcome measures for this and other surgeries (Porter & Teisberg 2006, 131). They have subsequently pushed the state-of-the-art in developing and tracking risk-adjusted outcome measures, achieving rapid and widespread improvements (Porter & Teisberg 2006, 132; Society of Thoracic Surgeons 2003). Cardiac surgery today defines the state-of-the-art in risk-adjusted outcome measurement.

In another example, the mortality associated with kidney dialysis declined 17 percent in the first eight years of outcome reporting (Nissenson & Rettig 1999). And for all types of transplants, the U.S. has legally required outcome reporting. The information is universally collected, risk-adjusted, peer-reviewed, publicly disseminated, and has been used to improve the policies guiding organ distribution. In spite of increasing co-morbidities, outcomes have been improving (Porter & Teisberg 2006, 133).

Publishing results speeds the process of learning and improvement. Minnesota Community Measurement began reporting five outcome measures for patients with diabetes to medical groups in 2002, with public reporting beginning in 2004. In the first two years of public reporting, the percentage of patients that met or exceeded the five benchmarked outcomes more than doubled, from just over 4 percent to just under 9 percent (MN Community Measurement). This result is particularly striking because measuring outcomes was preceded by several years of tracking compliance with suggested processes; the outcomes reported as the project began were very low, despite the very high rates of process compliance.

The AO Foundation, located in Davos, provides another example of what occurs when outcomes are measured and published. Created in the 1950s, the mission of AO (Arbeitsgemeinschaft für Osteosynthesefragen) is «to conduct research in bone healing, with particular reference to the influence of the mechanical environment of the fracture upon its healing pattern» (AO Foundation 2007). The AO created an experimental surgical laboratory that works with innovative surgeons and precision engineers and a documentation center that collects results. AO evaluates surgical devices in patient care to identify possible improvements. It analyzes and publishes over 150 outcome measures to assess function and quality of life for patients (Suk, et al. 2005). Leading experts from Argentina, Austria, Australia, Brazil, Canada, China, Columbia, France, Germany, Great Britain, Hong Kong, Italy, Japan, Mexico, the Netherlands, Singapore, Sweden, Switzerland, Thailand, Uruguay, Venezuela, and the United States are currently part of the AO Foundation, a non-profit «knowledge organization» (AO Foundation

2007). Their shared knowledge, built from data collection, clinical trials, and innovative surgical and product development, has made the AO Foundation a world leader in improving trauma care and spine care.

In addition to illustrating that measuring outcomes drives improvement, this international effort born in Switzerland illustrates that competition to improve results for patients gains power from the cooperation of clinicians and suppliers. It also demonstrates that value-based competition to improve results is a win-win situation. When clinicians and suppliers improve results, patients and their families and society win, too.

Information, however, does not automatically and immediately change behaviors. Support for both patients and physicians is necessary if results information is to enable transformation. For patients, the information must be understandable and usable, especially during the transition to outcomes-based care. Simply putting more information on the web is not enough to enable rapid change. People need the ability to distinguish reliability, relevance or implications. Counseling helps. Studies show that informed, involved patients choose less invasive treatments, comply better with physician advice, and have better outcomes (Bodenheimer et al. 2002; O'Connor et al. 2004; Wennberg & Cooper 1999).

For physicians and teams, information on methods and processes is important for internal improvement. Information on patient attributes is critical for making risk adjustments and for clinical insights about which processes produce the best results for which patients. The provider team can then tailor treatments and processes to their patient population. What will work for one team's patients may not be the best fit for another's. As long as results are compared, however, value for patients will be driven to improve.

Detailed micromanagement of processes, however, need not be in the public purview. This is not to say that processes should never be publicly measured. There will always need to be some regulation of processes for safety, just as there is for airlines. And there will be times when process measurement is the best starting point for a transition to outcomes measurement. On the other hand, risk-adjusted, well-vetted outcome measures should be public. Reliable risk-adjusted outcome measures will need to be developed by medical experts. Measures will also need to be multidimensional to avoid skewed incentives and will need to vary appropriately for different medical conditions. International cooperation can lever these efforts.

Indeed, enabling international comparisons can motivate Swiss health care providers, in solidarity, to improve outcomes, condition by condition. When Swiss providers demonstrate excellent risk-adjusted outcomes in international comparisons, they will attract foreign patients. This dynamic lever the benefits both of cooperation to achieve superb outcomes and of competition to achieve international renown. There is tremendous opportunity in the potential to drive improvements in value for Swiss citizens that feeds a virtuous circle of improvement, while attracting more patients from EU countries and further abroad.

Principle 8: Innovations that increase value must be strongly rewarded.

People tend to be suspicious of innovation in health care. Many believe that new technologies, treatments, drugs and equipment are inherently expensive and are one of the main drivers of escalating health care costs. But much of that discussion is stuck in the mindset of fragmented care and piecemeal analyses. Whether drugs or equipment or hospitalizations cost «too much» depends on the benefits – the medical outcomes over the full cycle of care. If expensive care in one part of the care cycle dramatically reduces costs later in the cycle, it may be a good deal. Conversely, arbitrary limits on drug prices or on hospital spending may increase the costs of care by shifting spending to less effective or less efficient approaches. The only real solution to controlling investment is to create value-based competition on results. Measurement of outcomes and costs over the full cycle of care will distinguish real efficiency gains from cost shifting.

Cantons, in their triple roles of hospital planning, operating, and subsidizing, may over invest in the latest technology (OECD & WHO 2006, 41) or under invest in the interest of short-term savings. Without results measurements, decisions are made on grounds other than improving health and improving the value of the health care delivered.

Fostering innovation to improve patient health also will require a redirection of incentives from fee-for-service to a single bill for a full episode or cycle of care. Switzerland's planned transition to DRGs (diagnosis-related groups) moves in this direction by linking payment to the diagnosis, but not yet to the full cycle of care. Currently, the payment structure dictates that more care receives more payment, regardless of patient value. The incentive to improve patient health by offering less invasive and less costly procedures is tempered by a lack of compensation. DRGs will improve, but not fully solve, this problem. At the very least, centralized DRG pricing is difficult to keep current. Also, unless DRGs are for the full cycle of care, cost shifting will continue among the parts of the cycle, and the choices between drugs, hospitalizations and other types of care will continue to be skewed by considerations other than value for patients.

Health plans can enable or build on this shift to full care cycle pricing by creating services tailored to improve care for particular medical conditions. The West German migraine center, discussed earlier, is a good example. Other possibilities are plans designed to improve coordinated, effective services to manage a complex condition and mitigate its complications. For example, the potential to improve outcomes in care for diabetes is dramatic, making it possible to improve outcomes and quality of life for patients while improving margins for both clinicians and health plans. With this approach, innovative health plans would want to attract subscribers with diabetes because the services would create and realize more demonstrated value for these individuals. In Switzerland, health plans could differentiate their supplemental or obligatory insurance products from those of other companies by offering education, counseling or disease management services as innovations that patients with the served medical condition would value highly. Because these services help the subscriber to achieve better health, they lower the costs of health care over time.

Although attention to «innovation» often focuses on drugs and devices, the most important innovations may be organizational, such as reorganization around medical conditions, coordination across the care cycle, use of telemedicine, and new relationships among organizations. The restructuring of clinical care to improve patient value and patient experiences will be viewed by many physicians as radical change from the existing departments, but will quickly add to job satisfaction as learning accelerates and outcomes, integration and efficiency improve. These organizational innovations by clinical teams, complemented by health plan innovations, will also enable a transition to a single bill for a cycle or episode of care, making prices transparent in a meaningful way. Redefining care delivery around medical conditions and cycles of care will enable value for patients to be far more clearly understood, and thus more rapidly improved.

4 The Road to Reform: Enablers, Challenges, and Distractions

The Swiss health care system enjoys unique advantages, but it also faces some unique challenges that are inherent in the system. Shifting the lens from reducing cost to improving value for patients offers the potential of overcoming the challenges – some easily, others with more effort. This section discusses the advantages of Swiss health care that enable a change to a value-based system, the challenges the Swiss system faces in making this transformation, and some issues that could potentially distract attention from the goals.

4.1. Enablers of a Value-Based System

Switzerland has a solid basis from which to restructure the delivery of health care towards improving value for patients. This discussion looks first at existing features of the Swiss health care system that will facilitate reform. It next addresses reforms that have already begun and need to evolve further, and finally considers potential problems that Switzerland has advantageously avoided.

4.1.1. Enabling Attributes of the Swiss Health Care System

Universal coverage is critical for efficiency as well as for equity. As in other countries with health insurance for all, universal access to primary and preventive care holds down costs; in comparison, restricted access in the U.S. to primary and preventive care drives costs up. When care is delayed, health problems become more acute, more difficult to treat effectively, and more expensive to address. Also, because Switzerland has a specified coverage list for basic mandatory insurance, it has limited the amount of adversarial cost shifting between insurers and their subscribers, and between insurers and providers, over what is covered.

The guarantee of high quality in health care included in the LAMal sets the stage for quality to be a premier consideration in discussions of reform. The stipulation in Article 58 that the federal government is responsible for ensuring the high quality of Swiss health care creates the legal foundation for further quality-driven reforms (OECD & WHO 2006, 32). The requirement that covered services are «effective, appropriate, and efficient» (OECD & WHO 2006, 33) essentially calls for an assessment of the value of those services.

The LAMal also gives great discretion to providers by allowing innovative treatments for curative care to be covered under the obligatory insurance package (OECD & WHO 2006, 92, 93, 96). This will allow physicians to identify and emulate treatments and practices that achieve superb results, rather than slowing innovation with detailed process approvals.

4.1.2. First Steps to Build Upon

Attention to processes with the goal of improving the quality of care is a focus of many physicians and hospitals in Switzerland. Many process improvement efforts target hospital-wide processes (e.g., nurse triage, patient admittance, and limiting infections). These programs will reduce errors and reduce waste, both significant concerns. Like most countries, Switzerland has much low-hanging fruit to pluck in these areas. Nevertheless, incremental process improvements are only a first step and cannot be counted on as an overall solution. Improving the safety and efficiency of current fragmented care cycles offers less potential gain than implementing coordinated, patient-centric care cycles designed to improve outcomes over the full cycle of care. Dramatic and ongoing increases in value can only be achieved through a strategic reorganization of health care delivery at the medical condition level. Reporting and publishing results at the level of patient care (by medical condition and by clinical team or clinician) are an indispensable component of this strategic reorganization. The government can speed the redefinition of care delivery by encouraging the measurement and reporting of risk-adjusted results. Once care is strategically reorganized and results data are widely available, the limited use of process measures may establish public safeguards, as they do for airlines. Also, integrated practice units may find that attention to their internal processes supplements the public reporting of outcomes as a means of assessing and amending their own operations, thereby yielding ongoing improvements

Switzerland also benefits from the now widespread recognition that skewed incentives in the payment structure exist and need to change. A positive step is the plan to change reimbursement for hospital services from fee-for-service (which creates a clear bias to try everything that might work), to DRGs (which set reimbursement based on Diagnosis Related Groups and creates incentives to reduce costs within that group). Even better incentives, however, will be created when payment is made for services over the full cycle of care for a medical condition. (This approach is being tried in the Netherlands and is emerging in the U.S. as a new model for some medical conditions, such as HIV-AIDS). Payment for care over the full cycle (or by time episode for chronic diseases) has the benefit of creating incentives for appropriate care, for effective disease management, and for «getting it right the first time» (as long as outcome quality is measured). Such an approach rewards the clinical team for focusing on the primary goal of the health system – better health. This approach recognizes diagnosis as a distinct area of expertise, a change with significant benefits for patients and payers, since treating the wrong diagnosis creates both medical risk and waste.

Ambulatory services in Switzerland are paid separately from inpatient services, and will still be paid with fees for service. The introduction of TARMED, however, attempts to rebalance somewhat the skewed incentives that favor procedures and tests over consultative care (OECD & WHO 2006, 127). But, from the perspective of improving value for patients, the distinction between inpatient and outpatient care is artificial and encourages cost shifting along the care cycle, for example, from the hospital to the rehabilitation center. The combination of the change to inpatient DRGs with continuation of outpatient fee-for-service creates the incentive for many services to shift to the outpatient setting when reimbursements are higher there. When the U.S. made the same

transition, a multitude of outpatient services and outpatient surgery centers emerged. Rather than reimburse each physician for each service or stage of care, payments could instead encompass the activities of the team over the full cycle of care. This would bring together the teams for hospital and ambulatory care and create incentives for appropriate counseling, preventive care, and disease management support, because the team could reduce their costs by keeping their patients in better health.

4.1.3. Problems Already Avoided

Switzerland has not had to solve some problems that are common in other countries. It has not experienced the problems created by the administrative micromanagement of physicians that tends to occur when (public or private) health plans own hospitals and physician groups or have restricted contracts with them. Although Health Maintenance Organizations (HMOs) are available in Switzerland, only 8.2 percent of the population enrolled in this type of health plan in 2003, up from 8.0 percent in 2000 and 5.3 percent in 1996 (OECD & WHO 2006, 102). HMOs differ from other insurance plans because the insurer contracts with a selected network of physicians. This closed network may more easily achieve integrated patient care that could significantly improve results for patients, though that is not guaranteed. The integration of clinicians with the payer (sometimes including capitated payment – per person per year – rather than a fee per service provided) promotes care improvements especially well for people with complex, ongoing medical circumstances in which it is overwhelmingly clear that improved early stage care and disease management reduces costs by improving outcomes. For these patients, CAPITATION is very similar to payment for the full cycle of care for their medical condition. In contrast, when it is not clear what improves care and outcomes, the incentive of capitation is to provide less care.

The experience with HMOs in the U.S. was that without measuring outcomes, integrating the provision of care with the payer created an incentive to reduce costs by limiting treatment. Micromanaging clinicians – requiring advance notification of treatments, or subjecting their clinical decisions to administrative review – brought pressure on clinicians to reduce the care they give. This situation has been widely frustrating to both clinicians and patients. Strongly skewed incentives to under-treat are inherent in a capitated system that lacks outcome measurement. Only a few organizations, such as Intermountain Health and the Veterans Health Administration, have had visionary and determined leadership that measured health care outcomes, so that efforts to cut measured costs would not sacrifice unmeasured quality (Porter & Teisberg 2006, 131, 214).

Switzerland also has the advantage of not choosing a single payer system – most recently with a clear majority of 71 percent of voters expressing this preference (Swiss Voters). A single payer could, in theory, drive improvement in value for patients by requiring value-based competition among providers at the level of medical conditions supported by measured risk-adjusted outcomes. The usual situation, however, is that the excessive bargaining power of a single payer, combined with budget pressures and a lack of outcomes information, leads to irresistible pressure to limit or delay care, restrict innovation, and shift costs. While those actions limit government spending on health care, they do not create value for patients, and ironically, they may drive costs up over time.

In contrast, health care in Switzerland has been relatively unconstrained. Neither de facto rationing nor waiting lines are evident.

Providing coverage by multiple health plans not only avoids the pitfalls of a single-payer system, it also offers the prospective benefit of having health plans compete with each other to improve the health of their members. This potential role for Swiss health plans has not yet been realized. Of course, competing health plans only make sense if they are competing to add value for patients. Today, Swiss health insurers largely view themselves as payers, so their goal is primarily to reduce their costs. Insurers could potentially add value by changing to the strategic goal of improving the health of their members. In single payer systems, innovation to improve public health is a government responsibility. A multi-payer system can instead animate innovation with competition among firms that are working to create the best health outcomes among their populations. Switzerland has the opportunity to encourage multiple, simultaneous efforts to improve public health among the memberships of different health plans. To create this dynamic, health plans need to measure their success by measuring health and risk-adjusted health care outcomes for their members.

Switzerland has also thus far avoided the use of health savings accounts (HSAs) in ways that could encourage individuals to self-ration preventive care or early-stage care. HSAs can be problematic in a system characterized, as current systems are, by a lack of information, skewed incentives for physicians, and the unreasonable complexity created by fragmentation of the system. Without information, choice makes little difference. Worse yet, it can make differences that raise costs without improving outcomes. For example, although most people actually want health with as little treatment as possible, in the absence of information, many will assume that more treatment leads to better health. Substituting treatment as a proxy for health skews incentives in the direction of more care and thus increased costs. HSAs attempt to offset these skewed incentives by making health care costly to the individual, but the discretionary, early stage or preventive care that individuals could most easily choose to forgo may be among the highest value care. Thus, if HSAs are introduced, they need to be accompanied by outcomes information and counseling services in order to avoid pushing costs to later stages characterized by higher costs and poorer outcomes.

Even with counseling, however, the fragmentation of the system makes it difficult to correct the lack of information for patients and referring doctors. Both patients and clinicians tend to see health care choices in poorly integrated pieces, with the quality of one physician not necessarily matched by others in the poorly coordinated care cycle. Without shared responsibility and results information for teams, it is very difficult for anyone to identify a cycle of care that is effective and efficient. Consumer choice will be far more effective in a system reorganized around coordinated full-cycle care for medical conditions, a system that provides information allowing both providers and individuals to consider information on results.

The difficulties of getting good information and enabling good choices are compounded by the skewed incentives for physicians. In spite of Tarmed's rebalancing, physicians still say that consultative care is paid less than procedures and tests. This creates incentives that may skew the advice patients would receive about spending from their HSAs. Advice is usually not consciously skewed or poorly intended. Instead, a conscientious physician tends to fill his or her schedule, believing that more treatment for patients equates to better care. Without meaningful information on outcomes, the decisions about what care to provide are based on factors other than medical evidence.

In short, the sequencing of reforms will matter tremendously. Avoiding HSAs until better information exists and care cycle redesign begins could make the difference between HSAs that motivate individual responsibility and HSAs that simply shift more costs to individuals and increase costs in the long term.

4.2. Challenges in the Transformation

The key challenge is getting competition to the right level – the level where value is created for Swiss citizens and other patients in Switzerland. In Switzerland now, dysfunctional competition (competition that does not drive improvement in value) is occurring at two levels. On one hand, health care is thought about on too aggregated a level, as if health care were one service, rather than many very different services that depend on the individual health circumstances of each patient. On the other hand, health care is thought about in a fragmented way, in the form of discrete types of procedures and treatments. This is evidenced even in the evaluations of preventive services, drugs, and lab analyses mandated under the LAMal. The lens needs to be refocused to the level of medical conditions over the full cycle of care, the level at which patients realize value, but several aspects of the Swiss health system pose challenges to this process.

4.2.1. Untested Assumptions

Significant change requires motivation, excitement, and resolve. These are dampened in Switzerland by the comfortable and widely held assumptions that Swiss health care is characterized by high quality and low variance. Ironically, the satisfaction of the Swiss population with its health care may pose an obstacle to reform. A general acceptance of the status quo is often an impediment to change. While the Swiss are less satisfied with the insurance industry, that relative lack of satisfaction may not be enough to stimulate a movement towards outcome measurements. To the extent that people see the issue as insurance costs rather than health care value, they may seek different solutions that do not address the fundamental issue of improving value.

Health care results have not been widely measured, reported, or discussed, particularly at the level of medical conditions. The lack of outcome measurements by medical condition and by clinical teams precludes clinicians from gaining insights about improvement. This lack of information about outcomes also limits physicians and teams when suggesting treatments, referrals, and care. The de facto standard that doctors follow is to refer to those providers who are either geographically proximal or who have a strong

reputation. Of course the most obvious question for the last category is, «what determines the strong reputation?» Outcome measures (appropriately risk adjusted) can shed light on this.

Measuring outcomes may be an intimidating idea for many health professionals who may fear that they will look average, or worse. They fear that measures could be misrepresentative or insufficiently adjusted for risk. And they fear that measurement may lead to undesirable changes. These are common concerns – and they can be addressed with good processes for developing, checking, and introducing measurements. It is vital that measures are risk-adjusted, multidimensional, specific to particular conditions, and appropriately vetted and improved before results become public. The concerns of clinicians must be addressed, but they cannot be allowed to block the progress that understanding outcomes can yield. Of course, no individual or team is great at everything, but understanding which services are their best will enable clinicians to serve patients better and to improve significantly and continuously over time.

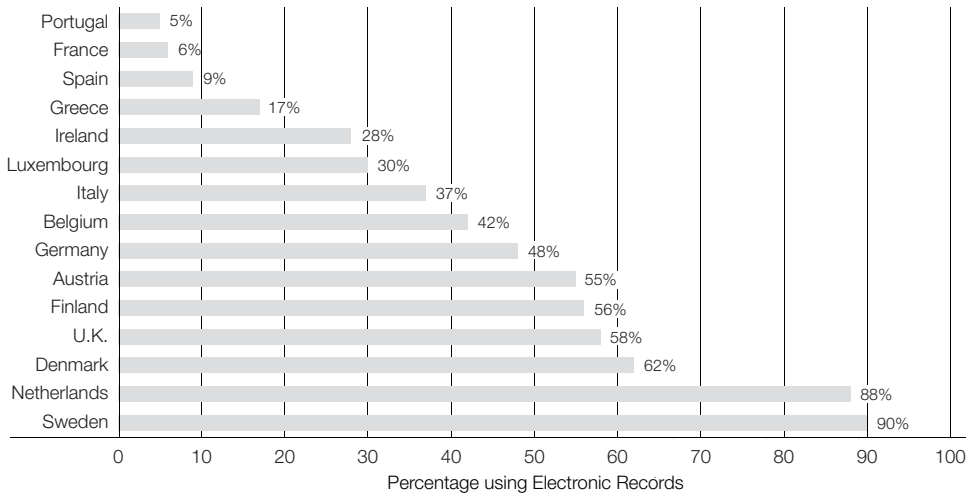
4.2.2. The Absence of Electronic Health Records

From the patient's perspective, the lack of an integrated, portable, electronic health record is a barrier to reform. Recent legislation in Switzerland has approved a national eHealth card, but it has been limited to an administrative tool for making payments and reimbursements more efficient. Simplifying billing processes is good, but does not address the need for fundamental change. Electronic personal health records offer the opportunity of improving patient health and enabling the integration of care throughout the cycle of care. Use of electronic health records varies greatly in Europe, as Figure 13 shows. In some European countries, such as the U.K, Finland, and Sweden, records are kept by the government. Switzerland has had ongoing discussions about electronic records, but because of privacy and security concerns, the future implementation of a national insurance card is legally delineated as a billing catalyst (OECD & WHO 2006, 135). The LAMal mandate for high quality care and for the federal government to ensure that covered services are effective and appropriate (as well as efficient) could be the legal basis for defining the eHealth card as more than an administrative convenience and for instituting financial incentives for its adoption.

Electronic clinical health records can become enablers for error reduction, efficient collection of outcome data and value-improving innovations in care delivery. The U.S. Veteran's Health Administration, for example, reduced prescription errors to almost zero with electronic prescription entry and filling combined with software that checks patient records for drug interactions. Innovations in care enabled by electronic clinical records include practices such as remote monitoring of patients' medical parameters (such as weight, blood pressure, blood sugar, and peak air flow), combined with technologies that can monitor the patients' therapeutic compliance and alert physicians to significant changes. These data can then support improvements in disease management and medical outcomes for patients with chronic diseases. Financial incentives consistent with the LAMal for adopting value-enhancing information technologies could help to jump-start the use of these new approaches.

Figure 13 | **European General Practitioners using Electronic Health Records**

Selected OECD Countries



Source: Taylor & Leitman (2002).

4.2.3. Cantonal Interests

Finally, the vested interests of the cantons may be a political obstacle to reform, but need not be. The goal is to improve health care value for patients, as cantonal directors would surely agree. Other considerations, however, may sway efforts, especially when outcomes are not measured and widely shared. Cantonal health directors, like health plan leaders and clinical leaders, need to insist on attention to measuring and understanding risk-adjusted results. First, this effort will mitigate distractions and enable the canton to pursue better health and better health care for its citizens. Some of that care may occur outside the canton, in the interest of improving health care value. And more importantly, attention to results measures and health care value for specific conditions will provide solid bases on which cantons can develop unique and well-recognized excellence in health care services.

4.3. Distractions from Reform

Some suggested reforms will distract from or delay achieving a value-based system that drives innovation to improve quality and efficiency. In Switzerland, such distractions may be occurring in current discussions of selective contracting, of cultural differences, and of the role of outlier behavior in driving up costs.

The insurance industry has been lobbying the federal government for the ability to selectively contract with providers, thereby eliminating the «willing provider» clause in the LAMal (OECD & WHO 2006, 153). The argument is that such a step would foster competition among providers to reduce costs. This sounds sensible when the implicit goal of the system is to reduce health care expenditures and the implicit assumption is that all health quality is approximately equal. But because the goal is to increase value for patients, selective contracting based on costs and without attention to outcomes is a distraction. Contracting decisions cannot be based on value when there is no public outcome information and insurers have only half of the International Classification of Disease (ICD) code, so they cannot build their own outcome data sets. It does make sense to allow top-performing providers to offer services at lower prices, enabled by their greater efficiency in achieving excellent results, but this is a different idea from the current proposals for selective contracting.

In the short term, the only competition that selective contracting could foster would be zero-sum, cost-shifting competition. When price is the only information available, what else could result? The incentive to cut costs would be very strong. While no provider would intentionally sabotage quality, the risk is that quality will deteriorate in a series of small steps, each of which may not seem significant, but which cumulatively could be dramatic. Insurers will be able to use their formidable bargaining power to lower reimbursements for providers without regard to patient value, and people buying insurance products will not have the information needed to ensure that they will have access to solidly good quality care. This is a scenario that has played out in the United States, one that Switzerland need not repeat.

A second distraction is the discussion of the very real cultural differences that exist within Switzerland and that may affect how its citizens view health care. For example, the French- and Italian-speaking regions of the country may go to the doctor more often than the German-speaking population (European Observatory on Health Care Systems 2000, 35). In the absence of outcomes measurement, however, too much attention to these possible cultural patterns is a distraction. When outcomes measurement becomes the norm, then there will be a factual basis for asking questions about over-provision or under-provision of care, and those will be important questions with insights that can improve the value of health care for everyone in Switzerland. Measuring outcomes will provide an array of data about cultural differences to compare and consider. Outcome studies could help clinicians develop insights about the optimal frequency of visits needed for improving the health of chronically ill patients. Such studies could also assess alternatives to regularly scheduled appointments with the clinician, such as communication between patients and disease management nurses, or visits to nurse practitioners, or telemedical support and consultation, or appointments scheduled according to patient-measured data such as blood sugar, blood pressure, or weight, rather than on preset dates. But until outcomes data are collected, arbitrarily standardizing cultural differences has little logic.

A third distraction is the high degree of attention to outlier behavior. Several interviewees mentioned a widely held view that the Swiss use too much health care. Anecdotes included a woman in Geneva who visited over 100 different doctors in a year, older citizens who go to the doctor simply to talk, and people who think that the high cost of their premiums justifies visiting a doctor to get a Panadol prescription (rather than purchase it over-the-counter), so that insurance has to pay the bill, instead of the individual. While these stories may be true, they are probably outliers. And of course, any health care system will include people who overuse and people who under-use health care. Physicians discuss overuse more, for the obvious reason that those patients use their time. But there are also many patients who do not show up for screening tests or recommended preventive care, who fail to comply with counseling about diet or exercise and then avoid the counseling clinician, or who present for care with relatively advanced disease, although they have been symptomatic for weeks or months. The under-users are pushing costs up, too. Unless it is clear that a pattern is creating significant costs, reform should focus on improving the whole system, rather than focusing on the outliers.

5 Recommendations

Swiss health care access and coverage provide an excellent platform for reform: everyone is in the system, coverage is generous, rationing is not a problem, and there is widespread agreement that quality matters. Having everyone in the system lowers costs for all. The generous insurance package avoids the mistake of slowing innovation by excluding services on which consensus has not been established. Good access to care means health problems can be dealt with quickly and effectively, reducing costs and improving outcomes over the full cycle of care, and enhancing satisfaction with the health care system. Nevertheless, rising costs, a changing demographic, and increasing recognition of skewed incentives all point to the need for reform. Agreeing on the importance of quality means that improving value for patients is the natural shared goal that will align interests throughout the system.

The recommendations that follow conclude this analysis by focusing on the key actions for transforming the Swiss health care system via a value-based dynamic that drives ongoing improvements in VALUE FOR PATIENTS.

The recommendations assume that reform will proceed in stages: from the short term, thorough the medium term, to the long term. A value-based system can be achieved in just this way, in stages and without a «big bang» or a large government program. Even some seemingly small steps can yield large improvements in care, thus creating the motivation for further change. Of course, some beginnings yield faster progress than others, and the sequence of reforms affects the speed of progress.

Every participant has the capacity to make changes that will move the system towards value-based competition on results. Even small actions by participants can accumulate. The more each participant does, the more others can achieve. And early movers will benefit increasingly as the system progresses to a results-driven and patient-centric model.

Recommendation 1: Retain the strengths of the current system that provide a good basis for reform.

Especially a uniform and generous insurance package and mandatory universal insurance with per capita contributions and subsidies should be preserved. These strengths of the Swiss health care system provide a solid basis for reform:

- **The mandate for high quality care in the LAMal:** Switzerland can build on its legal and cultural commitment to quality by redesigning the delivery of health care in order to improve value for patients.
- **Uniform and generous insurance coverage:** Defining a standard insurance package has limited cost-shifting; the generosity of the coverage ensures that everyone has access to the care they need, and innovation is not stifled.
- **Mandatory universal coverage for all residents, with per capita contributions and subsidies for those who need them:** Having everyone in the system assures

both the equity and the efficiency of the system; it is a necessary (but not sufficient) basis for value-based care.

- **Coverage through multiple health plans:** This not only avoids the pitfalls of a single-payer system, it also offers the potential benefit of having health plans compete with each other to improve the health of their members. This role for Swiss health plans, if developed, could be a strong driver of improvements in public health.
- **Free choice of physicians or clinical teams:** Having an unconstrained choice is consistent with driving improvements in value, but will be more meaningful when there is information about outcomes by team, by medical condition, and by treatment type. It will also be more powerful when the cantonal boundaries on choice are removed.

Recommendation 2: Measure and report risk-adjusted outcomes by clinical team and by medical condition.

This is the most important reform priority in the short term for everyone in the system. Measuring quality by measuring the risk-adjusted outcomes of care is a powerful and profound motivator for change. It can drive dramatic improvements throughout the system and will have far-reaching effects, offering the potential to correct skewed incentives and enabling decisions based on real data and verifiable results, rather than on impressions or conjecture. Conversely, without measuring outcomes, tremendous effort can be devoted to changes that actually raise costs or undermine quality. Doctors, nurses, and rehabilitation therapists want to improve patients' health; it is why they chose their vocation. Meaningful measures of success will boost their professional satisfaction, as well as enhance the incentives to compete on improving results. Widespread gathering of risk-adjusted outcome data needs to be implemented as soon as possible so that competition on patient value will begin and so that the measures themselves will be improved. Devising outcomes measures is a substantial task, but providers and other health experts in Switzerland can work cooperatively and take advantage of the significant body of work already done in Switzerland, other countries, and by international medical associations.

The development and public dissemination of results data should proceed in stages. The first and most important stage is for clinical teams to begin choosing measures, documenting outcomes and analyzing results by medical condition. After the initial collection efforts, the measures and ensuing insights should be reviewed and vetted. Improvements in the process of collection or in the measures themselves can be instituted.

In the second stage, after a previously announced length of time (such as one year), outcomes data can be made available to all providers, nationally, preferably identified by clinical team. Individual clinicians and teams can then identify the teams with excellent results and compare their own results with that standard. The thought of publishing outcomes data by physician or team naturally meets with resistance. Providers fear being held accountable for results they do not fully control. In contrast, measuring compliance with processes has been less controversial because the provider can ensure success on those measures. Process measures are also less controversial because

they obscure the real differences in results that exist. Nevertheless, results are what really matter.

Upon seeing their results, many clinicians will work diligently to improve them. Many will pursue process improvements or reorganize care delivery; in the Verein Outcome study that assessed the accuracy of emergency room diagnoses, the more experienced physicians began to change their actions while the study was being conducted, and before the results were even known. In Sweden, care for gastrointestinal patients was reorganized to dramatically reduce the wait for an appointment (Baron 2007, 6). When clinicians discover that they do not do everything well, some will make strategic decisions about the focus of their efforts. Individual physicians may start accepting more of the patients they can serve best and, for conditions where their results are relatively weak, may refer patients to other clinicians who demonstrate better results for those medical conditions. Strategy about what services to offer is just as much about what not to offer. Teams whose practice is relatively weak in some areas of care delivery can direct their efforts to other services that they do well. Hospitals in some cases may adjust the services they offer or which physicians they grant hospital privileges. This creates a redistribution of who provides services, but does not put hospitals out of business nor put the physicians out of practice. Both the patients and the clinicians will benefit as results improve. Patients ought to be treated by teams that can achieve good results, so redirecting patients is part of the process through which published outcomes improve results.

In the third stage, measurements should be made publicly available in an easily understood format. All data points should be published after they have been checked for accuracy, and after a period during which teams can respond to the information. Publishing the information will document improvements and recognize those providers who have improved. No matter how straightforward the data seem to be, both patients and physicians may need help with understanding the implications of the data. The need for counseling and interpretation should be anticipated.

Staging the publication of results as outlined above allows providers the time they need to initiate changes and make improvements. It is crucial that outcomes not be used as a surveillance system or report card, but as an enabler of improvement. In addition, for this type of knowledge sharing to be successful, the interpretation of measurement results and benchmarking studies should be guided by a culture of organizational learning, rather than individual blame. A culture of learning will reduce incentives to «game» the reports. In conjunction with clinical team results, reporting community-wide results can encourage a cooperative sharing of insights; for example, clinicians within a city or nation can work together to improve results for their patients relative to national or international benchmarks. The focus remains on improving value for patients.

Competing on patient value is possible for everyone in the system. Drug and device manufacturers can compete to improve health outcomes and value for patients over the full cycle of care. In the absence of risk-adjusted results measures, innovation that increases value threatens to stagnate. If cost is the only consideration, manufacturers have an incentive to «tweak» their product line, justifying higher prices with unproven

claims of enhanced value, rather than spending the resources to develop products that genuinely enhance value for patients. Accordingly, new treatments and technologies should also be evaluated on the basis of outcomes, as well as on costs. Once results are measured and reported by clinician for medical conditions over the full cycle of care, other reforms become easier.

Recommendation 3: The federal government should actively support outcome measurement.

The LAMal assigns responsibility for ensuring high quality health care to the federal government. Mandating the development of appropriately risk-adjusted outcome measurements for a broad array of medical conditions should fall within that area of responsibility. The federal government need not develop the measures, but should require the development and reporting of outcome measurements and enable this effort by providing funding.

In most of the world, outcomes measurement remains uncommon. In Switzerland, Verein Outcome has made impressive efforts to collect condition-specific outcomes and to work collaboratively with providers to compare and understand the data (Aellig & Osswald 2006). These efforts have included several public and private hospitals in multiple cantons. Verein Outcomes's results-oriented approach to medical conditions could potentially be rolled out on a national level. Yet, for some providers, the cost of measuring and collecting data is a deterrent (Kohler 2006). Federal funding to offset the costs may be needed. And, if resistance stems from cultural or political factors, then a separate, non-political, non-profit, but federally funded organization could oversee the development of outcomes measurement.

All measurement need not, and probably should not, be carried out by one organization. Currently, in addition to Verein Outcome, the Swiss Federal Statistical Office (FSO) and the Swiss Health Observatory Obsan are providing forums for cooperative national learning on comparative data. Since different medical conditions will have different sets of appropriate measures, it may help to have multiple organizations focused on measurement. An independent organization, such as Obsan, could eventually provide a point of coordination, oversight for the array of organizations implementing the measurements, and a natural forum for cooperative learning and sharing insights about measures.

Recommendation 4: Hospitals and physician teams should reorganize care delivery around medical conditions over the full cycle of care.

Health care in Switzerland, as in most countries, is organized by medical specialty (the physicians' perspective), rather than by medical condition (how patients experience care). This structure, however, presents obstacles to improving patient health and the efficiency of care. Fragmented care delivery impedes knowledge development about the most effective approaches. Lack of integration across the cycle of care reduces value for patients by reducing efficiency, by impeding clinical learning, and by undermining outcomes. Instead, care delivery value can be dramatically improved by reorganizing delivery into integrated practice units for medical conditions.

An integrated practice unit includes the full range of medical expertise, technical skills, and co-located services needed to address a medical condition. The care delivery value chain for chronic kidney disease depicted in Figure 14 provides an example of the services and activities required to treat a particular disease along the full cycle of care. When outcome measures are combined with reorganizing care according to this patient-centric perspective, providers will be able to demonstrate the achievements that result from improved coordination and from the ever-increasing development of team expertise. Hospitals, public or private, that lead in the development of integrated practice units will differentiate themselves. Cantons could speed the process of reorganizing care delivery along these lines, perhaps even announcing that within two or three years, care cycle reorganization for some or all of their service lines will be a requirement for inclusion on the cantonal list.

Federal policy can also support this change in the structure of care delivery. In-patient prices are currently set as fee-for-service prices and as prices per diem, thus creating incentives for more care and longer stays, but not necessarily for better care. The shift to DRGs is a step towards paying for care for a medical condition, but leaves the fragmentation of services in place. Pricing for a full care cycle, or for time intervals of care for chronic conditions, would support dramatically improved integration. Paying separately for inpatient care, outpatient care, and rehabilitation encourages cost shifting among these stages, rather than improvement in overall results. Because the change to DRGs has just recently been decided, providers will need to demonstrate the value of a full cycle model to motivate the next step in pricing policy.

Reorganizing providers into integrated practice units defined around medical conditions is a significant innovation in delivering improved value to patients. As integrated practice units realize the efficiencies, synergies, and leaps in quality that result from this structure, their published outcomes will give other physicians and teams an incentive to restructure care for their own patients. The combination of measured outcomes, reorganization around medical conditions, and anticipation of the need to benchmark against national (or international) standards of quality will accelerate the dynamic of improving value for patients.

Recommendation 5: Health plans should compete on value and to measure the health and health care outcomes of their membership.

Health plans also need to measure health and health care outcomes for their members. Swiss residents currently have the right to choose insurance companies and products. A website informs consumers about insurance companies and their prices and deductibles (Comparis 2007a). Some of the literature on health care cites the Swiss system as an example of consumer-driven health care and attributes the high quality of Swiss health care to it (Herzlinger & Parsa-Parsi 2004). Quality in the Swiss system, however, is undefined and assumed, not proven. Price and limited choice in the case of managed care models are the only distinguishing factors among insurance products, because the law prohibits insurance companies from differentiating coverage in the compulsory package (Civitas 2002). This structure encourages cost shifting and zero sum competition, because health insurance companies gain by risk selection and see few options to create value by helping members improve health.

Subscribers have the opportunity to change insurers twice a year in Switzerland (OECD & WHO 2006, 36); the insurance industry understandably argues that turnover is high (Bitterli & Vautravers 2006). Insurers will have less incentive to emphasize preventive care (or health in general), if churning prevents them from realizing the long-term savings that result from preventive care. Insurers tend to act solely as payers and compete on price; in effect, they are financial firms, not health-enhancing organizations. Measuring the outcomes of clinical teams will change this, because insurers will be able to add services that inform and counsel patients. Perhaps counter-intuitively, outcome measurements for providers reduce the need for selectively contracting with providers. When excellent data and counseling services are available for members, choices can be made with or by patients, rather than being made for them via selective contracts.

Moreover, if insurers measure their own success by the health results of their members, they will gain incentives to compete on value by improving the health of the population they serve. Insurers are legally prohibited from advertising that tries to differentiate on the basis of quality or services between their obligatory insurance product and others in the market, yet the government could publish aggregated information on members' health, identified by plan and by medical condition. This will both inform the public and encourage health plans to drive improvements in public health.

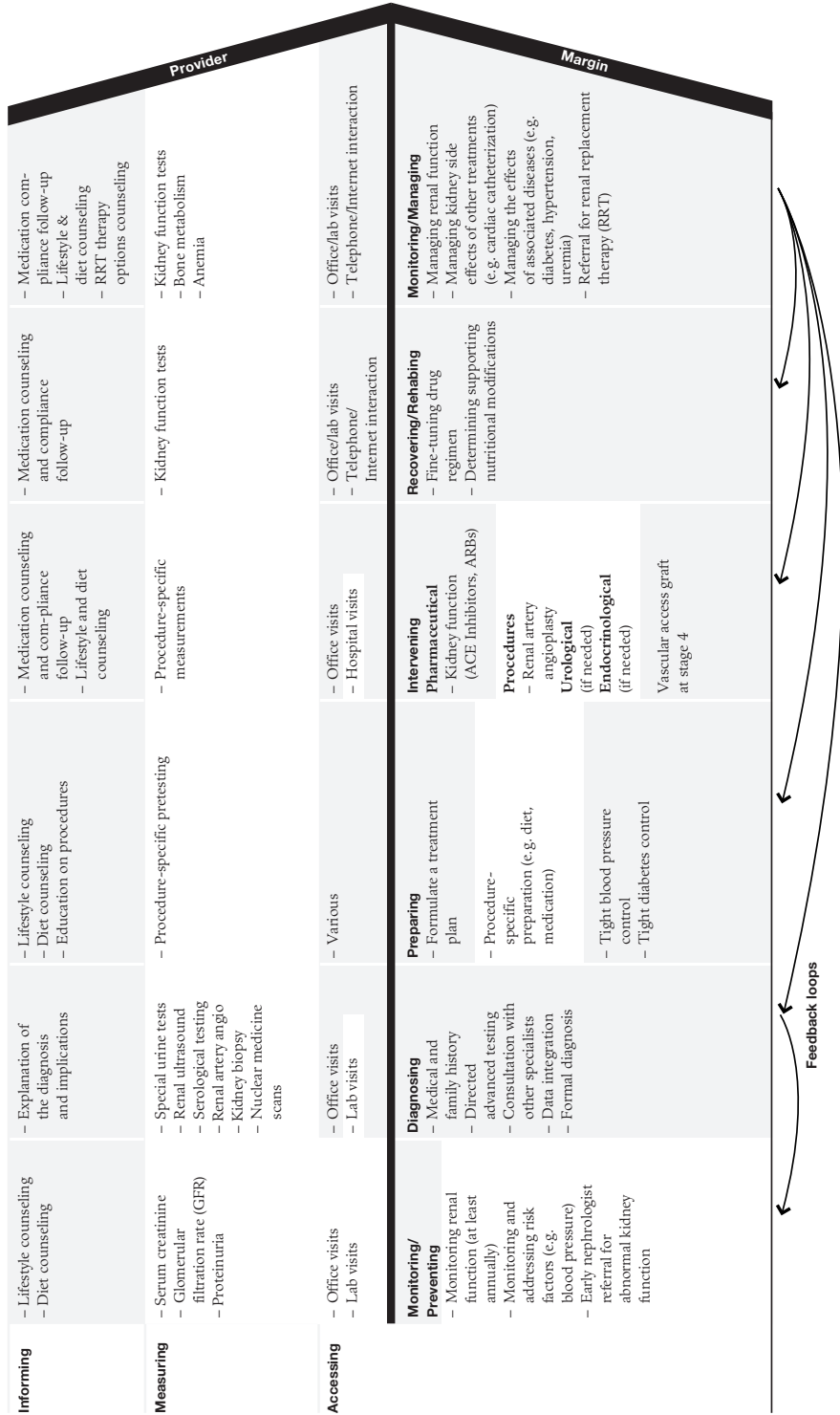
Encouraging insurers to focus beyond finances to health could be supported by a legislative change allowing multi-year contracts for insurance, once insurers have begun to measure the health outcomes for their members. The only longer-term insurance product available now is bonus insurance, in which the price goes down over time if consumers do not use health care. This encourages members to self-ration care, including preventive care, thus shifting costs and in the long term driving them up. Longer-term contracts without the skewed bonus feature, however, would create incentives for health plans to help members stay healthy. A long-term relationship better aligns the interests of health plans and members with respect to preventive care, early diagnosis, and chronic disease management; members will benefit over time from good health, while the health plan will benefit from the lower costs of healthier members. The LAMal should be changed to allow insurance companies measuring the health results of their members to offer longer-term insurance packages.

The LAMal could also allow individuals to choose long-term plans with premiums or deductibles that decrease over time if members meet health improvement goals such as smoking cessation, or control of blood pressure, blood sugar, or weight. This is very different from rewarding health care avoidance, as is now the case with bonus insurance. Any plan with these financial incentives should be optional and should foster health, not cost-shifting. Obviously, outcomes measures by medical condition need to be in place to document real improvement in health.

Insurers who can document that their members experience better health and better health care outcomes through the plan's programs will themselves benefit from the reduced costs that result from improved quality. The U.S. experience with disease management programs illustrates this dual benefit. Initially, the prevailing opinion was that

Figure 14 | The Care Delivery Value Chain: Chronic Kidney Disease

■ Nephrology practice □ Other provider entities



Source: Porter & Teisberg (2006).

insurers who offered disease management programs would see their costs rise, because unhealthy patients would flock to their programs. Instead, the data show that insurers who provide disease management programs have seen both improvement in the health of their members and a reduction in their own costs (Porter & Teisberg 2006, 253-258).

The idea of insurers can act as true health plans, working with members to increase the value of health care, is viewed by many as a radical concept. Protecting and advocating public health is often claimed as the ideal justification for single payer systems, yet ironically the potential for improving public health is a strong argument for competing on results. Health plans that compete to improve health care value and to drive improvement in the public health of their membership could drive significant enhancements in value.

Recommendation 6: Encourage individual responsibility for health, not cost-shifting to individuals.

Individuals should participate in reform by taking responsibility for their own health. Clearly, individual behavior has enormous consequences for health and for health care outcomes. But caution is needed: discussions of individual responsibility for health often degrade to discussions of responsibility for payment and how to shift costs to individuals. It is not clear that individuals take better care of their health when they pay more for treatment. It is clear that adding financial stress does not help a family dealing with chronic illness. Thus, incentives designed to encourage healthy behaviors, if financial, must be positive, such as decreases in deductibles when healthy behaviors are present, rather than negative, such as increasing deductibles if health goals are not met.

Cost-shifting is not the only way to encourage individuals to take responsibility for their own health and care. Informed and involved patients comply better with physicians' advice and achieve better outcomes (O'Conner et al. 2004; Bodenheimer et al. 2002; Wennberg & Cooper 1999), which suggests that the real leverage lies in improving information on treatments, disease management, and outcomes, as well as costs. Moreover, providing health information to patients and insured members allows health plans and clinicians to differentiate themselves in the market. Health plans that differentiate themselves by providing services that educate their members, that support members' efforts to change unhealthy behaviors, and that counsel members as they make medical decisions, are also enabling their members to assume more responsibility for their health. New insurance products, such as longer-term insurance contracts that include reduced premiums or deductibles for meeting health goals, further encourage individuals to actively manage their own health. Public education in the form of campaigns to reduce HIV/Aids and physician- and insurance-led campaigns to reduce the risk of melanoma have also been very effective enablers of individual responsibility. Improved information and support for healthy living, disease management, and prevention simply make sense.

As health plans work to improve the health of their members, as clinicians reorganize care around medical conditions over the full cycle of care, and as the government supports the development of outcomes information, the efforts of individuals on their own behalf will be supported and encouraged as a natural consequence. The self-reinforcing and cumulative nature of progress towards a value-based system will drive increasing change over time.

Recommendation 7: Develop comprehensive electronic health records that are owned and controlled by the individual and that enable innovation to improve value for patients.

The clear need for better information naturally directs attention to improving information technology. Simply introducing new technologies, however, will not necessarily result in the long-term improvements needed. When attention is already focused on providing care by medical condition over the full cycle and on measuring outcomes, then innovative uses of information technology have the capacity to add tremendous value for patients, providers, and health plans by enabling improved coordination along the care cycle and by supporting the ability to analyze outcomes. Innovative uses of eHealth (health IT) can support integrated change over the full cycle of care.

Interoperable electronic health records can offer the immediate benefit of facilitating integration along the full cycle of care. When all of a patient's medical history, lab results, prescriptions, images, and records of treatment are gathered into one file, coordinating care is easier and errors are reduced. At the Hirsladen Klinik Aarau, the radio-oncology department operates paper-free and film-free, using electronic technology to record, manage, and transmit information and images. Their patients' records, including images, are available at every workstation (Cossman 2006, 38).

IT systems can also go beyond improved communication to support clinical decisions and to reduce errors. The health records at the Veterans Health Administration (VHA), for example, are integrated into the pharmacy and lab systems. Physicians order drugs or tests, pharmacies and technicians implement the orders, and the electronic system records both the orders and their implementation in patient health records. Software within the system compares new drug prescriptions to other drugs prescribed for the patient and to a standardized formulary. Potentially harmful interactions or doses outside the norm are flagged for the provider to review (Department of Veteran Affairs 2006). The VHA has seen prescription errors fall almost to zero since full implementation of this system. Clearly value for patients is enhanced by this kind of support for clinicians and patients.

IT systems can also enhance patient education. In some hospitals, patients can see their own charts and can access relevant educational materials electronically from their beds. Some clinical systems also enable patients to access their clinical records from home. Access to and interaction with one's personal health records can foster the capacity for individuals to assume appropriate responsibility for their own health.

Effective interoperability standards and common definitions will enable the collection and comparison of the appropriately de-identified patient data that is needed to measure results. Developing common definitions and interoperability standards thus becomes a high priority. When published measures of outcomes by team for particular medical conditions are available, clinical teams will be far better supported in the work of developing insights for improving outcomes. Health insurers will be better able to provide meaningful interpretation, communication, and counseling to add value for their members. Here again, the steps to a value-based system are self-reinforcing and cumulative.

In Switzerland, as the use of electronic health records broadens beyond billing and administrative uses to individually owned clinical records, opportunities will broaden. Rather than computerizing current administrative systems, eHealth (information technology) can enable innovations that support integrated clinical care over the full cycle, and thus drive improvement in value for patients.

The restrictions placed on patient data because of concerns about privacy and security have hindered the adoption of electronic health records in Switzerland, despite their use in other countries. Individual health data must be kept secure and private, but they can be safeguarded and still serve as a rich source of information for assessing results. Financial incentives consistent with the LAMal could accelerate the adoption of information technologies that enable the reorganization of care by medical condition over the full cycle.

Recommendation 8: Open competition on value among all the cantons, and encourage the domestic competition that will enable Switzerland to attract international patients.

Cantonal delineations in the laws will obfuscate comparisons of quality and outcomes on a national scale. It makes sense to compare results throughout Switzerland and to remove the geographic limits on patient choice and physician referral. Excellence in care is not bounded by region; competition should be fostered based on excellence without regard to locale. Swiss physicians should have information about the results achieved throughout the nation, and people should be able to choose care outside their home canton. Giving people the freedom to make informed choices across cantonal boundaries encourages providers to compare their results and further improvements in quality across the federation.

Why not suggest that this reform happen instantly? It could benefit the country now, but informed choice is not really possible today. Opening hospital competition nationally now would have limited value, because there is little meaningful basis for comparing outcomes. Today, comparisons would primarily be at the hospital level, rather than the medical condition level. That tends to focus competition on hotel services and reputation, and ironically, reputation can be enhanced by artificially high prices. Although excellence in treating a medical condition tends to reduce the cost of that care, at the hospital level, a premium price can create the suggestion of a premium service. That is one of the grave risks of an information vacuum. Meaningful information is critical for

preventing price spirals. Plus, logically, no one would travel for care if it were all the same. So without outcome measures, there is real but limited benefit to the expanded choice. When risk-adjusted outcome measurements for medical conditions are available, the entire dynamic can change, to reward teams and integrated practice units that are performing with excellence.

There is an added benefit of announcing soon the intention to open competition nationally later (perhaps in three to five years). This can spur a powerful dynamic of cooperation within and competition among cantons. In anticipation of open boundaries, each canton will need to develop services that will be among the best. So the sharing of insights, best practices, and process improvement methods will become animated. Excellent outcome data will benefit the canton, whether it is from public or private hospitals. This regional cooperation that supports national competition is a positive dynamic that adds value for patients. And as the Swiss system documents and deepens its excellence, this dynamic could evolve into national cooperation among Swiss health care teams to demonstrate their excellence relative to other countries, not just other cantons. Intense local competition to improve value in any industry offers the benefit of making a region or nation more successful in international competition. Thus, by creating a system that serves Swiss citizens with ongoing improvements in health care value, the Confederation could simultaneously create the potential for internationally renowned Swiss quality in health care.

Conclusion

To conclude, Switzerland has the enviable luxury of not yet confronting a health care crisis. Yet on its current course, Swiss health care will not have the dynamic of rapidly improving quality and value. Focusing primarily on cost will, over time, not only drive up costs but impede improvements in quality. The assets of the Swiss system – generous, uniform insurance coverage with subsidies; mandatory universal insurance; per capita contributions; a mandate for quality; and access for all without waiting lines or apparent rationing – provide a strong platform for reforms. Following the recommendations outlined here will restructure the delivery of care and make Switzerland a model for providing excellent health care for all. The benefits of this change will accrue to Switzerland's people, its health care professionals and its economy in general.

6 Appendix

6.1 List of figures

- Figure 1** Total Per Capita Expenditures in 2003 on Health Care and Prevention in Selected OECD Countries
- Figure 2** Increases in Total Per Capita Total Expenditures on Health Care and Prevention in Selected OECD Countries, 1990-2003
- Figure 3** LAMal Subsidies Paid by the Swiss Government, 1996-2005
- Figure 4** Special Insurance Contracts within the Mandatory Health-Insurance System (LAMal)
- Figure 5** Comparison of Five-Year Cancer Survival Rates for Selected OECD Countries, Breast Cancer
- Figure 6** Comparison of Five-Year Cancer Survival Rates for Selected OECD Countries, Prostate Cancer
- Figure 7** Comparison of Five-Year Cancer Survival Rates for Selected OECD Countries, Colon Cancer
- Figure 8** Comparison of Five-Year Cancer Survival Rates for Selected OECD Countries, Lung Cancer
- Figure 9** Selected Results from the «Emerge» Project: Time Sequence of Patient Assessment and Treatment
- Figure 10** SUVA Case Team Management
- Figure 11** Financial Results of the German Migraine Pilot Project
- Figure 12** Virtuous Circle in Health Care Delivery
- Figure 13** European General Practitioners Using Electronic Health Records, 2001
- Figure 14** The Care Delivery Value Chain: Chronic Kidney Disease

6.2 Bibliography

Aellig, Sonja & Beat Osswald (11 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg. Zurich, Switzerland.*

Agence France Press (11 March 2007), *Swiss Voters Reject Health Insurance Changes. Paris, France.*

AO Foundation (2007), *AO Foundation.*
www.aofoundation.org/wps/portal/Home

Applied Research and Analysis Directorate, Health Policy Research Program (2003), *Request for Proposals (RFP014) for Synthesis Research - Governance Choices and Health Care Quality: A Focus on Patient Safety.*
www.hc-sc.gc.ca/sr-sr/finance/hprp-prpms/results-resultats/rfp-dp-014_eng.html

Arnold, Marcel; Claudio Bassetti, Ralf Baumgartner, Stefan Engelter, Hans-Jörg Hungerbühler, Emanuela Keller, Philippe Lyrer, Felix Müller, Ernst-Wilhelm Radü, Marc Reichhart, Claudio Städler, Roman Sztajzel, Barbara Tettenborn und Barbara Vogel-Wigger (2004), *Stroke Units in der Schweiz: Bedarfsanalyse, Richtlinien und Anforderungsprofil, Schweizerisches Medizin-Forum*, 8: 200–203.

Ayoubi, Semya & Franz Wyss (13 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg. Bern, Switzerland.*

Bangerter, Christoph & Philippe Milliet (13 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg. Bern, Switzerland.*

Baron, Jennifer (31 May 2007), *Value-Based Competition in Health Care: The Swedish Perspective.* Unpublished draft. The Institute for Strategy and Competitiveness. Harvard University. Boston MA, USA.

Beck, Konstantin; Stefan Spycher, Alberto Holly & Lucien Gardiol (2003), *Risk Adjustment in Switzerland, Health Policy*, 65: 63–74.

Bitterli, Otto & Isabelle Vautravers (11 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg. Zurich, Switzerland.*

Blendon, Robert J.; Minah Kim & John M Benson (2001), *The Public Versus The World Health Organization on Health System Performance, Health Affairs*, 20 (3): 10–20.

Blendon, Robert J., Cathy Schoen, Catherine Des Roches, Robin Osborn & Kinga Zapert (2003), *Common Concerns Amid Diverse Systems: Health Care Experience in Five Countries, Health Affairs*, 22 (3): 106–121.

Bodenheimer, Thomas; Kate Lorig, Halsted Holman & Kevin Grumbach (2002), Patient Self-Management of Chronic Disease in Primary Care, *Journal of the American Medical Association*, 288 (19): 2469-2475.

Brenn, Claudia & Urs Stoffel (12 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Zurich, Switzerland.

CarePath, Inc. (2005a), *Commonwealth of Virginia: Medicare Cost Reduction. Improved Patient Outcome*. Internal document CarePath, Inc. New York, USA.

CarePath, Inc. (2005b), *Care Path. A Crisis in Care*.
www.carepathebm.com

Centers for Disease Control (July 2006), *Facts About Traumatic Brain Injury*. Factsheet.
www.cdc.gov/ncipc/tbi/FactSheets/Facts_About_TBI.pdf

Chassin, Mark R. (2002), Achieving and Sustaining Improved Quality: Lessons from New York State and Cardiac Surgery, *Health Affairs*, 21 (4): 40-51.

Civitas: The Institute for the Study of Civil Society (2002), *The Swiss Health Care System*. Civitas. London, U.K.
www.civitas.org.uk/pdf/Switzerland.pdf

Colombo, Francesca (2001), Towards More Choice in Social Protection? Individual Choice of Insurer in Basic Mandatory Health Insurance in Switzerland, *Labour Market and Social Policy-Occasional Paper*, 53. OECD. Paris, France.

Conen, Dieter (11 April 2006). *Presentation to Visana*. Thun, Switzerland.

Comparis (2007a), *Basic health insurance comparison*.
www.comparis.ch/krankenkassen/grundversicherung/familie-vergleich.aspx?s=gvfamilieeingabeseitee

Comparis (2007b), *Hospitals in comparison - hospitals/clinics for all Swiss cantons*.
www.comparis.ch/krankenkassen/spitalfuehrer/patientenzufriedenheit-uebersicht.aspx

Cosgrove, Delos (10 March 2007), Conversation with Elizabeth Olmsted Teisberg. Cleveland OH, USA.

Cossmann, Peter H. (2006), Advances in Image-Guided Radiotherapy – The Future Is in Motion, Business Briefing, *U.S. Oncology Review*, 36: 38-40.
http://varian.mediaroom.com/file.php/mr_varian/spinsite_docfiles/191/Cossmann_IGRT.pdf

Crivelli, Luca & Gianfranco Domenighetti (2003), Influence de la variation des densités médicales régionales en Suisse sur la mortalité, les dépenses de santé et la satisfaction des usagers, *Cahiers de sociologie et de démographie médicales*, 43, (3): 397–426; cited in OECD & WHO (2006): 71–73, 88.

Cueni, Thomas (14 December 2006), Interview. *Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Basel, Switzerland.

Davis, Karen (10 January 2007), Learning From High Performance Health Care Systems around the Globe. Invited Testimony, Senate Health, Education, Labor, and Pensions Committee, Hearing on «Health Care for All Americans: Challenges and Opportunities», *Commonwealth Fund Publication*, 992.
www.commonwealthfund.org/publications/Publications_show.htm?doc_id=441618

Davis, Karen; Cathy Schoen, Stephen C. Schoenbaum, Anne-Marie J. Audet, Michelle M. Doty, Alyssa L. Holmgren & Jennifer L. Kriss (April 2006), Mirror, Mirror on the Wall: An Update on the Quality of American Health Care Through the Patient's Lens. The Commonwealth Fund, *Commonwealth Fund Publication*, 915.
www.commonwealthfund.org/publications/publications_show.htm?doc_id=364436

De Reuck, Jacques L. (2006), Stroke Units Improving the Outcome of Patients with a Cerebrovascular Event, *European Neurological Disease*, 2: 64–67.
www.touchneurology.com/stroke-units-improving-outcome-a5608-1.html

Department of Veteran Affairs, Veterans Health Administration, Office of Information (July 2006). VistA Fact Sheet.
www.innovations.va.gov/innovations/docs/InnovationFactSheet.pdf

de Wolf, Chris J.M.; Agence pour le développement et évaluation des politiques de santé, Krebsliga: Fachinformationen (January/May 2006), *Breast cancer screening in Switzerland*. ADSAN.
www.breastcancer.ch/pdf/en/Ma_Ca_Screen_CdW_engl.pdf.pdf

Dürr, Markus, Hanspeter Bättig & Hans Peter Vogler (13 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Luzern, Switzerland.

Eckbo, Paul (7 April 2005), *Building a Global Independent Patient Services Organisation to Improve Critical Illness Care: Addressing the Incentives, Cost and Quality Issues in Healthcare*. Paper presented to the World Health Congress - Europe 2005. Chantilly, France.

economiesuisse (April 2006), Spitalfinanzierung: Kein Ausbau der Planung: Qualitäts- und Leistungswettbewerb im nationalen Binnenmarkt statt kantonalen Protektionismus, *dossierpolitik*, 7 (12). Zurich, Switzerland.
http://www.economiesuisse.ch/web/de/pdf%20download%20files/dosspol_gespol_20060403.pdf

economiesuisse (July 2006), Finanzmonitoring: Gesundheit: Wettbewerb zugunsten des Patienten statt planwirtschaftliche Symptomtherapie, *dossierpolitik* 7 (25). Zurich, Switzerland.

http://www.economiesuisse.ch/web/de/pdf%20download%20files/dossapol_gespol_20060703.pdf

economiesuisse (October 2006), *eHealth: Schlüssel zu Prozessinnovation und Qualitätsverbesserung im Gesundheitswesen*. Position Paper. Zurich, Switzerland.

http://www.economiesuisse.ch/web/de/pdf%20download%20files/pospap_gespol_20061023.pdf

EUROCARE (2003), Survival of Cancer Patients in Europe, *The EUROCARE-3 Study*, 9. November 2006 update. Rome, Italy.

www.eurocare.it/CDEu3/Index.htm

European Observatory on Health Care Systems (2000), *Health Care Systems in Transition: Switzerland*. Brussels, Belgium.

www.euro.who.int/document/e68670.pdf

Fakhry, Samir M.; Arthur L. Trask, Maureen A. Waller & Dorraine D. Watts for the IRTC Neurotrauma Task Force (March 2004), Management of Brain-Injured Patients by an Evidence-Based Medicine Protocol Improves Outcomes and Decreases Hospital Charges, *Journal of Trauma* 56 (3): 492-500.

Federal Office of Public Health FOPH (2005), *Prämienübersicht 2005*. Bern, Switzerland.

Federal Office of Public Health FOPH (2006), *Statistik der obligatorischen Krankenversicherung 2004*. Bern, Switzerland.

Fischer, Andy (14 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Basel, Switzerland.

Fresenius Medical Care (2006), *Annual Report*. Bad Homburg, Germany.

[http://www.fmc-ag.com/internet/fmc/fmcag/neu/fmcpub.nsf/AttachmentsByTitle/2006_GB_en/\\$FILE/Annual_Report_2006_English.pdf](http://www.fmc-ag.com/internet/fmc/fmcag/neu/fmcpub.nsf/AttachmentsByTitle/2006_GB_en/$FILE/Annual_Report_2006_English.pdf)

Gawande, Atul (6 December 2004), *The Bell Curve: What Happens When Patients Find Out How Good Their Doctors Really Are?* New Yorker Online.

www.newyorker.com/fact/content/?041206fa_fact

Geissbühler, Antoine & Marc-André Raetzo (13 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Lausanne, Switzerland.

Geissbühler, Antoine, Stéphane Spahni, André Assimacopoulos, Marc-André Raetzo & Gérard Gobet (2004), Design of a Patient-Centered, Multi-Institutional Healthcare Information Network Using Peer-to-peer Communication in a Highly Distributed Architecture; cited in *MedInfo 2004*: 1048-1052, IOS Press. Amsterdam, Netherlands.

Goetzal, Ron Z.; Ronald J. Ozminkowski, Victor G. Villagra, & Jennifer Duffy (2005), Return on Investment in Disease Management: A Review, *Health Care Financing Review* 26 (4): 1-19.

Grove, Andrew S. (2005), Efficiency in the Health Care Industries: A View from Outside, *Journal of the American Medical Association*, 294 (4): 490-492.

Hallinan, Joseph T. (21 June 2005), Heal Thyself: Once Seen as Risky, One Group of Doctors Changes Its Ways, *Wall Street Journal*. New York, USA.

Harris, Martin (2 May 2007). *Presentation to University class at the Darden Graduate School of Business*. ENTR 884. University of Virginia. Charlottesville, Virginia.

Healthgrades (2004). *Patient Safety in American Hospitals*.
www.healthgrades.com/media/english/pdf/HG_Patient_Safety_Study_Final.pdf

Helios Kliniken Gruppe (2005), *Medizinischer Jahresbericht 2005*. Fulda, Germany.
www.helios-kliniken.de/ueber-helios/publikationen/medizinischer-jahresbericht.html

Herzlinger, Regina E. & Ramin Parsa-Parsi (2004), Consumer-Driven Health Care: Lessons from Switzerland, *Journal of the American Medical Association*, 292 (10): 1213-1220.

Hesdorffer, Dale C; Jamshid Ghajar & Laura Iacono (2002), Predictors of Compliance with the Evidence-Based Guidelines for Traumatic Brain Injury Care: A Survey of United States Trauma Centers, *Journal of Trauma*, 52 (6): 1202-1209.

Hussey, Peter S.; Gerard F. Anderson; Robin Osborn, Colin Feek, Vivienne McLaughlin, John Millar & Arnold Epstein (2004), How Does the Quality of Care Compare in Five Countries? *Health Affairs*, 23 (3): 89-99.

Institute for Healthcare Improvement (2006), *Protecting 5 Million Lives from Harm*.
www.ihl.org/IHI/Programs/Campaign/Campaign.htm

Intermountain Health Care (6 July 2005), *GE Healthcare and IHC Establish New Research Center to Develop Electronic Health Record Technologies*. News Release.
www.ihc.com/xp/ihc/aboutihc/news/article26.xml

Kirsch, Christian; Mark Mattingley-Scott, Christian Muszynski, Franz Schaefer & Christoph Weiss (2007), Monitoring Chronically Ill Patients using Mobile Technologies, *IBM Systems Journal*, 46 (1): 85-93.

Kohler, Mark (11 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Zurich, Switzerland.

Kohn, Linda T.; Janet M. Corrigan & Molla S. Donaldson, eds. (2000), *To Err Is Human*. Committee on Quality of Health Care in America Institute of Medicine. National Academy Press. Washington D.C., USA.

Kraanen, Frido (26 February 2006), Unpublished correspondence with Michael E. Porter. Den Haag, Netherlands.

Lepori, Valentino, Andreas Parren, Claudio Marone (19 June 1999), Unerwünschte internmedizinische Arzneimittelwirkungen bei Spitaleintritt (Adverse internal medicine drug effects at hospital admission), *Schweizerische Medizinische Wochenschrift*, 129 (24): 915-922.

Longchamp, Claude; Monia Aebersold, Luca Bösch, Stephan Tschöpe & Silvia-Maria Ratelband-Pally (2006), *Bewegung Richtung Markt: Schlussbericht zum Gesundheitsmonitor 2006*. Interpharma/gfs.bern. Basel, Switzerland.

Luthi, Jean-Christoph; William McClellan, Dana W. Flanders, Stephen R. Pitts & Bernard Burnand (2002), Quality of Health Care Surveillance Systems: Review and Implementation in the Swiss Setting, *Swiss Medical Weekly*, 132: 461-469.

Mattke, Soeren; Arnold M. Epstein & Sheila Leatherman (2006), Health Care Quality Indicators Project Initial Indicators, OECD Health Working Papers, 22, cited in OECD & WHO (2006), *OECD Reviews of Health Systems – Switzerland*. Paris, France.

Medgate (2007a). *Disease Management Hypertension: Le programme d'accompagnement pour les patients souffrant d'hypertension*. Medgate- Produits.

www.medgate.ch/eprise/main/F_Medgate/F_Products/P_Product8?MainArea=&SubArea=Tab3

Medgate (2007b), *Disease Management MPOC/Asthme: La programme de suivi pour les patients atteints d'affections pulmonaires chroniques*. Medgate – Doc around the Clock.

www.medgate.ch/F_documents/DiseaseManagement_f.pdf

Medgate (2007c). *Figures of the Swiss Center for Telemedicine MEDGATE*. Medgate – Doc around the clock.

www.medgate.ch/F_documents/07_0515_Zahlen_E.pdf

Medgate (2007d), *Swiss Center for Telemedicine MEDGATE*. Medgate – Doc around the Clock.

www.medgate.ch/f_documents/07_0515_profil_e.pdf

MEM Research Center (2005), *Annual Report*. MEM Research Center, Institute for Surgical Technology & Biomechanics and Institute for Evaluative Research in Orthopaedic Surgery. University of Bern. Bern, Switzerland.

www.memcenter.unibe.ch/Annual_Report/Reports/Annual2005.pdf

Michel, Phillipe (2004), Quality Improvement and Accreditation in French Hospitals: Progress and Questions, *Gastroenterology Clinical Biology*, 28 (12): 1229-1230.

Migliori, Richard J. (30 January 2005), *Creating Competition within Health Care: Leveraging a Centers of Excellence Model*. Presented at the World Health Congress, Washington, D.C., USA.

Ministry of Health Singapore, Singapore Government (2007), *Healthcare Financing, Bill Size*.

www.moh.gov.sg/mohcorp/billsize.aspx

MN Community Measurement (February 2007), *2006 Health Care Quality Report*.

www.mnhealthcare.org

Morger, Willi (2006), *Suva's New Case Management*. Presented at the 3rd International Forum on Disability Management. Brisbane, Australia.

www.suva.ch/en/ncm_referat_brisbane.pdf

National Auditing Office (2003), *International Health Comparisons*. National Auditing Office, London, U.K.

www.nao.gov.uk/publications/Int_Health_Comp.pdf

National Cancer Institute (2002), *SEER Cancer Statistics Review, 1973–1999*. Bethesda, MD, USA.

http://seer.cancer.gov/csr/1973_1999/

Nissenson, Allen R. & Richard A. Rettig (1999), Medicare's End-Stage Renal Disease Program: Current Status & Future Prospects, *Health Affairs*, 18 (1): 161-179.

Novo Nordisk (2007), *New UK diabetes centre to improve quality of life*. Novo Nordisk A/S.

www.novonordisk.com/sustainability/Learn_more/Around_the_globe_subsites/UK_diabetes_centre.asp

Obsan Swiss Health Observatory (October 2001), *Concept and Business Plan of the Swiss Health Observatory*. Neuchâtel, Switzerland.

O'Connor, Annette M.; Hilary A. Llewellyn-Thomas & Anne Barry Flood (7 October 2004), *Modifying Unwarranted Variations in Health Care: Shared Decision Making Using Patient Decision Aids*. Health Affairs Web Exclusive.

<http://content.healthaffairs.org/cgi/content/full/hlthaff.var.63/DC2>

OECD (Organisation for Economic Co-operation and Development) (17 October 2006), *OECD Health Data 2006. Frequently Requested Data, Internet update*.

www.oecd.org/document/16/0,3343,en_2649_34631_2085200_1_1_1_1,00.html

OECD (Organisation for Economic Co-operation and Development) & WHO (World Health Organization) (2006), *OECD Reviews of Health Systems – Switzerland*. Paris, France.

Oetiker, Magnus; Christian Westerhoff & Ole Wiesinger (12 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Zurich, Switzerland.

Office fédéral de la santé publique (22 December 2006), *Fiche d'information. Assurance-maladie obligatoire: Réduction des primes*. Office fédéral de la santé publique. Bern, Switzerland.

Swiss Federal Statistical Office (3 March 2006), *Coût et financement du système de santé en 2004*. Santé 14, no.0351-0602-60. Swiss Federal Statistical Office. Neuchâtel, Switzerland.

www.edi.admin.ch/aktuell/00705/00724/index.html?lang=fr&msg-id=3489

Porter, Michael E. & Elizabeth Olmsted Teisberg (2004). Redefining Competition in Health Care. *Harvard Business Review*, 82 (6): 64-76.

Porter, Michael E. & Elizabeth Olmsted Teisberg (2006), *Redefining Health Care: Creating Value-Based Competition on Results*. Harvard Business School Press. Boston, MA USA.

Porter, Michael E., & Matthias P. Schönermark (2006), *Reforming the German Health Care System: A Value-Based Competition Perspective*. Unpublished draft. Harvard Business School. Boston, USA & Medizinische Hochschule Hannover. Hannover, Deutschland.

Porter, Michael E. & Elizabeth Olmsted Teisberg (14 March 2007), How Physicians Can Change the Future of Health Care, *Journal of American Medical Association*, 297 (10): 1103-1111.

Porter, Michael E. (7 May 2007), *The West German Headache Center: Integrated Migraine Care*. Harvard Business School case N-9-707-559. Harvard Business School Publishing, Boston MA, USA.

Preferred Global Health (April 2001). *The Independent Patient Organization*. Company Literature. Hamilton, Bermudas.

Reinhardt, Uwe E. (2004), The Swiss Health System: Regulated Competition Without Managed Care, *Journal of the American Medical Association*, 292 (10): 1227-1231.

Robert Wood Johnson Foundation (2004), *Glossary of Terms Commonly Used in Health Care*, 2004 edition. AcademyHealth, Washington, D.C., USA.
www.academyhealth.org

Roggo, Antoine (11 December 2006), Interview. *Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Zurich, Switzerland.

Roth, Felix (14 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Basel, Switzerland.

Saudan, Patrick; Georges Halabi, Thomas Perneger, Jean-Blaise Wasserfallen, Michel Kossovsky, Harold Feldman, Pierre-Yves Martin & Jean-Pierre Wauters (2005), Variability in Quality of Care among Dialysis Units in Western Switzerland. *Nephrology Dialysis Transplantation*, 20 (9): 1854-1863.

Schoen, Cathy; Robin Osborn, Phuong Trang Huynh, Michelle Doty, Kinga Zapert, Jordan Peugh & Karen Davis (2005), *Taking the Pulse of Health Care Systems: Experiences of Patients with Health Problems in Six Countries*. Health Affairs Web Exclusive.
<http://content.healthaffairs.org/cgi/content/abstract/hlthaff.w5.509v3>

Schwappach, David L. B.; Annette Blaudszun, Dieter Conen, Heinz Ebner, Klaus Eichler & Marc-Anton Hochreutner (2003), «Emerge»: Benchmarking of Clinical Performance and Patients' Experiences with Emergency Care in Switzerland. *International Journal for Quality in Health Care*, (15): 473-485.

Scuola Universitaria Professionale della Svizzera Italiana (SUPSI) (January 2006), *Complementary medicine: where is it going?* Nr. 25.
www.ticinoricerca.ch/catprog/attachment/documentazioni/Medcom_ENG.pdf

Seematter-Bagnoud, Laurance; John-Paul Vader, Vincent Wietlisbach, Florian Froehlich, Jean-Jaques Govers & Bernard Burnand (1999), Overuse and Underuse of Diagnostic Upper Gastrointestinal Endoscopy in Various Clinical Settings, *International Journal for Quality in Health Care*, 11 (4): 301-308.

Shahian, David M. & Sharon-Lise T. Normand (2003), The volume-outcome relationship: from Luft to Leapfrog, *Annals of Thoracic Surgery*, 75: 1048-1058.
<http://ats.ctsnetjournals.org/cgi/content/full/75/3/1048>

Sigrist, Stephan (12 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Zurich, Switzerland.

Silberschmidt, Gaudenz & Thomas Zeltner (13 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Bern, Switzerland.

Society of Thoracic Surgeons (2003), *National Audit Cardiac Surgery Database and Outcomes Program Participation Manual*. Society of Thoracic Surgeons. Chicago, USA.
<http://www.ctsnet.org/file/DatabaseManual2003.pdf>

Sowden, Amanda J.; Roberto Grilli & Nigel Rice (1997), *The Relationship between Hospital Volume and Quality of Health Outcomes*. CRD Report 8, pt.1. Centre for Reviews and Dissemination. York, U.K.

Suk, Michael; Beate P. Hanson, Daniel C. Norvell & David L. Helfet (2005), *AO Handbook: Musculoskeletal Outcomes Measures and Instruments*. AO Publishing. Davos, Switzerland.

Suva (Schweizerische Unfallversicherungsanstalt) (2003), *New Case Management: A Reorientation in Case Management at Suva*.
www.suva.ch/en/ncm.pdf

SWICA (2006), *Global Care – The International Healthcare and Accident Insurance*.
www2.swica.ch/Default.aspx?language=en-US

Swiss Paraplegic Foundation (2007), *Organizations*.
www.paranet.ch/sw12344.asp

Synthes (2006), *Company Overview*.
www.synthes.com/html/Company.4297.0.html

Taylor, Humphrey & Robert Leitman (8 August 2002), *European Physicians Especially in Sweden, Netherlands and Denmark, Lead U.S. in Use of Electronic Medical Records*. *Health Care News*, 2 (16). Harris Interactive, Health Care Research.
www.harrisinteractive.com/news/newsletters/healthnews/HI_HealthCareNews-2002Vol2_Iss16.pdf

The Federal Authorities of the Swiss Confederation (2008), *Loi fédérale sur l'assurance-maladie (LAMal) passed 18 March 1994*.
www.admin.ch/ch/e/rs/rs.html

Treweek, Shaun (2003), *The Potential of Electronic Medical Record Systems to Support Quality Improvement Work and Research in Norwegian General Practice*, *BMC Health Services Research*, 3: 10.

UBS AG (19 January 2007), *Swiss Economy*. Zurich, Switzerland.

Uhlig, Paul N.; Jeffrey Brown, Anne K. Nason, Addie Camelio & Elise Kendall (December 2002), John M. Eisenberg Patient Safety Awards. System Innovation: Concord Hospital, *Joint Commission Journal on Quality Improvement*, 28 (12): 666-672.

van der Linde, François (14 December 2006), *Interview. Conducted by Christopher Citron & Elizabeth Olmsted Teisberg*. Zurich, Switzerland.

Watts, Dorraine D.; Margie Roche, Ray Tricarico, Frank Poole, John J. Brown Jr., George B. Colson, Arthur L. Trask, & Samir M. Fakhry (1999), The Utility of Traditional Prehospital Interventions in Maintaining Thermostasis, *Prehospital Emergency Care*, 3 (2): 115-122.

Watts, Dorraine D.; Dan Hanfling, Maureen A. Waller, Colleen Gilmore, Samir M. Fakhry & Arthur L. Trask (2004), An Evaluation of the Use of Guidelines in Prehospital Management of Brain Injury, *Prehospital Emergency Care*, 8 (3): 254-261.

Wennberg, John E. & Megan Mc Andre Cooper, eds. *The Dartmouth Atlas of Health Care in the United States*. The Trustees of Dartmouth College. AHA Press, Chicago, USA. www.dartmouthatlas.com/atlas/99Atlas.pdf

WHO (World Health Organization), Fifty-fifth World Health Assembly (23 March 2002), *Quality of Care: Patient Safety*. Report by the Secretariat. Provisional Agenda Item 13.9, paper A55/13. www.who.int/gb/ebwha/pdf_files/WHA55/ea5513.pdf

Wolffhechel, K.M. (4 July 2007). Email with Elizabeth Olmsted Teisberg.

6.3 List of Abbreviations

AO Foundation: Association for the Study of Internal Fixation

CHF: Swiss francs

HMO: Health Maintenance Organization (see glossary)

HSA: Health Savings Account

IHI: Institute for Healthcare Improvement

ICD: International Classification of Diseases.

IT: Information Technology

LAMal: Loi fédérale sur l'assurance-maladie (Federal law on health insurance)

MRI: Magnetic Resonance Imaging

OECD: Organization for Economic Co-operation and Development

SUVA: Swiss Accident Insurance Fund

TBI: Traumatic Brain Injury

UNOS: United Network for Organ Sharing

VHA: Veterans Health Administration

WHO: World Health Organization

6.4 Glossary

Ambulatory care: care delivered without admission to a hospital, on an outpatient basis.

Benchmark: a reference point established to compare performance or progress over time. The benchmark is usually established with reference to the best practitioners or processes (Robert Wood Johnson Foundation 2004).

Bonus insurance: a form of health insurance in Switzerland in which the high initial premiums are subsequently lowered each year if the insured person does not file claims. By the fifth year, the premium charged is typically about half the premium of the basic insurance package.

Canton: in Switzerland, a regional unit of government. Like states in the American system, but cantons possess more autonomy.

Capitation or capitated system: a method of organizing health care reimbursements in which a fixed payment is made per person per unit of time (e.g., month or year), in contrast to rendering payment per service delivered; often a feature of → MANAGED CARE (Robert Wood Johnson Foundation 2004).

Capnography: a means of measuring the concentration of carbon dioxide in a patient's respiration, thus allowing close monitoring of a patient's breathing and the rapid identification of respiratory difficulties.

Chronic disease: a disorder with a long duration and (usually) a slow progression. Examples include diabetes, various heart diseases, and arthritis.

Community-rated insurance: calculating the premium for an insurance plan with reference to the average costs for a defined geographic area; the premiums of the relatively healthy then help pay the costs of those who need care (Robert Wood Johnson Foundation 2004).

Co-occurrences: medical conditions that occur in conjunction with a primary medical condition; e.g., elevated blood pressure occurring in conjunction with diabetes.

Cost-shifting: a zero-sum practice in which participants who have the power to do so re-coup their costs in any of a variety of ways: by charging more for their services, lowering payments to their suppliers, or limiting the goods or services they provide. The action of lowering costs for one participant, however, results in higher costs for other participants in the system.

Cycle of care: see → FULL CYCLE OF CARE.

Disease management: supports services that coordinate interventions and communication for patients with chronic conditions, especially for conditions in which self-management and compliance are significant. The aim is to provide more effective and efficient care. Disease management ranges from phone support by nurses, to more involved coordination of multiple procedures, medications, resources, and/or treatments. Some practices are developing this model in a new direction of → INTEGRATED PRACTICE UNITS.

Full cycle of care: an integrated overall view of a → MEDICAL CONDITION that encompasses the entire trajectory of care, from monitoring/preventing, to diagnosing, preparing, intervening, recovering/rehabilitating, and monitoring/managing. → VALUE for patients is created by the results from the full cycle, so it must be measured over the entire cycle. Otherwise, there are incentives to make the value of care look artificially high by shifting costs from one part of the care cycle to another. (Porter & Teisberg 2006, 5-6, 398-400).

Health outcomes: see → OUTCOMES.

Hotel services: a term for the non-medical aspects of a hospital stay, including food and room amenities.

Independent physicians: physicians who are not employed by a care facility, plan or organization; usually, they contract as individual practitioners or groups of practitioners and provide care as a self-supporting business (Robert Wood Johnson Foundation 2004).

Integrated practice units (IPUs) or → INTEGRATED PRACTICES: a patient-centric way to organize the delivery of health care. Care is delivered by a multi-disciplinary team of physicians, nurses and therapists organized by → MEDICAL CONDITION. Such a group would probably include clinicians from more than one of the traditional medical specialties (e.g., an IPU treating cardiac patients might include not only cardiologists, but vascular surgeons, cardiac surgeons and radiologists as well as dedicated nurses and therapists) (Porter & Teisberg 2006, 169-170).

LAMal: the acronym for the Loi fédérale sur l'assurance-maladie (Federal Health Insurance Act). The LAMal, which revised the 1911 law governing health care, made basic health insurance coverage mandatory for everyone domiciled in Switzerland. It became law in 1994 and was enacted in Switzerland in 1996.

Lan: in Sweden, a geographic sub-division of government analogous to a county in the U.S.

Managed care: an attempt on the organizational level to control the costs of care. Types of managed care include HMOs (Health Maintenance Organizations), which assume responsibility for all enrolled persons within a geographic area

(the enrolled members are restricted to the HMO for care), and preferred provider organizations (PPOs), which structure care reimbursements to encourage members to consult a restricted group of providers (who accept lower payment in exchange for market share) (Robert Wood Johnson Foundation).

Mandatory health insurance: in Switzerland, a package of basic health insurance coverage, defined under federal law, that all individuals must purchase. Each \pm canton administers the mandatory insurance for its own residents. Health care systems in other countries may mandate insurance coverage via other mechanisms.

Measuring results: see → RESULTS MEASUREMENT.

Medical condition: a set of interrelated medical circumstances that are best treated in a coordinated or integrated fashion (Porter and Teisberg 2006, pp. 44-45, 105-107). As used by Porter and Teisberg, the concept includes not only medical conditions as most physicians define them (e.g., diabetes, chronic heart failure), but also common co-occurring morbidities – e.g., diabetes accompanied by vascular problems or by hypertension, or both. Organizing care by medical condition within the context of an → INTEGRATED PRACTICE UNIT avoids the fragmentation currently experienced by most patients with complex or multiple medical needs (Porter & Teisberg 2007, 1104-1105).

Obligatory insurance: see → MANDATORY INSURANCE.

Organizing by/around medical conditions: see → INTEGRATED PRACTICES OR → INTEGRATED PRACTICE UNITS.

Outcomes: the results of medical care by a team, or of a particular medical procedure, intervention, or treatment. Results of medical care include, but are not limited to, mortality, extent of recovery, and level of physical or mental functioning, as well as measures such as HbA1c values (for diabetics), or blood pressure (for hypertensive patients).

Oximetry: the act of measuring the oxygen saturation of blood.

Participants (in the health care system): those whose welfare – physical, financial or otherwise – is affected by the operation of the system. Health care participants include patients, potential patients, and family members of patients, as well as health insurance companies, hospitals and clinics, physicians, other care providers (e.g., nurses, pharmacists, therapists, etc.), employers, drug and device researchers and manufacturers, eHealth (health IT) providers, government on the federal, regional, and municipal levels, and the citizens and residents who purchase insurance.

Patient value: see → VALUE FOR PATIENTS.

Performance measures: see → PROCESS MEASURES.

Positive-sum competition: competition or effort that increases → VALUE, creating a situation in which it is possible for all participants to experience gains. In most sectors of the economy, positive sum competition drives innovation that enables improvement in quality as well as efficiency. (Compare with → ZERO-SUM COMPETITION, and see also → COST SHIFTING).

Process compliance: adhering to a set of previously determined procedures (see → PROCESS MEASURES).

Process measures: a metric that assesses the → QUALITY of care delivery by tracking compliance of actions or procedures to a pre-determined standard or list. An alternative approach is to measure the results (or → OUTCOMES and costs) of care. Measuring quality by measuring conformance to process specifications has limitations; for example, compare the difference between measuring how many patients in a practice receive counseling about smoking cessation with measuring how many patients actually stop smoking. The effect of process measurement is to standardize care and to improve the practices of groups whose processes are behind accepted standards or not aligned with safety (Porter & Teisberg 2006, 6-8, 84-88).

Quality: the degree to which an assessed action produces beneficial results. The LAMal provides a working definition of quality by specifying that covered benefits must be appropriate and effective (as well as efficient).

Results: → OUTCOMES and costs.

Results measurement: the process of collecting data on the → OUTCOMES of care, measured for each provider, in order to assess the → VALUE of care for the patient. Specifying which results are measured for a particular → MEDICAL CONDITION requires expert provider participation, but typical metrics include mortality, pain indices, range of movement, occurrence of infections or complications, number of re-hospitalizations, length of stay and time until return to work or normal activities. Results measurement is crucially important as a means of appropriately orienting all participants in a health care system towards the goal of improving health → VALUE FOR PATIENTS (Porter & Teisberg 2006, 181-182).

Risk-adjusted results: a process of accounting fairly for variations in patient circumstance by adjusting the raw data on health → OUTCOMES; physicians and medical societies should be centrally involved in developing risk-adjustment algorithms (Porter & Teisberg 2006, 130-133; 347-348).

Risk pools: a fund used to cover the higher costs of insuring individuals whose health care costs are, or may be, significantly above the norm. Funds in the pool may be collected as assessments from insurance companies, employers, or other groups, or allocated by the government. (This is very different from insurance of last resort, although such plans are sometimes referred to as risk pools.)

Risk selection: a process in which insurance companies try to attract healthy persons as members and to discourage the enrollment of those who are at a higher risk of becoming ill or injured.

Selectively contract or → SELECTIVE CONTRACTING: the practice, on the part of health insurance firms, of making agreements with some health care providers and not others; in the absence of → OUTCOME measurements, negotiations are usually based on price, rather than → QUALITY.

Service lines: a unit of organization in a business or public service, one oriented towards the customer (i.e., to the demand side). In the context of health care, it refers to a non-traditional, patient-centric way of thinking about how a physician or team serves the patient. It suggests coordinating and integrating medical specialties and staff across the traditional disciplines or departmental boundaries, and organizing the delivery of care by → MEDICAL CONDITION, as experienced by the patient. A medical practice or institution may provide care along multiple service lines, depending on their facilities, resources, and the staff's level of experience. Indeed, most clinicians have multiple service lines, sometimes dozens. Alternatively, individual physicians may focus on a small number of service lines, thus acquiring depth of experience in one medical condition, and breadth of experience by treating the common co-occurrence of the disease. For example, a general surgeon has a plethora of service lines compared to a breast cancer surgeon. And, a medical practice caring for patients with cystic fibrosis might develop specialized diabetic and/or reproductive care; the practice's staff would include not only physicians from several traditional medical disciplines, but also nursing specialists, lab technicians, and other care providers as required to integrate care for the patient (see → INTEGRATED PRACTICES OR → INTEGRATED PRACTICE UNITS) (Porter & Teisberg 2006, 167-169; Porter & Teisberg 2007, 1107).

Sick fund: a third-party payer, usually a quasi-independent public organization, within a social health insurance system; the sick fund covers either the community as a whole or sections of the population (European Observatory on Health Care Systems).

Single-payer system: a funding arrangement in which one entity, usually the government, is responsible for collecting all insurance premiums (often as taxes) and for paying all reimbursements (or all publicly funded health care costs) within that country.

Solidarity: the principle expressing mutual interest and support that is one of the foundations of Swiss culture and governance. Applied to health care, the principle holds that health care at an acceptable level of quality should be equally available to everyone, whether or not they are able to pay for it (Porter & Schönermark 2006).

Supplementary insurance: the optional insurance coverage for Swiss citizens that may be subscribed to as an addition to the → MANDATORY (OR OBLIGATORY) INSURANCE package; insurance companies may deny coverage for supplementary insurance and also price coverage according to an individual's risk. It is often used to provide or improve coverage for → HOTEL SERVICES, for treatments not included in the basic insurance products, or for a wider choice of providers.

Tarmed: (from *tarif medical*) a federal system for funding health care that assigns relative weights to medical treatments and procedures; applies only to → AMBULATORY CARE by providers and hospitals.

Threshold effect: the significant improvement in → RESULTS that occurs once a practitioner acquires a certain volume of experience; the threshold for improved results need not be high, and will vary by procedure, but → OUTCOMES are poorer before that level of experience is attained (Porter & Teisberg 2006, 114-117).

Value: medical → OUTCOMES per unit of cost (see → VALUE FOR PATIENTS).

Value-based competition: competition based on improving health and improving health care → OUTCOMES for patients. It requires team-based, coordinated care that is patient-centric, physician-led, and results-driven (Porter & Teisberg 2006, 13-15; Porter & Teisberg 2007).

Value for patients: → VALUE (OUTCOMES per unit of cost) as experienced by individual patients; from a patient's perspective, increased value does not mean more treatment or more health care; it does mean more health or better medical → OUTCOMES (Porter & Teisberg 2006, 155-156). It can also mean the same health or medical outcomes achieved more efficiently. Frequently in health care, better results actually reduce costs, so value for patients often increases with simultaneous improvement in outcomes and efficiency (Porter & Teisberg 2006, 107-111).

Zero-sum competition: a situation in which one participant's gains are another's losses. Because → VALUE is not being created (i.e., the total amount of value does not increase), competitors win only when someone else loses (compare with → POSITIVE-SUM COMPETITION, and see also → COST SHIFTING).

6.5 Persons Interviewed in Switzerland

Dr. med. Sonja Aellig, Ärztin, Managerin Qualitätsmessungen, Verein Outcome

Semya Ayoubi, lic. rer. pol., wissenschaftliche Mitarbeiterin, Bereich Gesundheitsökonomie und -information, Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren

Hanspeter Bättig, Abteilungsleiter Organisation und Informatik, Gesundheitsdepartement des Kantons Luzern

Dr. med. Christoph Bangerter, Geschäftsleitungsmitglied, e-mediat AG

Otto Bitterli, CEO, Sanitas Krankenversicherung

Claudia Brenn, lic. iur. MBA, Generalsekretärin, Ärztesgesellschaft des Kantons Zürich AGZ

Thomas B. Cueni, Generalsekretär, Interpharma

Dr. Martin D. Denz, Vizepräsident, European Health Telematics Association

Dr. Markus Dürr, Regierungsrat, Präsident, Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren

Dr. med. Andy Fischer, CEO, Medgate AG

Prof. Dr. Antoine Geissbühler, Direktor, Service Informatique Médicale (SIM) der Universitätsspitaler Genf (HUG)

Dr. Mark Kohler, CEO, Spital Thurgau AG

Philippe Milliet, Mitglied des Executive Committee, Leiter Generaldirektion Santé, Galenica Ltd.

Magnus Oetiker, Leiter Hospital Services, Mitglied der Geschäftsleitung, Klinik Hirslanden

Beat Osswald, Co-Leiter der Geschäftsstelle, Betriebsökonom FH, Verein Outcome

Dr. Marc-André Raetzo, Direktor, Groupe Médical d'Onex

Dr. Antoine Roggo, Dr. med., Dr. iur., MBA HSG, Senior Consultant, Healthcare Risk Management, Kessler Consulting Inc.

Felix Roth, lic. rer. pol., Geschäftsführer, EQUAM Stiftung

Stephan Sigrist, Dipl. Natw. ETH, wissenschaftlicher Mitarbeiter, Gottlieb Duttweiler Institut GDI, Collegium Helveticum

Gaudenz Silberschmidt, Leiter Internationales, Bundesamt für Gesundheit BAG

Dr. med. Urs Stoffel, Präsident, Ärztesgesellschaft des Kantons Zürich AGZ

Dr. François van der Linde, MPH, Facharzt FMH für Prävention und Gesundheitswesen, Präsident, Radix Gesundheitsförderung

Dr. Isabelle Vautravers, Leiterin Kommunikation, Sanitas Krankenversicherung

Hans Peter Vogler, wissenschaftlicher Mitarbeiter, Gesundheitsdepartement des Kantons Luzern

Dr. med. Christian Westerhoff, Leiter Planung Steuerung Projekte, Klinik Hirslanden

Dr. Ole Wiesinger, Direktor, Klinik Hirslanden

Franz Wyss, lic. rer. pol., Zentralsekretär, Schweizerische Konferenz der kantonalen Gesundheitsdirektorinnen und -direktoren

Prof. Dr. med. Thomas Zeltner, Direktor, Bundesamt für Gesundheit BAG

Prof. Dr. Peter Zweifel, Professor für Ökonomie, Sozialökonomisches Institut, Universität Zürich

6.6 Members of the Working Party economiesuisse

Fritz Britt, Direktor, santésuisse +

Urs Brogli, Leiter Unternehmenskommunikation, Klinik Hirslanden

Thomas B. Cueni, Generalsekretär, Interpharma

Marc Defalque, Head of e-Health, Swisscom IT Services AG

Roman Del Medico, Product Manager e-Health, Healthcare & Insurance, Swisscom IT Services AG

Brigitte Dostert, Economic Research, ILPE, Credit Suisse

Gregor Dünki, Business Development Manager, Healthcare Industry Switzerland, Intel Switzerland AG

Dieter Grauer, stv. Direktor, SGCI Chemie Pharma Schweiz

Markus Nufer, Manager of Governmental Programs, IBM Switzerland

Clemens Roggen, lic. iur., Fürsprecher, SGCI Chemie Pharma Schweiz

Heinz Roth, Bereichsleiter Krankenversicherung, Schweizerischer Versicherungsverband SVV

Aleksandar Ruzicic, Project Manager, Roland Berger Strategy Consultants

Dr. Heiner Sandmeier, MPH, stv. Generalsekretär, Interpharma

Dr. Daniel A. Schlegel, Partner, Health & Life Sciences, Accenture AG