

# How It Works

## Indicating Inefficiencies in the California Healthcare System for Elderly



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MSc in Management Thesis  
*December 12, 2013*



***“Aut viam inveniam  
aut faciam”***

- Hannibal, 247 BC-182 BC

# How It Works

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## *Indicating Inefficiencies in the California Healthcare System for Elderly*



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# PREFACE

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"Multipurpose room – Day – Opening focus group"

Focus group quiets down. Expectations are raised.

BART

(Seemingly relaxed, but slightly nervous)  
Thank you all for being here. It is great to have so much expertise in one room. I heard someone say you have 20 years experience, others 30 years. I'm glad to announce that we have almost.... 2 months experience -- and we are here to fix your healthcare system!

Participants laugh abundantly. Atmosphere relaxes."

—  
It almost looks like the scene from a bad comedy- two students from the Netherlands fly to California to live together for three months and investigate how the healthcare system should be improved. When explaining our mission to the people we have met on conferences, meetings, and networking events, reactions varied from "well- good luck with that!" and "finally, the Dutch have come to save us!" to sheer laughter.

The assignment to design a new road for the healthcare industry was given by the **Healthcare Innovation Transfer Foundation**, in particular by its director, our company supervisor, **Thijs Boekhoff**. We are thankful to him in always having his network available for us. In addition, Thijs inspired us showing true entrepreneurship and networking skills he uses in his work, throughout the duration of our project. Great advise came from **Algis Leveckis**, who we are thankful to as he continuously recognized and proposed important focus points, thereby significantly increasing the quality of the final result. **Angele Pieters** supported us in showing valuable insights on how to evaluate concepts in academically sound manners.

The machinery to build the road was provided by the **Dutch Consulate General in San Francisco**. Our many colleagues warmly welcomed us from the very beginning of our adventure, involving us in daily activities and interesting events. Moreover, with the "intern office" they allocated a place that did not only give us the opportunity to work in a peaceful setting, but also provided a beautiful view on the city from the 31<sup>st</sup> floor.

When building the road, our Nyenrode faculty supervisor **Sjoerd de Blok** was always available for pointing out the right directions. He has guided us on every crossroads along the way. His deep, thorough knowledge about international healthcare delivery made him an unprecedented sparring partner for every decision to make. Without him we would've not been able to bring the thesis to the level of quality it is.

Building a road without supplies would not be possible. **Respondents** who participated either in individual interviews or the focus group provided valuable insights ultimately leading to the conclusions of this thesis. We are thankful for them dedicating their time and interest towards our efforts.

Finally, we show our gratitude towards people who helped us finding the right place to build the road. **Hans Bakker** and **Sjaak Bloem** showed their interest in our opportunity from the beginning. A special word of thanks goes out to **André Nijhof** and **Albert van Servellen**, who showed their trust in our capabilities from the beginning and supported us in pursuing the opportunity of internationally graduating.

Bart Dix & Dyon Matulessy  
December 2013

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# LIST OF ACRONYMS

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AACN	American Association of Colleges of Nursing
AB	Assembly Bill
ACA	Affordable Care Act
ACM	Autoriteit Consument en Markt
ACO	Accountable Care Organization
ADHC	Adult Day Health Care
ADLs	Activities of Daily Living
ALF	Assisted Living Facility
ANA	American Nurses Association
APRN	Advanced Practice Nurses
ARRA	American Recovery and Reinvestment Act
AWBZ	Algemene Wet Bijzondere Ziektekosten
BHPr	Bureau of Health Professions
CAHP	California Association of Health Plans
CAHF	California Association of Health Facilities
CAHSAH	Californian Association for Health Services at Home
CCHP	Center for Connected Health Policy California
CCM	Chronic-Care Model
CDI	California Department of Insurance
CEO	Chief Executive Officer
CHA	California Hospital Association
CHCF	Californian Healthcare Foundation
CHCS	Center for Health Care Strategies, Inc
CITRIS	Center for Information Research in the Interest of Society
CMS	Center for Medicare and Medicaid Services
CON	Certificate Of Need
CPCA	California Primary Care Association
CTA	Center for Technology and Aging
CTO	Chief Technical Officer
CVZ	College Voor Zorgverzekeraars
DAAS	Department of Adult & Aging Services
DHHS	Department of Health and Human Services
DMHC	Department of Managed Health Care
DRG	Diagnosis-Related Group
EHCI	European Health Consumer Index
ER	Emergency Room
FTE	Full-Time Equivalent
GDP	Gross Domestic Product
HCBS	Home and Community Based Services
HHS	Health and Human Services
HIE/HIT	Health Information Exchange/ Health Information Technology
HIPAA	Health Insurance Portability and Accountability Act
HIT	Healthcare Innovation Transfer foundation
HMO	Health Maintenance Organization
HCP	Health Consumer Powerhouse
HSC	Center for studying Health System Change
HTA	Health Technology Assessment
IHHS	In-Home Supportive Services

IGZ	Inspectie Voor Gezondheidszorg
IOM	Institute Of Medicine
IPA	Independent Practice Organization
IPN	Integrated Provider Network
KPI	Key Performance Indicator
LHV	Landelijke Huisartsen Vereniging
LTC	Long-Term and Chronic care
LTCCC	Long Term Care Coordinating Council
LTSS	Long-Term care Services and Supports
MCO	Managed Care Organization
MRI	Magnetic Resonance Imaging
MSSP	Multipurpose Senior Services Program
NHE	National Health Expenditures
NIA	National Institute on Aging
NHPCO	National Hospice and Palliative Care Organization
NIH	National Institutes of Health
OECD	Organization for Economic Co-operation and Development
PACE	Program for All-Inclusive Care of the Elderly
PCMH	Patient-Centered Medical Home
PCORI	Patient-Centered Outcomes Research Institute
PCP	Primary Care Physician
PiB	Partners in Business
PPACA	Patient Protection and Affordable Care Act
PPO	Preferred Provider Organization
PSM	Physician Supply Model
US	United States of America
RCFE	Residential Care Facility for the Elderly
RN	Registered Nurse
SFCCC	San Francisco Community Clinic Consortium
VP	Vice President
VWS	Ministerie van Volksgezondheid, Welzijn en Sport
WHO	World Health Organization
ZN	Zorgverzekeraars Nederland
ZVW	Zorgverzekeringswet

# ABSTRACT

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In 2014, it is estimated that the National Health Expenditures in the United States of America will surpass \$3 trillion annually, representing 18,2% of US' Gross Domestic Product. This percentage of GDP is significantly larger than in other Western industrialized countries. Simultaneously, the relative and actual size of the elderly population, generally acknowledged as the population responsible for putting most pressure on the healthcare system, is expected to increase.

The costs of healthcare are escalating due to a highly inefficient system. This research aims to describe the dominant factors in contributing to the healthcare delivery system being inefficient, focusing on elderly care in California. Moreover, it aims to evaluate proposed solutions and why these solutions showed potential, but have not achieved the right outcomes. Finally, this thesis proposes a model to increase efficiency in the California healthcare system for elderly.

To be able to evaluate the current system, a general model is designed in the theoretical framework. After evaluation of the findings, interview topics and questions have been created. Next, 16 individual interviews have been conducted where experts from all fields of the industry are questioned on possible causes and consequences of inefficiencies. Thereafter, a focus group session is organized to further validate results. The results of this field-research have been analyzed by coding transcripts.

Inefficiencies in the California healthcare system for elderly are mainly caused by four factors. A market-justice oriented approach from society has led to the system being highly fragmented. In addition, parties involved in the system show no clearly aligned incentives due to failing market forces and lack of governmental regulation. Furthermore, an insufficient focus on the full continuum of care when it comes to delivering care services to patients has a negative effect on system efficiency. Finally, a lack of workforce is responsible for creating inefficiencies in the California healthcare system for elderly.

In the past, several attempts have been made to solve the abovementioned inefficiencies. Private and public parties have tried to expand the reach of the concept of managed care, but failed as they ran into strong backlash from patients and providers worrying about choice restriction and gatekeeping. For the same reasons and because of a lack of workforce, placing primary care and the primary care physician as central point in the system also did not show the desired results. Trying to make the system more cost-efficient by supporting the shift from institutional to home-based care did not work, as reimbursement structures were not properly aligned, causing out-of-pocket costs for consumers being unaffordable. Finally, the use of technology to decrease the lack of workforce and increase the focus on the continuum of care did not achieve its potential as the system proved to be too fragmented to coordinate it from above. Additionally, no clear incentives were present enabling pure market-forces to stimulate the innovation, diffusion and utilization of technical solutions decreasing inefficiencies.

Through a range of triangulation methods, the results prove to be reliable. All results are derived from a combination of literature research and input from expert interviews. There are some limitations to the research, as not all industry perspectives may have been taken into account, leaving room for potential weaknesses in the comprehensiveness of the study. It is recommended that future research aims at quantifying the benefits of alleviating inefficiencies and further developing the potential of the Integrated-Provider-Network model.

To solve inefficiencies in the California healthcare system for elderly, this thesis proposes evaluating the potential of a newly created model called the Integrated-Provider-Network-model (IPN-model). Within this model, patients' health is regularly measured on specific KPI's. Furthermore, patients are connected to an integrated network of providers for a set period of time. Patients select their desired insurance-package and

insurer based on their selection for a certain IPN. Providers receive a fixed capitation fee from insurers and deliver all required services to their patients for this fixed fee. As such, they bear the risk of patients utilizing extensive levels of care. To support the IPN and to keep them financially stable, a risk-adjustment-fund is created.

The IPN-model creates efficiency by aligning incentives. Patients will seek for high-quality care, which can be received by paying low premiums. Providers will invest in quality to attract patients, and in efficiency to increase the margin between healthcare spending and the capitation fee received. Additionally, providers will try to achieve efficiency by increasing the focus on the continuum of care, thereby improving the health of their patients. Insurers will contract providers that show the desired quality by patients in order to attract clients, and will stimulate providers to invest in efficiency in order to ultimately lower capitation fees. The potential of the IPN-model should be evaluated through a small-scale pilot.

In exchanging knowledge between the US and the Netherlands, when it comes to healthcare innovation, HIT has many opportunities to connect Dutch and Californian parties. As the Netherlands is commonly acknowledged having one of the best healthcare systems in the world, their Californian counterparts face many learning points. Among them are: how to implement healthcare reform; how to implement universal access to healthcare; how to design reimbursement packages in three levels; how to put the PCP as the first line of healthcare; how to increase the focus on the continuum of care; how to design a risk-adjustment-fund; how to design premium-reimbursements for lower-level incomes; and how to implement technological solutions using clear value propositions.

# CHAPTER 1: INTRODUCTION

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*This chapter provides a general introduction to the subject of this research including a brief description of the role of the Netherlands Consulate General and its partnership with the HIT foundation. The public impact of the research is explained, after which this section elaborates on the managerial consequence and the accompanying company problem statement. Hereafter, the research question and research boundaries are stated. Finally, clarification is presented on the structuring of the report.*

In 2014, it is estimated the National Health Expenditures (NHE) in the United States of America (US) will surpass \$3 trillion annually, representing 18,2% of US' Gross Domestic Product (GDP). According to further estimations, this may rise to almost \$4,5 trillion annually in 2020, representing 19,2% of US' GDP. Based on these figures it is concluded that not only the costs of healthcare are likely to increase, but also the percentage of GDP spent on healthcare costs increases accordingly. The growth of healthcare spending in the US regularly outpaces the growth of the overall economy (Christensen, M., 2009). This trend is similar to all industrialized countries, due to the increase of diagnostic and therapeutic possibilities disclosed in medicine. The result is a higher life expectancy that demands an increasing amount of financial resources. As a consequence, an increasing proportion of Americans simply cannot afford adequate care. Moreover, the burden of covering the costs of health care for employees, retirees, and their families is forcing some of America's most economically important companies to become uncompetitive in world markets as healthcare costs add many dollars to the costs of products or services delivered by them. Another frightening factor is that if governments were forced to report the liabilities they face that result from contractual commitments to provide health care for retired employees, nearly every city and town in the US would be bankrupt (D'Angelo, G., 2008).

Simultaneously, the relative size of the elderly population is expected to increase. CMS estimations indicate the relative size of this population group might increase from 13,75% to 16,09% in the period 2013 till 2020. Retirement of the baby boomers between 2011 and 2030 is the most worrisome aspect facing future generations in the US. The unprecedented increase in health care expenditures is just one piece of the puzzle. There are other questions to be addressed. How will a healthcare system that is lopsided in its focus on medical specialization deal with a rapidly expanding sector of the population in which the prevention and management of long-term chronic conditions will be of primary importance? How will the nation deal with the impending shortage of qualified workers in just about every area of health care delivery? (Shi, L., & Singh, D., 2008)

Other Western industrialized nations face similar dilemmas as stated before. However, some of these other nations are ahead of the United States in at least some areas in finding answers and making preparations to respond to this problem. Most Western industrialized countries already have universal health insurance systems and, for years, have employed central planning to limit the availability and use of high-end healthcare services. Most of these countries also have better developed systems of basic and routine healthcare services (primary care) that are readily accessible to people.

The Organization for Economic Co-operation and Development (OECD) annually reviews healthcare systems throughout the world. Recent reports reveal the Dutch healthcare system as being one of the best in the world. This is mostly due to the governmental attitude towards the provision of healthcare. Strong governmental leadership in healthcare reform halfway the first decennium led to (1) comprehensive access to healthcare for individuals; (2) the ability of the nation to centralize the coordination of care and (3) high levels of health equity. These three main factors ultimately enabled the system to provide effective, safe, patient-centered and cost-efficient healthcare for all nation citizens.

Generally speaking, the US takes a leading position when it comes to driving technological innovations in healthcare. In addition, the nation possesses a proven track record in applying innovations in healthcare delivery. These two characteristics are currently not as strongly developed in the Dutch healthcare industry, although they have the potential to further increase the quality of delivery of healthcare in the Netherlands.

The exchange of knowledge and initiatives between the Netherlands and the West coast of the United States is coordinated by different departments of the Dutch Consulate General in San Francisco. The Economic Department supports the economic health of the Netherlands by consulting with relevant state and local authorities and business communities, providing the Dutch business community with pertinent information, and organizing trade-promotional events and other activities focused on knowledge exchange and business development. The Public Diplomacy, Press & Culture Department promotes a greater understanding of the Netherlands through special events, campaigns, partnerships with nonprofit organizations and participation in conferences. Finally, the Consular Department offers a wide range of services to Dutch and non-Dutch citizens in the US.

One of the initiatives of the Dutch General Consulate in San Francisco involves boosting start-ups by facilitation of office space and access to consular networks. These start-ups are called the “Partners-in-Business” (PiBs). One of these PiBs is the Healthcare Innovation Transfer (HIT) foundation that believes the Dutch and US healthcare system and its participants might benefit from collaboration and sharing knowledge on challenges and initiatives. The foundation aims to leverage the excellence of two global leaders to transform process and costs of healthcare and well-being. Recognizing the Dutch experience on configuring healthcare systems and the ability of the US to develop and apply technological innovation, the HIT foundation facilitates US-Dutch collaboration on step-change solutions among science, healthcare, academia, established industries and start-ups. In its initiatives, the HIT foundation focuses on the heaviest users of healthcare services: elderly citizens of 65 years and older that suffer from chronic conditions requiring long-term and chronic care (LTC) services.

In an attempt to achieve the initiation of solely highly effective projects, the HIT foundation requires comprehensive, structured information on current challenges for both healthcare industries for elderly. In contrast to the Dutch healthcare system for elderly, the American system is historically highly fragmented. Hence it is not transparent, not structurally organized and not accessible to every American citizen. Consequently, it appears problematic to create a clear view on urgently required improvements in specifically the US healthcare system for elderly. Therefore, it is not sure how HIT should support collaboration opportunities between US and Dutch organizations. This forms the basis for the origination of the company problem statement:

*How should the Healthcare Innovation Transfer foundation support collaboration opportunities between US and Dutch organizations in the California healthcare system for elderly?*

The foundation of this problem statement is that in order to elucidate the inefficiencies one should understand the setup and configuration of the healthcare delivery system as a whole. The perception is that many managers and policy-makers lack awareness of the particularities within the system, while this understanding is fundamental for acting within the larger picture. Health professionals may understand their individual responsibilities, but stay ignorant of the forces outside their work that may have substantial influence on current and potential practices. The relevance of this research is in this notion, and aims to contribute to a better understanding of the healthcare delivery system.

The US Federal government provides guidelines when it comes to healthcare legislation. In practice, individual States incur remarkable freedom when it comes to proposing and implementing healthcare-legislation. Needless to say, the preferred configuration of a healthcare system is determined on state-level rather than on federal-level. In addition, extreme variations in the configuration of healthcare systems exist between individual states due to both historical circumstances, and current political preferences of citizens. This suggests it might be more useful analyzing a healthcare system on state-level instead of on federal-level.

California is the most populous state of America accommodating over 38 million residents. The number of people that are 65 and older is expected to double in the coming two decades, from 4.41 million in 2010 to 8.84 million in 2030 (State of California- DoF, 2007). California is nationwide seen as one of the leading states when it comes to approaching healthcare challenges. In terms of socio-cultural mores and national politics, Californians are perceived as more liberal than other Americans. Since 1988, solely Democrats have won the elections. In addition, an important technology cluster called “Silicon Valley” is located on the West coast of California. It accommodates the worlds’ biggest tech-companies and universities and is globally recognized as one of the most important clusters for technological innovations. As California is considered a state with a liberal mindset, which at the same time provides leadership in driving technological innovations, it has the potential to serve as an incubator of healthcare reform initiatives.

When taking all above considerations into account, the goal of this research should be to identify inefficiencies in the configuration of the California healthcare industry for elderly. Hereafter, identified inefficiencies should be evaluated. Ultimately, this evaluation should lead to recommendations for participants of the California healthcare industry for elderly, enabling them to take on challenges that threaten the sustainability of their current system. Therefore the main research question is formulated as follows:

*What are the specific elements that lead to inefficiencies in the California healthcare system for elderly and how might these be solved?*

The research question is addressed by both literature-research, as well as qualitative field-research in the form of personal interviews, and a focus group discussion. Initially, desk-research on the configuration of healthcare systems in general is conducted. This eventually leads to a proposed model for evaluating the California healthcare system for elderly. The results of this phase are reported in chapter 2: Theoretical Framework.

The findings from the initial desk-research phase lead to the research-topics that are relevant for the field-research phase. The design and setup of this field-research phase is elaborated on in chapter 3: Methodology.

The results that originate from this phase, including the responses from the interviews, are summarized in transcripts. These findings are coded and summarized in two chapters. Chapter 4, called “Analysis of system inefficiencies”, elaborates on the system being inefficient because of historical fragmentation, unaligned incentives, a lack of focus on the continuum of care and the patient-centered approach, and lack of sufficient available workforce. Chapter 5, called “Analysis of proposed solutions”, describes a range of possible solutions that may be able to solve the system inefficiencies, and why earlier attempts have not been able to prove successful. Implementing technology, shifting patients from institutional to home-based care, reinventing the way patients access healthcare and expanding managed care, are evaluated on relative potential to solve inefficiencies through applicable elements of regulation, incentives, the continuum of care and available workforce. Additionally, a comparison with the Dutch healthcare system is made to evaluate why it might or might not work there and what the California healthcare system for elderly can possibly learn from it.

The sixth chapter, called “Discussion & Limitations”, provides an answer to the research question and elaborates the relevance of findings described in chapter 4 and 5. Moreover, it provides insights in the limitations on the research. Finally, it describes recommendations for further research. The seventh and final chapter, “Recommendations”, proposes a model to decrease inefficiencies in healthcare called the “IPN-model”. Next, it describes key learning points California might find in the Dutch healthcare system that might support California in implementing solutions for increasing efficiency. Finally, it is described how the HIT Foundation can facilitate the exchange of knowledge among the US organizations and their Dutch counterparts.



# CHAPTER 2: THEORETICAL FRAMEWORK

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*This research addresses the question how elderly care in the California healthcare system can be made more efficient by comparing it to the Dutch healthcare system. This chapter elaborates what has been written about these topics in literature. A logical start of this review is to begin with defining a general healthcare system. Part B continues by describing parties specifically involved in the California healthcare system for elderly. Deriving from this, a model for evaluating the California healthcare system for elderly is proposed.*

## A. Definition of a healthcare system

Several definitions of healthcare systems have been proposed. The most relevant definitions are listed in table 2.1.

Author(s)	Year	Definition	Source
World Health Organization (WHO)	2013	“(i) All the activities whose primary purpose is to promote, restore and/or maintain health; (ii) the people, institutions and resources, arranged together in accordance with established policies, to improve the health of the population they serve, while responding to people’s legitimate expectations and protecting them against the cost of ill-health through a variety of activities whose primary intent is to improve health”	<a href="http://www.who.int/healthsystems/hss_glossary/en/index5.html">http://www.who.int/healthsystems/hss_glossary/en/index5.html</a>
Shi, L., and Singh, D.	2008	“US healthcare does not consist of a network of interrelated components designed to work together coherently, which one would expect to find in a veritable system. To the contrary, it is a kaleidoscope of financing, insurance, delivery and payment mechanisms that remain unstandardized and loosely coordinated.”	Delivering Health Care in America: A Systems Approach
Goldsteen, R., and Goldsteen, K.	2013	“Healthcare systems have five major components: the facilities where healthcare is provided; the workforce that provides healthcare services; the providers of health care therapeutics; and the educational and research institutions that train the healthcare workforce and produce knowledge to improve healthcare services; and the financing mechanisms.”	Jonas’ introduction to the U.S. healthcare system
Roemer, M.	1991	“A health system is defined as a combination of resources, organization, financing and management that culminate in the delivery of health services to the population.”	National health systems of the world: Volume 2: The issues
S.M. Shortell, R.R. Gillies, D.A. Anderson et al.	1996	“A healthcare delivery system is defined as a network of organizations that provides or arranges to provide a coordinated continuum of services to a defined population and is willing to be held clinically and fiscally accountable for the outcomes and health status of the population served.”	Remaking Health Care in America

Table 2.1: Different definitions of a healthcare system adapted from literature.

All definitions contain both positive and negative elements. The definition from the WHO seems most focused on patient needs, which is preferable considering the often-mentioned requirement of a patient-centered system. Yet, the definition does not urge the limited availability of (financial) resources, which should be taken into account in order to guarantee the sustainability of the system. The definition of Shi and Singh describes

particularly the US healthcare system rather than healthcare systems in general, although the definition does to some extent imply the definition of a general healthcare system. Goldsteen and Goldsteen recognize both the provider side and the financing side of a healthcare system, but ignore the influence and the place of the patient in the system, as does Roemer. Finally, the definition of Shortell, Gillies and Anderson incorporates mostly the provider, partly the patient, but not the financing side of the system.

Taking all definitions into account, the following paragraph describes the view on a healthcare system used in this research.

### ***B. Basic parties included in virtually all healthcare systems***

Evaluating the definitions of a healthcare system above, the definition of Shi and Singh is most close to the definition used in this research. According to the authors, a healthcare delivery system incorporates four functional components – financing, insurance, delivery and payment – that are necessary for the delivery of health services (Shi et al., 2008). Healthcare delivery systems differ depending on the arrangement of the four components. The four functions generally overlap, but the degree of overlapping varies between a private and a government-run system and between a traditional health insurance and managed care-based system. In a government-run system, the functions are more closely integrated and may even be indistinguishable. Managed care arrangements also integrate the four functions to varying degrees (Shi et al., 2008).

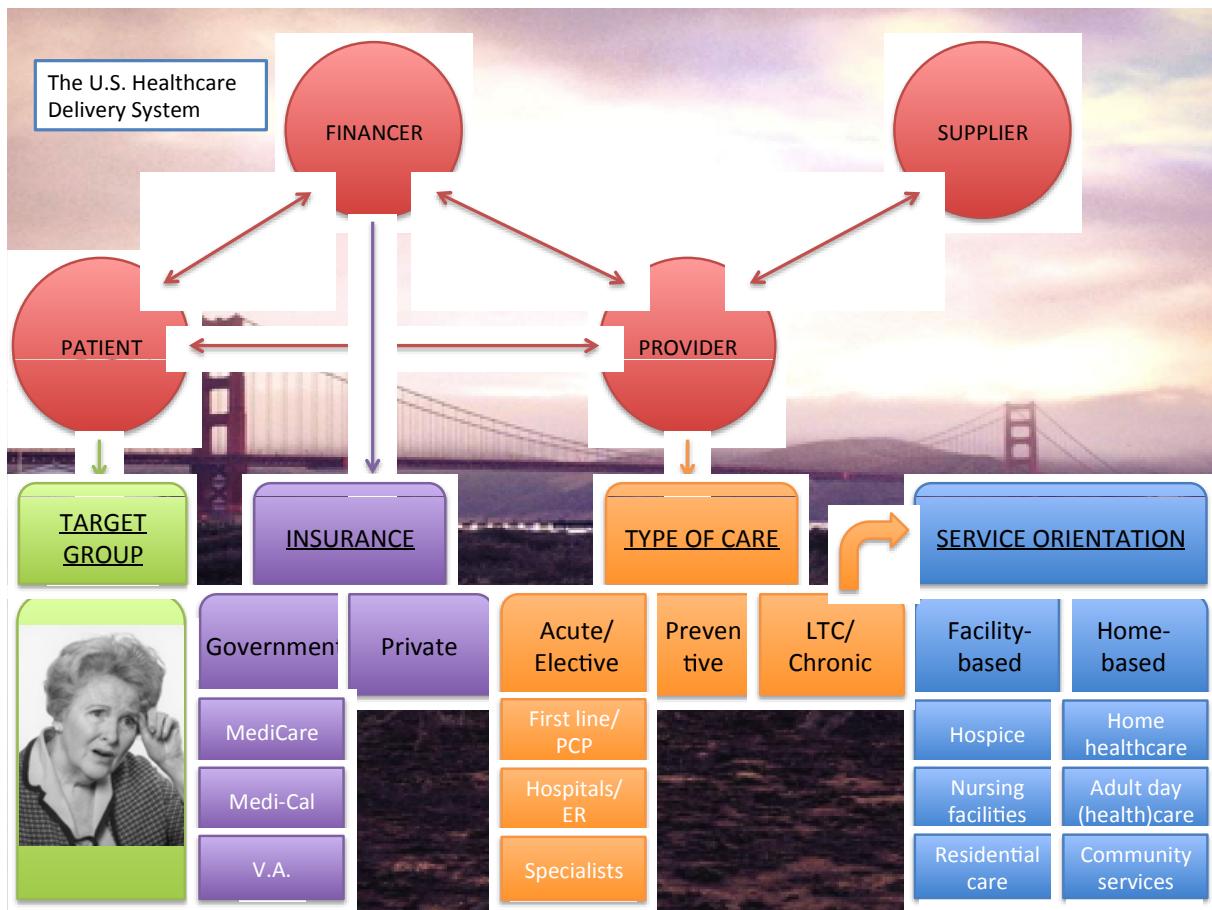
*Financing* is necessary to obtain health insurance or to pay for healthcare services (Shi et al., 2008). It might be arranged privately –through employers, or individual personal expenses- publicly –through government expenses, or as a combination of the two. *Insurance* protects the insured against catastrophic risks when needing expensive healthcare services. The insurance function also determines the package of health services the insured individual is entitled to receive (Shi et al., 2008). *Delivery* refers to the provision of healthcare services and the receipt of insurance payments directly for those services. Examples include physicians, therapists in private practices, hospitals, diagnostic and imaging clinics and suppliers of medical equipment (Shi et al., 2008). *Payment* deals with reimbursement to providers for services delivered.

The United States healthcare system is unnecessarily fragmented, which is perhaps its central feature (Shortell et al., 1996). There is little standardization in a system that is functionally fragmented. The various system components fit together only loosely. Such a system is not subject to overall planning, direction, and coordination from a central agency, such as the government. Due to the missing dimension of system-wide planning, direction, and coordination, there is duplication, overlap, inadequacy, inconsistency, and waste leading to complexity and inefficiency (Shi et al., 2008).

Several basic characteristics differentiate the US healthcare delivery system from other countries: no central agency governs the system; healthcare is delivered under imperfect market conditions; existence of multiple players makes the system cumbersome; balance of power among various players prevents any single entity from dominating the system (Shi et al., 2008). The state California in particular shows no differences on these basic characteristics. Consequently, establishing an irrefutable view on players and their interrelations within the California system seems unrealistic, even when one would only take the system for elderly into account. Hence, multiple sources were merged to provide a framework for the California healthcare system for elderly.

### ***C. A proposed framework for evaluating the California healthcare system for elderly***

Using earlier mentioned definitions and a wide range of sources, a framework has been created to visualize the different parties and their roles in the healthcare system (See fig. 2.2).



**Figure 2.2:** The California healthcare system for elderly.

Evaluating the California healthcare system starts with four basic parties: *patients*, *financers*, *providers* and *suppliers*. The patient is determined as being at least 65 years of age and pays the financer either tax or a premium, depending on the public or private character of the financing party. The patient receives healthcare services from the provider, which are paid for by the financer. The supplier delivers healthcare supplies to the provider. This could be in the form of products (medical machinery, for example MRI-scanners) or in the form of knowledge (scientific research, R&D for new medicine, etc.). The role of the supplier is in most of this research of less relevance and therefore often not mentioned.

A *patient* is defined as a human aged over 65 years requiring healthcare services from providers, which may be paid for by financers. When a patient acquires insurance to ensure healthcare services delivery, a certain process of determining eligibility for public financing occurs.<sup>1</sup> Typically this process is started when a patient reaches the age of 65 and retires.

First, the patients' eligibility for healthcare insurance is determined by looking at arrangements established with former employers. If the patient has worked for the Ministry of Defense, this might be the Veterans Affairs department. If it turns out that the former employer delivers insufficient healthcare insurance, the patient determines eligibility for Medi-Cal.<sup>2</sup> If the patient does not qualify for Medi-Cal, the patient will most likely be eligible for MediCare,<sup>3</sup> providing up to 80% of insured coverage the target group requires on average. In practice, it might occur that a patient qualifies for multiple public financers, which in that case together cover a part of the insurance. These individuals are called "dual-eligible". Such a situation might cause a gap in a patients' insurance coverage, which in turn may be solved by the public MediGap program.

Besides public insurance, patients might acquire private insurance. As stated before, public programs assure up to 80% of a patients insurance coverage. The remaining 20% consists of additional services that are not covered

<sup>1</sup> Mary Adorno, California Association for Healthcare Services at Home (CAHSAH) during an interview (October 2013)

<sup>2</sup> MediCal: The California-specific department of the federal Medicaid program, aimed at serving insurance interests of low-income citizens.

<sup>3</sup> MediCare: Federal program aimed at serving insurance interest of civilians aged over 65.

by these programs, like e.g. dental, ear and vision care. Patients are free to choose whether they want to acquire private insurance coverage for such types of care.

Providers deliver healthcare services to patients. The types of care delivered are broadly defined in three areas: Acute/Elective care, Preventive care, Long-Term/Chronic (LTC) care.

*Acute* and *Elective* care services are specifically provided over shorter periods of time. *Acute* care is delivered to patients who unexpectedly require specific healthcare services urgently; this includes e.g. ambulatory services and treatments in an emergency room setting. The term *Elective* care implies that patients are able to *choose* these services. Although elective services can be urgent, a waiting list may delay the treatment (e.g. kidney-transplantation) and it is therefore no longer considered an acute situation.

Acute and Elective care might be provided through *primary care*. In the California healthcare system, this party is to a large extent utilized by patients who acquired extensive healthcare insurance coverage. Patients with lower levels of insurance coverage are generally expected to use less of these services. Instead, those patients wait for their complaints to disappear without receiving care. If their complaints escalate, those patients are likely to visit a *hospital* to receive healthcare services. At arrival, patients are referred to either a first-aid post, which might be a primary care clinic, or an *emergency room* if their situation requires immediate action. Ultimately, patients might end up being treated by a *specialist*; a doctor specialized in certain diseases or complaints.

*Preventive care* is defined as those care services aiming to prevent patients from entering the healthcare system requiring providers to deliver healthcare services. Researching the prevention side requires a specific focus on events happening before patients enter the system rather than what happens at the time they actually take part in it. This has been determined too broad for the scope of this research (refer to Chapter 1). Therefore, the preventive side of healthcare is largely omitted.

*Long-term and Chronic care (LTC)* services are generally considered identical. A slight difference lies in the definition of Long-Term care as healthcare services provided for an extended period of time, which is still likely to eventually end. On the contrary, chronic care is defined as healthcare service provided for a condition that is non-recoverable (Annuity Think Tank, 2013).

LTC care can be provided in two service orientations: in a facility or at home. Different sorts of facilities can be distinguished. *Hospices* and *Facilities for Developmentally Disabled* provide comfort care for terminally ill patients. They help with patient daily activities; medical needs, and provide care for families in the process. This part of LTC represents a rather small part of the entire HCS: nationwide approx. 0,08% in 2007 according to the US Census Bureau and is for this reason excluded from this research. *Nursing facilities*, also known as nursing homes, provide housing, meals, skilled and intensive medical care and social services. *Residential care* is a broad term that encompasses many types of facilities serving (among others) elderly. This setting offers 24-hour care and supervision for those who need assistance with basic activities such as dressing and bathing, but do not require skilled nursing care.

Besides in facilities, healthcare might be provided at home. *Home healthcare* provides patients with chronic health conditions or those recovering from conditions with the help they need to remain living at home, as independently as possible. Care ranges from skilled nursing, such as giving injections, to help with daily activities such as preparing meals. *Adult day (health) care* provides clients with limited health monitoring. In case of adult day healthcare limited medical care might also be provided. Moreover, adult day (health) care providers provide physical and mental exercise, social activities, meals, transportation and other support services. It offers a safe, supervised environment for adults with physical or mental disabilities, as well as respite for the regular caregivers from their daily routines. *Community services* offer various forms of help, camaraderie, and comfort to enable the elderly to remain as independent as possible. They help with grooming, meal services and sometimes, medical care.

#### **D. Managed care: an integrated approach of delivering and financing healthcare services**

Within the healthcare industry, references to “managed care” are often found. Managed care is seen as an integrated approach of delivering and financing healthcare services. The concept is explained evaluating the historical origination.

Modern managed care, the current endpoint of evolution of healthcare delivery organization, may be said to have evolved from prepaid multispecialty group medical practice, a form of physician organization that began in the US about a century ago (Fox, 1996; MacColl, 1966; Mayer & Mayer, 1985). The American Medical Association (1996) defined group medical practice as “the provision of healthcare services by three or more physicians who are formally organized as a legal entity in which business and clinical facilities, records and personnel are shared. Income from medical services provided by the group are treated as receipts of the group and distributed according to some prearranged plan”. The major advantages of group medical practice included cost sharing for space and supporting staff and services; the ability to engage allied health personnel to an extent usually not feasible for the solo practitioner; sharing of coverage responsibilities for nights and weekends; the ability to readily take vacations and attend academic meetings and ready access to informal consultation when faced with a difficult diagnostic or therapeutic problem. At this point, the payer (insurance) function was not yet integrated in the system, which was only integrated in the providence of services.

This changed with the origination of Health Maintenance Organizations (HMOs) during the first Nixon administration in the early 70s (Roemer & Shonick, 1973). An HMO is defined as any organization, either for-profit or nonprofit, that accepts the responsibility of providing and delivering a predetermined set of comprehensive health maintenance and treatment services to a voluntarily enrolled population for a pre-negotiated and fixed periodic premium payment. In short, HMOs are organizations that insure groups of individuals against the costs of medical services and also provide those medical services (Shouldice, 1991). Characteristics of HMOs are identified by Luft (1980): the HMO assumes contractual responsibility to provide or arrange for a package of healthcare services, at a minimum, hospital and physician services; the organized delivery system serves an enrolled and defined population; HMO members are enrolled on a voluntary basis; the HMO receives a fixed, periodic payment, independent of the volume of services provided to each enrollee and the provider/financing organization assumes financial risk.

Strictly speaking, the term HMO refers to just one of the organizational forms that is covered by the terms of managed care and Managed Care Organizations (MCO). Historically, the introduction of the term HMO preceded that of the terms managed care and MCO. In this research, HMO refers to a specific healthcare delivery organizational form, whereas managed care and MCO are used to refer to the whole group of organizational forms included under the generic term “managed care”, described below.

Logically, this section should include information about another type of managed care- the Accountable Care Organization (ACO). However, the differences between an HMO and an ACO are very small and lie in minor details of the payment system. Officially an HMO only recognizes the capitated-fee system, whereas an ACO is a bit more flexible and may also use a fee-for-service system for internal administration. For simplicity sake, this research includes only the HMO in its’ terminology.

The definition of managed care is undergoing constant change. Looking at the situation from the perspective of the primary purchaser of healthcare coverage, “managed care broadly defined, encompasses any measure that favorably affects the price of services, the site at which the services are received or their utilization. Ideally managed care should not simply seek to reduce costs; rather, it should strive to maximize value, which includes a concern with quality and access (Fox, P., 1990). Austrin (1999) proceeded with a normative definition: “managed care is a system that uses financial incentives and management controls to direct patients to providers who are responsible for giving appropriate, cost-effective care. Managed care systems are intended to control the cost of healthcare by emphasizing prevention, early intervention and outpatient care”. Barton (1999) offered a

succinct definition of managed care: “in managed care, both patient utilization and provider practices are managed by an entity that has fiduciary interest in the interactions between them”.

None of these definitions seem to really touch the core of the original objective of managed care. Referring back to the proposed model earlier in this chapter, including above history and definitions, respondents input and our own interpretation of acquired knowledge, this research proposes the following definition of managed care: *“An integrated approach towards delivering healthcare merging the fragmented incentives of the three basic constituents of a healthcare system (patients, providers and payers) ultimately aiming to increase cost-efficient use of resources and to improve the quality of delivered services”*.

# CHAPTER 3: METHODOLOGY

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*Chapter 3 elaborates on the utilized procedures and working methods of the research. Part A justifies the selection of qualitative analysis as a preferred method; followed by the research topics and interview protocol in part B. Section C describes the process of data collection, which knows two distinct phases, both requiring respondents. A comprehensive list of the selected participants is provided in section D. This chapter concludes by focusing on the applied use of triangulation to realize a valid and reliable analysis.*

## A. Qualitative analysis

Extensive literature research during the preparation phase leads to a general view of the California healthcare system for elderly being highly complex and inefficient, specifically in terms of spending financial resources. Although terminology among various articles differs, most authors in general agree the system consists of a limited number of types of players. In practice, characteristics of players might overlap. Moreover, the bilateral relationship of players in the system often remains unclear (refer to Chapter 2: Theoretical Framework).

Empirical research describing the configuration of the system could be used as a starting point for quantitative research. However, general consensus about the configuration of the system is unavailable. Moreover, quantitative research elaborating on how parties interrelate might give no answer to the question how the system could possibly be made more efficient. Alternatively, it would at its best confirm the system being complex and inefficient rather than indicating which steps should be taken to improve this situation. Considering latter is the aim of this research, qualitative research is the preferred approach to answer the research question.

The objective of this research is to find alternatives to make the California healthcare system for elderly more efficient. Qualitative research enables the researchers to thoroughly examine the roles of the different parties in the system. Understanding the objectives of a party within the system is key to understand the motives of that party to act in a certain way. Asking “why”- and “how” questions to understand objectives and motives of a specific party will lead to insights in the rationale behind the configuration of the system. Intelligibility on the rationale of the system might lead to discernment on possible improvements.

## B. Research topics & interview protocol

Evaluation of the theoretical framework, including the proposed model for evaluating the California healthcare system for elderly, leads to a specific set of questions to be answered in order to understand inefficiencies. The questions have been divided over 6 core interview topics and 2 administrative topics. The most relevant research topics and accompanying general questions have been formulated (see Appendix A). Considering the strong heterogenic characteristics of the respondents, all interviews have been personalized in order to obtain the most insightful results.

During the semi-structured interviews, the following interview strategies where applied:

- Due to both time and financial constraints, all interviews were conducted through phone.
- Before the start of the actual interviews, two pilot-interviews have been conducted to refine the list of topics
- All respondents were asked to agree on recording the interview.
- Before the interview, the interviewee received a confirmation e-mail consisting of the interview date, time, attendants, research topics, and a notification on confidentiality. After the interview, the

participants received an email to thank them for their input. Standardized email communication was applied to increase professionalism (see Appendix B).

### C. Methods of data collection

The third paragraph of the second chapter presents a model for evaluating the California healthcare system for elderly. The parties distinguished within this model are subject to research and are called the *units of analysis*. Initially, desk research provides increased discernment on the rationale behind the current system configuration and the role of actors within the proposed model. Simultaneously, individual semi-structured interviews are scheduled. After the completion of this second phase, the outcomes of the semi-structured interviews are validated in a focus group setting.

For selecting the appropriate units of analysis, the following restriction criteria are applied:

- ➔ The unit of analysis must be based in-, or with its operations focused on the state of California. This restriction applies due to the research boundaries set in the first chapter of this report. By solely including California units of analysis, it is aimed to get a clear view on the California healthcare system rather than a hazy view on the US healthcare system as a whole.
- ➔ The unit of analysis must be able to significantly influence at least a part of the California healthcare system. This restriction is included to avoid spending time on less relevant parties. Moreover, it is undesirable to give the same weight of opinion to organizations that might or might not consist of for example a large number of members, or high annual turnovers. The relevance of each unit of analysis is elaborated in paragraph D.

#### I. Individual interviews

Each unit of analysis is studied through the use of semi-structured interviews. Opposed to a semi-structured interview, a structured interview set-up is likely to provide insufficient information concerning the objectives and motives of the party. Such a setting does not dispense a party enough possibility to adequately express their rationale. Alternatively, an unstructured interview might lead to broad data only, providing general opinions rather than party-specific views on the system and its inefficiencies. Consequently, a semi-structured interview has been chosen to enable units of analysis to share their view on their specific situation, while at the same time being allowed to divert on topics they consider relevant. The semi-structured interviews will be conducted on individuals who represent organizations that either directly participate in the system, or represent a larger homogeneous group of parties participating in the system. For example, as opposed to interviewing an individual physician, the choice might be made to approach an overarching organization or association of physicians.

#### II. Focus group

After completion of the individual interviews, a focus group session has been organized to validate the results of the first phase. This session took place on November 13, 2013 at the Dutch Consulate General in San Francisco. The focus group session has been organized for four main reasons.

First, during the first phase individual units of analysis were able to provide input on their personal situation. It appeared difficult to compare bilateral relationships among units of analysis. The focus group brings together units of analysis from different parts of the healthcare system to create a dynamic setting that facilitates the dialogue between the participants. Where the semi-structured interviews provide a unilateral perspective on the topics that are initiated, the focus group allows for a multidimensional approach to the topics of interest.

Secondly, while units of analysis earlier were able to participate on an entirely anonymous basis, in a focus group setting this was no longer possible. Evaluating the change in impersonation from different units of analysis as anonymity deteriorates might as well provide interesting insights.

Thirdly, organizing a focus group setting is not solely beneficial for the researchers but also for the units of analysis as it provides them the opportunity to network with other system participants. As such, the focus group provides a platform for early exploration of collaboration possibilities. In addition, it keeps units of analysis involved in scientific research on relevant topics.

Finally, the organization of a focus group is a great initiative for the HIT foundation, which now has the opportunity to position itself as an organization that is capable of bringing significant people together within an

extensive network. Thijs Boekhoff acted as moderator during the discussions, thereby showing his expertise and professional approach, which increased the willingness of participants to contribute to future initiatives.

#### **D. List of respondents**

In order to bring as much expertise to the research as possible, it was aimed to include mainly healthcare professionals in executive functions, or with outstanding credentials. Hereby the assumption is made that people who are in charge of organizations and have the authority to make critical decisions for those organizations, may hold more extensive understanding of relevant topics compared to people lower in the organization.

Having approached many people, the following respondents took part in the first research phase: individual interviews.

Name	Organization	Function	Relevance	Category
Adorno, M.	California Association for Health Services At Home	Legislative specialist	CAHSAH is the leading statewide home care association in the nation and voice of home care for Western United States. It represents more than 584 members and 1,031 offices that are direct providers of health and supportive services and products in the home.	Homecare
Alkema, G.	SCAN Foundation	VP Policy and Communication	The SCAN Foundation's mission is to advance the development of a sustainable continuum of quality care for seniors. They achieve it by encouraging public policy reform to integrate financing. It was created in 2008 through a \$205 million one-time contribution.	Advisory
Engelhard, D.	Topaz	Head knowledge center	Topaz offers care services in elderly care and rehabilitation. They represent over 1800 professionals in 8 centers.	Homecare
Gressman, J.	San Francisco Community Clinic Consortium	President/CEO	The SFCCC partnership provides primary care services to over 77,000 San Franciscans each year.	Primary Care / 1 <sup>st</sup> line care
Gutierrez, M.	Center for Connected Health Policy	Executive Director	CCHP is an independent, not-for-profit planning and technical assistance organization. It is de federally designated National Telehealth Policy Resource Center, tasked with providing assistance to 12 regional centers nationwide.	Advisory / Technology
Hartstein, M.	Center for Medicare and Medicaid Services	Director Hospital and Ambulatory Policy Group	CMS covers over 100 million people through the federal public insurance programs Medicare, Medicaid and other programs. Mr. Hartstein is responsible for managing the group that sets Medicare fee-for-service acute care payments, an annual budget approval of \$260 billion.	Government / Payers

Hillman, C.	GrandCare Systems	Founder & CTO (previously CEO)	GrandCare provides the most comprehensive caregiving technology on the market, enabling individuals to remain safe, healthy and happy at home. This company is rapidly expanding on international level	Technology
Knego, D.	Curry Senior Center	Executive Director	Curry Senior Center provides services to seniors that promote independent living while maintaining their dignity and self-esteem. Mr. Knego is ultimately responsible for daily operations, leading over 60 employees in the Center.	Homecare / Institutional Care
Lapre, F.	Movinex	Partner	Movinex forms a movement together with partners and clients to support fragile patients. They provide consultancy services to organizations to help them implement patient-centered products and services.	Homecare, institutional care
Lindeman, D.	Center for Technology and Aging	Director	CTA recently became part of CITRIS. It focuses on projects aimed at improving the well-being of older adults, chronic care management and patient engagement through technology solutions.	Elderly care / Advisory / Technology
McLeod, A.	California Hospital Association	Senior VP Health Policy	CHA collaborates with over 6,500 top management staff members to provide strong and effective representation and advocacy to advance the interests of California hospitals, patients and communities.	Providers / Hospitals
Perrott, D.	California Hospital Assocation	Senior VP & Chief Medical Officer	See McLeod, A.	Providers / Hospitals
Schaik, van M.	Rabobank	Director Healthcare/ Author “Diagnose Zorginnovatie”	Mr. van Schaik recently released “Diagnose Zorginnovatie”, a comprehensive review of the Dutch healthcare system and some of its future challenges which is widely acknowledged by professionals in the Dutch healthcare industry	(Dutch) Advisory
Vogel, T.	Sensire	Program manager Innovation at a distance	Sensire supports patients in Dutch healthcare in all phases of life. The organization faced an annual revenue of approx. \$9,6 million in FY2012.	Homecare / Institutional care
Wagner, E.	MacCol center	Director	Mr. Wagner has a strong scientifical background in chronic illness management and aging and geriatrics. Published over 250 relevant papers on among others the Chronic Care Model (CCM)	Education / Advisory

Table 3.1: List of individual interview participants.

The following respondents took part in the second research phase: focus group.

Name	Organization	Function	Relevance	Category
Bersing, D.	Living Well At Home	President & CEO	Living Well At Home delivers personalized, comprehensive care to seniors and adults with disorders. It operates services in Marin County, San Francisco, the Peninsula, the East Bay, Napa and Sonoma Counties	Home care /Institutional care
Boekhoff, T.	Healthcare Innovation Transfer Foundation	Director	The HIT Foundation transfers innovation and knowledge between the US and Dutch healthcare market.	Advisory
Christy, J.	LeadingAge California	Senior Policy Advisor	LeadingAge California represents more than 400 nonprofit providers of senior living services.	Provider / Homecare / Institutional care
Garner, S.	Brookdale Senior Living	Regional VP	Brookdale Senior Living provides senior living solutions to older persons and their families. They serve up to 67,000 residents in 36 states in over 600 communities.	Homecare / Institutional Care
Houben, G.	Cubigo	CEO	Cubigo provides patient-centered solutions offering patients to pro-actively manage their health (needs).	Technology
Iverson, A.	Elder Care Alliance	VP of Operations	Elder Care Alliance is a non-profit, faith-based organization dedicated solely to providing care services to meet the needs of older adults. It operates 6 facilities throughout California.	Home care/ Institutional care
Johnston, S.	Aging 2.0	Founder	Aging 2.0 connects, educates and supports innovators in aging and long-term care.	Advisory / Networking
Leveckis, A.	Ingen-Housz	Chief Technical Officer	Ingen-Housz combines the best practices of efficient and effective healthcare with patient-centered healthcare approaches, breakthrough technologies and entrepreneurial culture	Advisory / Technology
Lindeman, D.	Center for Technology and Aging	Director	Refer to "List of individual interviews"	Elderly care / Advisory / Technology
Perrott, D.	California Hospital Association	Senior VP and Chief Medical Officer	Refer to "List of individual interviews"	Providers / Hospitals
Pieters, A.	Ingen-Housz	Associate	Refer to Leveckis, A.	Advisory
Routt, K.	Magnolia Prime	CEO	Magnolia prime provides a telephone notification system that uses advanced technology to deliver language-specific messages to a senior or other individuals who need assistance to remain independent	Provider / Elderly e
Willems, P.	Medical Practice	Primary Care Physician	Mr. Willems worked as a Primary Care Physician in his own Medical Practice	Provider / PCP

Table 3.2: List of focus group participants.

### **E. Validity and reliability: triangulation**

In finding the right respondents for the research, it is aimed to select multiple respondents per unit of analysis in order to apply triangulation. Triangulation is often described as using different research methods on single units of analysis to prove the validity of the outcomes. In this research, triangulation refers to evaluating the system from multiple angles. Triangulation is applied to increase the validity and reliability of the research outcomes and is evaluated in the discussion and limitations chapter (see chapter 6).

### **F. Method of data analysis**

All interviews are recorded. After completion of an interview, the recordings are transcribed and the results are categorized using the 8 interview topics mentioned in paragraph B. Sometimes, specific findings require further action. They are either especially interesting; or gaps in findings are found; or sometimes comments seem not logical. As a consequence, some findings are further researched by using literature. In other cases, respondents are called again to ask them to provide more detailed information.

After the completion of the interview transcripts, most important topics are defined and a topic-list is created for the focus group. This focus group setting concentrates on three main questions:

1. Which specific (lack of) inter organizational relations prevent the system from being effective and efficient?
2. What role does technology play in improving the system?
3. Who will pay the bill for increasing efficiency in the system?

As with the individual interviews, the focus group is recorded. The results of the Focus group setting are included in the interview transcripts.

Next, the process of coding results starts. Analyzing all results from the transcripts, 10 main topics were identified: *first line care/PCP; fragmentation due to market-justice; homecare; incentivization; lack of focus on the continuum of care; managed care; patient centered care; payment and reimbursement; privacy; technology*. From the interview transcripts, all quotes from respondents are written down on post-its. During an extensive brainstorm session, taking multiple days, all post-its are categorized among the main topics. Some post-its are duplicated as a certain quote may belong to more than one main topic. For the full list of main topics and accompanying quotes, refer to appendix C.

After identifying the 10 main topics and the accompanying quotes, the brainstorm sessions continued on which specific characteristics ultimately cause inefficiencies in the healthcare system. The outcome of this forms the basis for Chapter 4. The analysis of results also makes reveals attempts that have been done to solve inefficiencies. These form the basis for Chapter 5. Additionally, the analysis makes clear the Dutch healthcare system offers many learning opportunities for the California healthcare system. Therefore, it is decided to put some extra efforts in setting up a comparison between the Dutch and US healthcare system (particularly in California) and determine to what extent the Dutch might be able to support their California counterparts. The results of this analysis have been included in paragraph E of chapter 5.

# CHAPTER 4: ANALYSIS OF SYSTEM INEFFICIENCIES

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*This chapter aims to describe basic characteristics of the California healthcare system for elderly leading to inefficiencies. Paragraph A describes the origin and effect of system fragmentation. Paragraph B elaborates on unaligned incentives of participating parties. Paragraph C mentions the effects of the general attitude towards the continuum of care. Finally, paragraph D aims to describe the consequence of the configuration of the current workforce.*

## A. System fragmentation

The current system of health services delivery traces its roots to the traditional beliefs and values espoused by the American people. The social value and cultural belief system is among the external forces that greatly influence the delivery of healthcare as it governs the training and general orientation of healthcare providers, type of health delivery settings, financing and allocation of resources, and access to healthcare. Americans, in general, are skeptical of any heavy-handed government involvement in the healthcare system (Shi, L. and Singh, D., 2008 page 54).

Two contrasting theories govern the production and distribution of healthcare services. Market justice theory ascribes the fair distribution of healthcare to the market forces in a free economy. Medical care and its benefits are distributed based on people's willingness and ability to pay (Santerre and Neun 1996, 7). The free market implies that giving people something they have not earned would be morally and economically wrong. Opposing market justice theory, social justice theory poses the equitable distribution of healthcare is a societal responsibility. This can best be achieved by letting a central agency, generally the government, take over the production and distribution functions. Social justice regards healthcare as a social good - instead of an economic good – that should be collectively financed and available to all citizens regardless of the individual's recipient's ability to pay for that care (Shi, L. and Singh, D., 2008 p.60).

The market for healthcare delivery in the US cannot be regarded as a pure market. It is characterized as a quasi- or imperfect market. Hence, elements of both market justice and social justice exist, but the principles of market justice prevail (Shi, L. and Singh, D., 2008 p.60). The fact that a market justice system applies indicates that governmental interference in the US healthcare system is kept to a minimum. In addition, the federal government has outsourced the responsibility of healthcare legislation to a large extent to state-level governments, which in their turn also show a strong focus on market justice theory principles. Consequently, both on federal as on state-level, government interference is very limited.

The market justice theory approach has led to healthcare delivery being the domain of large organizations. These corporations might operate either on a for-profit or nonprofit basis, yet they are largely driven by the common goal of maximizing their revenues. Macro-economic, as well as industry developments, have incentivized corporations to adjust their operations in achieving maximized revenues. As a result, specific corporations often have multiple divisions operating a wide variety of business models. Instead of having a clear role in the system, organizations show both differentiation and overlap compared to peers when it comes to business models, value propositions, product/service portfolio etc. With the apparent absence of coordination the healthcare delivery system has become highly functionally fragmented.

The functional fragmentation of the healthcare delivery system has led to a clear problem. System participants are no longer able to compare their businesses to peers. The accompanying problem is that if one corporation decides to invest in certain (innovative) initiatives, it has no clue about initiatives that already were initiated by

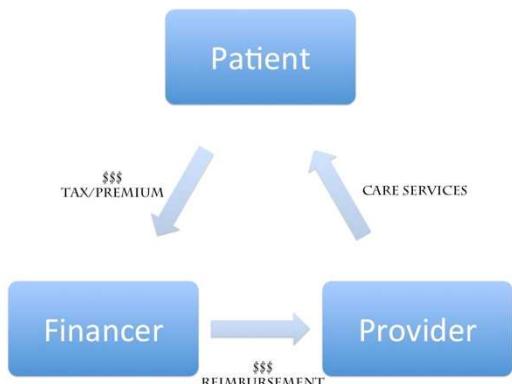
peers. A certain organization in the system that facilitates central communication might solve this issue. In social justice theory, such a communication hub might be found in a government, which is ultimately responsible as central agency governing the system. However, as the US and California follow the market justice theory, such a communication hub is not incorporated in the system. This has led to the system becoming highly complex, intransparent and ultimately having a lower quality of healthcare delivery, lower levels of accessibility and decreased cost-inefficiency.

Research participants have confirmed the topics mentioned above. According to them, the system is highly fragmented and dysfunctional. This is partly due to the government being unable to regulate many specific interests that work against a common approach. Moreover there is a huge lack of consistency among states, as health-policy is state specific. Addressing each state's needs separately in implementing state-crossing initiatives is a nightmare.

Concerning collaboration, there is no comprehensive program that links initiatives together across the continuum of care (consult paragraph C). Parties involved in the system are unconnected and lack insights in each other's initiatives. Moreover, industry competition is getting fiercer. Parties act as if "the pie is at stake", instead of focusing on the potential cost-savings and other benefits that could derive from collaboration. Finally, because of the lack of both an available communication-hub and a mindset focusing on collaboration, the urgently required process of change in the healthcare delivery system is slowed down.

### **B. Unaligned incentives of participating parties**

As described in paragraph C of the second chapter, the California healthcare system for elderly generally consists of three parties: the patient receiving care, the providers who are delivering care, and the payers who finance the delivery of care. It might be stated that these three parties share the common goal of survival: the patient wants to stay alive, and the providing and paying parties want to maintain their existence as organizations. In achieving this common goal each party has its individual goals. A patient depends on the quality of care delivered by the provider to stay alive (ignoring other determinants such as life-style). A provider largely depends on the financial resources provided by financing parties, and to a small extent by patients themselves (out-of-pocket-expenses). A financer depends on the availability of liquidity, which depending on the private or public fundamant, is provided by premiums paid by individuals or tax-revenues. The relationship between the different parties is described in figure 4.1.



**Figure 4.1:** Interrelations of the parties involved in a healthcare system.

The common goal of survival is threatened by the increasing costs of healthcare due to cost-inefficiencies in the system. Solving these cost-inefficiencies by establishing cost-reducing initiatives appears challenging, as incentives for providers are absent. This is mostly due to the manner in which health services are reimbursed. Moreover, financers or individual patients who actually possess the right incentives, often lack sufficient resources or system-wide impact to solve cost-inefficiencies.

Financers provide fixed amounts of reimbursement to providers, mostly on a fee-for-service basis. The fee-for-service rates are set by the government based on Diagnosis-Related-Groups (DRGs): a determined combination of specific complaints leading to required tests and accompanying treatments, which are likely to lead to recovery of a patient. An alternative for fee-for-service reimbursement is capitation-fee reimbursement. In this payment system, a provider receives a fixed-fee per patient it has to take care of; independent on the future care a patient might or might not need. This capitation-fee reimbursement is often seen in managed care plans but generally does not apply to public programs such as Medicare or Medi-Cal, which use a fee-for-service reimbursement system.

A fee-for-service reimbursement system does not benefit the speed of implementing cost-reducing initiatives at the provider side, where most respondents argue the highest cost-reductions are to be potentially realized. Providers determine the costs occurring when providing care to a patient (i.e. DRG) and pass their information on to the government, which sets the actual rates. This ensures the provider has no incentive to try to reduce the costs of care. When a provider would invest in initiatives reducing the cost of care, the government lowers the rates and ultimately the revenues of the provider will go down.

Opposed to the provider, the financer has a strong incentive to invest in initiatives reducing the costs of care as this will ultimately lower the pay rates while the revenue streams from premiums or taxes are likely to stay the same. Therefore it is argued by respondents the financer should take a central role in stimulating initiatives driving cost-reductions. In practice, public financers as Medicare and Medi-Cal that represent over half of the reimbursement for health services for elderly in California, lack financial resources to take this responsibility as a cause of ongoing state-budget deficits. Consequently, solely the private financer or the patient remains to take on the task of incentivizing providers to invest in cost-reducing initiatives. Unfortunately, both parties lack sufficient impact: private financers represent only a small part of the pie of reimbursements; one individual patient makes up only a very small part of healthcare costs.

### C. *Lack of focus on the continuum of care and the patient involved*

Evashwick (1987) defines the continuum of care as follows: “*a client-oriented system composed of both services and integrating mechanisms that guides and tracks clients over time through a comprehensive array of health, mental health, and social services spanning all levels of intensity of care*”. Although this definition was proposed already 25 years ago, it is the most comprehensive description to date. It is remarkable that essential elements in this definition were already known and advocated in 1987, and still the awareness and implementation of these notions is greatly deficient.

The first part of the definition, a client-oriented system, entails the perception that at the center of the process is the client, not the financer or the provider. This implies that the continuum of care evolves around the patient and takes into account the needs of the patient. This *patient-centered approach* is a concept that is characterized by the involvement of patients in their treatment, grounding treatment decisions in their preferences, and creating an environment in which caregivers solicit the need for information and education, as well as the input of patients (Cross, 2004). A problem, as indicated by one of the respondents, is that PCPs do not recognize the shift towards patient-centered care. This is strengthened by the lack of political and financial motivation, which makes that changing the behavior and the attitude of providers is one of the most underestimated challenges that are faced.

The second part of the definition emphasizes the comprehensive, holistic approach to care. Ideally, care is delivered in a coordinated fashion that not only focuses on immediate care, but also tracks the patient over time, taking into account direct-, as well as future needs in order to anticipate on the different types of care that may be required. By doing so, the right types of care can be delivered as efficient and effective as possible. There is a problem here that arises in the form of responsibility. As one of the respondents mentioned, responsibility stops where the money stops. Who should coordinate the care of patients when it is unsure where the monetary benefits go? During the focus group, one of the participants said that it is difficult to solve because system participants compete. Healthcare reform brings uncertainty and people lack the experience on how to collaborate, therefore the worlds of healthcare and business have been separate. In response, it was mentioned

that if providers were made responsible for a specific group of patients during their whole lifetime, it would bring incentives to improve communication within the full continuum. This seems to bring opportunities for increasing coordination, although currently the system emphasizes acute care, not chronic health conditions, so the incentives are not in place. Hence, the desire arises to change the “volume-driven, fee-for-service, acute care-oriented medical system”, into a system that balances spending across medical and supportive services.

The final part of the definition, all levels of intensity of care, signifies the importance of including the full range of services: primary-, secondary-, and tertiary care, for both inpatient- and outpatient settings. Rather than entering the system at the moment that acute care is required, a patient remains part of an organized continuum of services. The problem that was indicated by respondents is that health plans do not always recognize the continuum of care. An example for home care is that health plans focus on the licensed-skilled side, which they might reimburse, but are ignorant of the non-medical side. All health plans have their own means of keeping their costs contained, but are therefore reluctant to provide financing for necessary care that may not be directly related to the immediate improvement of healthcare. At the same time, investing in preventive measures may be an inexpensive solution to larger expenses in the future. Therefore, home care organizations are trying to educate health plans about the potential benefits of investing in the continuum of care.

By definition, a care continuum encompasses the collection of individual services in an integrated system of care. According to Evashwick (2005) four fundamental integrating management systems are needed to accomplish the coordination: inter-entity organization and management, care coordination, information systems, and financing.

With inter-entity organization and management, Evashwick explains the importance of having the arrangements and operating policies organized to facilitate and enable the coordination of care and have a seamless flow of patients, while utilizing resources effectively. An explicit example of an initiative in California, is a big movement that is going on aiming to facilitate the transition of patients out of nursing facilities back in their home. Several waiver programs that are under the Medicaid program allow for a transition from a skilled nursing facility. The *Assisted-Living Waiver* allows the beneficiary a specific amount of money to get them to get their apartment ready. They are also provided nurse-assessments to see if they are able to live independently, and granted other resources to get them a good start at home.

Care coordination denotes the significance of coordinating the clinical elements of care, which is usually done through one appointed person that enables the communication between the different health providers that are involved in the situation of a specific patient. In good practice, care coordination leads to transparency on the provider side as well as on the patient side, resulting in a more efficient process. Respondents have indicated that there are some parts in the law that aim to improve coordination and provide incentives to PCPs to take the lead in coordinating care, but it was also mentioned that the government cannot take a strong position and mandate this role to PCPs because of political reasons.

Information systems play a huge role within integrating the continuum of care, and a lot of debates evolve around this topic. It is clear that the utilization of well-developed information systems is crucial in the way that information can be shared effectively and safely. One observation is that most health providers are taking initiatives in developing their own information systems, as they recognize the importance. However, all participants agree that effective information sharing is difficult to realize, as there is no standardization. There are major differences between the systems that are used between networks of participants, but also within the same network, different systems are installed. This leads to incompatibility issues, limiting the possibilities of information sharing. Another issue is that of privacy. The opinions of respondents varied widely on this topic. One of the interviewees claimed that they see around 50.000 to 60.000 patients per year, and they have only encountered 1 person with serious privacy concerns in the past 12 years. Another interviewee mentions that people are paranoid that they are giving too much personal information, and that privacy fears are real. It is also mentioned that the Health Insurance Portability and Accountability Act (HIPAA) of 1996, reduces privacy issues as it clearly states who can or cannot see private medical information. Another opinion is that privacy issues are more prevalent among people who are less educated and may not have a clear understanding of what their data is actually used for. Finally, a recent development that was brought up during the focus group is that privacy

concerns are rising because of the PPACA market exchange debacle. Seniors start to mistrust technology, because of the media attention around the fact that the government was unable to launch a working website, resulting in a lot of difficulties for early subscribers.

The final integrating system is through financing. Attainable, flexible financing throughout the spectrum of services removes barriers to allowing patients continuity and relevant care measures. A large part of the US and California healthcare is publicly financed, but this may limit the distribution of sufficient resources among the necessary services. One issue that puts great pressure on the system is that home innovations barely receive government funding. Payment reform was a big part of the president's healthcare reform act in 2010, which was part of strenuous dispute in congress. These provisions are generally not really well understood, as they are a less known part of the payment system, but the idea behind them is to try and change payment incentives. Several shifts have occurred already, e.g. the way hospitals are reimbursed has changed as they now get paid less for the second admission of patients than for the first admission. This incentivizes them to prevent patient readmissions. Furthermore, more funds have been assigned to preventive services and primary care, and less to surgical procedures to try to provide more emphasis on less invasive, less expensive services. The question "who is going to pay?" is ever relevant and never fully answered in consensus. All participants agree that within the continuum of care, more emphasis should be put on the role of the community. The community holds the potential to keep people at home vibrant. The social network is important, and the infrastructure of where the seniors live plays an important role. The demand for community care is undeniable as it reduces costs and clears resources to be able to provide care where it is needed most.

#### **D. Lack of sufficient available workforce in healthcare delivery**

Healthcare delivery is influenced by, and has influence on, the characteristics of the healthcare workforce (Shi, L. and Singh, D., 2008). A shortage or surplus of workforce caused by a mismatch between supply and demand is not necessarily to be seen as inefficiency. However, a shortage or surplus of workforce might increase or decrease the fortitude of certain inefficiencies.

In 2009, almost 15.5 million people, about 11.1% of all civilians employed in the US, were working in health service sites (National Center for Health Statistics, 2011, Table 105). About 40% of them worked in hospitals, 16% in nursing and other residential care facilities, and more than 25% in practitioner offices and clinics. According to respondents, people working in medicine and in nursing are the most influential when it comes to causes of inefficiencies in the California healthcare system for elderly. For that reason, the remainder of this paragraph focuses on analyzing these health professions.

The practice of the profession Medicine has been defined by the Medical Practice Act of New York State (Article 131, paragraph 6521 of the State Education Law): "The practice of the profession of medicine is (...) diagnosing, treating, operating or prescribing for any human disease, pain, injury, deformity or physical condition". Other states show similar definitions. The primary mode of organization of physicians in the US is called "private practice" (Goldsteen, R., and Goldsteen, K., 2013). Traditionally, a private practitioner contracts directly with patients to provide a set of services. This mode has been changing since the mid-1990s as physicians started participating in group practices: integrated clinics consisting of physicians specialized in multiple professions, sometimes referred to as Managed Care Organizations (MCOs). Motives for doing so included a regular income; comprehensive fringe benefits; and regular hours.

The practice of medicine in the US and California faces great challenges. On the one hand, medical science and technology have brought unimaginable benefits for Americans. On the other hand, these advances contributed to the escalation of healthcare costs above what many people are able to pay. Physicians are caught in the middle – pressured by private and governmental purchasers of healthcare to keep costs down, while driven by the public and their own professional standards to do everything that might be beneficial for each patient (Bodenheimer, T., 1999).

In 2008, the overall physician/population ratio was 27.7 per 10,000 (Health, United States, 2011, table 106). Among the factors influencing the amount of work physicians do are income goals, desired practice style, personal characteristics, practice setting, and standards established by clinical leadership (Eisenberg, 1986). There is general, but not universal, agreement that there either is or will be a shortage of physicians (Goldsteen, R., and Goldsteen, K., 2013). In 1993, the Health Resources and Services Administration's Bureau of Health Professions (BHPr) developed the Physician Supply Model (PSM) to forecast the supply and specialization areas for 18 medical specialties required to maintain a high quality of physician services in the US through 2020 (Cooper, 1995). Since the calculation of PSM Full Time Equivalent (FTE) began in 2000, gender and age have been found to influence the estimate of FTEs, with women and older physicians tending to work fewer FTEs. Accordingly, as the population of active physicians has aged and more women have become physicians, the number of FTEs of active physicians has decreased over the past several years (Bureau of Health Professions, 2006). Physician productivity is estimated on the basis of several factors including the number of hours during which patient care is provided and the number of patients seen. A report by the Bureau of Health Professions found overall demand is growing faster than the FTE supply of physicians. Projections suggest a modest but growing shortfall of approximately 49,000 physicians if today's level of healthcare services is extrapolated to the future population.

Nursing is currently defined by the American Nurses Association (ANA) as "the protection, promotion, and optimization of health and abilities, prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, communities and populations (ANA, 2003, pp. 25-26). Like the supply of physicians, over time the supply of nurses has rarely been in tune with either the real or perceived need. In 1990, the US Department of Health and Human Services (DHHS) estimated the nursing shortage to be about 200,000 in the United States (Moses, 1992). It predicted shortages of 350,000 in the year 2000, 520,000 in 2010 and 875,000 in 2020. Authorities on the subject cite many reasons to account for this employment gap. Among them are low salaries; limited chances for significant increases in pay over the life of a career; poor working conditions and poor professional image (Helmer & McKnight, 1989). In 2011, the American Association of Colleges of Nursing (AACN) was still concerned about a nursing shortage. One important issue for job satisfaction and retention among nurses (indirectly influencing nursing shortage) is hours worked. The use of extended work shifts and overtime has escalated as hospitals cope with a shortage of Registered Nurses (RNs). As a result, California became the first and only state in 1999 to set a minimum nurse-to-patient ratio. Although this initiative clearly brought better work circumstances for RNs, it also further increased nurse shortage. To deal with this, institutions used a variety of tactics including competitive compensation and the use of temporary staff. However, these organizations remain unsure whether they can maintain or meet future needs and the increased costs associated with these tactics (May, Bazzoli & Gerland, 2006).

The scope of nurse practice has expanded as a consequence of demand changing over time. The initial informal efforts to create a new arena for nursing were followed by the establishment of standards, formal curricula in approved programs, and, more recently, the preparation for advanced levels through master's and doctoral degree programs in universities (Goldsteen, R., and Goldsteen, K., 2013). The Advanced Practice Nurses (APRNs) – RNs with specialized training and advanced degrees – has risen from about 30,000 in 1990 to about 140,000 in 2010 (American Academy of Nurse Practitioners, 2010). The growth of the APRN profession is linked to numerous factors. A major one is the decline in the number of doctors choosing primary care as their specialty, a trend that is expected to continue (Goldsteen, R., and Goldsteen, K., 2013). Many new doctors are choosing more lucrative specialties, in part because of the debt they incur during medical school, and less time-demanding ones with more regular hours as well. The supply of family practice physicians is falling just as the Baby Boomer population is aging and their need for medical care is rising. APRNs in many cases can and do feel this need. APRNs can perform many of the duties of primary care doctors. In addition, APRNs are considered to be less rushed and take a more holistic approach to patients, factors that increase the patient satisfaction (Goldsteen, R., and Goldsteen, K., 2013).

In conclusion, health continues to be the fastest growing employment sector in the country. Within healthcare, jobs in home healthcare and offices of health practitioners, particularly physician offices, are projected to grow

the fastest. Given the growing demand for healthcare workers in a variety of occupations and professions, current health workforce shortages are not only expected to persist, but to worsen (Martiniano & Moore, 2006). This trend is recognized by many respondents of this research and according to them, causes multiple issues.

One respondent mentions that an increasing surplus of workforce will increase the difficulty of seizing challenges when it comes to creating an increased focus on the continuum of care, as both physicians and RNs play a critical role in the realization of patient-centered healthcare services. For example, according to some respondents patients require improved access to primary care services consisting in part of more flexible hours. This is likely to further increase pressure on the workforce. In addition, in an environment focusing on the continuum of care both professions play an important role in educating the patient on its healthcare circumstances.

Proposed solutions for decreasing the pressure on physicians and RNs also has less potential as long as the deficit of available workforce keeps persistent. An expanded focus on technological innovations to partly substitute professions proves hard to be realized, as no time is available to investigate the added value that innovations might bring, let alone implementing them. Some respondents mention shifting the focus from institutional- to home healthcare might release pressure on the workforce. This however does require a lot of education to patients as they generally have low trust in home care solutions, while neither physicians nor RNs have time available to provide that education.

It seems that pressure on the workforce will keep persistent, increasingly leading to physicians and RNs lacking the time to deliver the right quality to their patients. Lower quality of care will undoubtedly lead to the patient incurring more difficulties in preventing or rehabilitating from illness or injury. As the length of the process extends, higher unnecessary costs will be incurred. Persistent workforce deficits lead to decreasing cost-efficiency.



# CHAPTER 5: ANALYSIS OF PROPOSED SOLUTIONS

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*Respondents participating in this research mention several possibilities for making the California healthcare system for elderly more efficient. Yet, multiple issues occur in bringing these solutions into practice. Managed care is often seen as a desired future direction, its challenges are described in paragraph A. In addition, the role of primary care in coordinating care is mentioned. Furthermore, paragraph C elaborates on the aimed solution of shifting patients from institutional-based to home-based care. Paragraph D states the issues in putting forward technology to solve inefficiencies in the healthcare system. Finally, Paragraph E describes the healthcare system in the Netherlands and uses it as a basis to evaluate the proposed solution for solving inefficiencies.*

## **A. Managed care: a solution for future healthcare challenges?**

Respondents almost unanimously agreed on the fact that managed care, which is defined in the Theoretical Framework in Chapter 2, has the potential to solve many future healthcare challenges. Yet, several tough factors keep the managed care concept from doing so. This paragraph describes the potential of managed care and the success of its proponents to implement it.

Managed care systems offer the potential to control costs by organizing providers into coherent networks and by integrating the financing, insurance, delivery and payment functions. First, by eliminating insurance and payer intermediaries, Managed Care Organizations (MCOs) can realize some savings. Second, MCOs control costs by sharing risk with providers or by extracting discounts from providers. Risk sharing promotes delivery of healthcare that is economically prudent. Hence, risk sharing is an indirect method of utilization control. Third, cost savings are achieved by coordinating a wide range of patient services and by monitoring care to determine that it is appropriate and delivered in the most cost-effective settings (Health Insurance Association of America, 1991, 4). For example, by emphasizing outpatient services, MCOs achieved lower rates of hospital utilization. HMOs provide a substantially higher amount of preventive care than traditional insurance plans (Rizzo, 2005). Preventive care keeps people healthy and saves money through prevention as well as early detection and treatment of more serious illnesses. Also, some evidence suggests that HMO plans have lower use of costly procedures compared to non-HMO plans (Miller and Luft, 1997).

Although many of the cost-control measures adopted by managed care have been applauded, other results have not been so commendable. Most providers find the complexity of having to deal with numerous plans overwhelming. A tremendous amount of inefficiency is created for providers, who must deal with differences in each plan's protocols and procedures. Another problem is that many of the contracts with providers exclude some services. Moreover, inefficiency is found from the lengthy appeals process that patients and providers must go through when a service is denied by an MCO. In short, managed care does not always create the well-coordinated, seamless system that patients and providers would like to see (Southwick, 1997).

MCOs use several methods to monitor and control the utilization of services. Utilization management requires (i) an expert evaluation of which services are medically necessary in a given case; (ii) a determination of how those services can be provided most inexpensively while maintaining acceptable quality standards; and (iii) a review of the process of care and changes in the patient's condition to revise the course of medical treatment if necessary. The most criticized methods of utilization management include choice restriction and gatekeeping.

Most managed care plans impose some restrictions on where, and from whom, the patient will obtain medical care. Patients still have a choice of physicians, but the choice is limited to physicians who are either employees

of the MCO or physicians with which an MCO has established contracts. Because the MCO has greater control over providers, utilization is better managed. From the enrollees' point of view, restricted choice of providers is a trade-off for lower out-of-pocket-costs; however lack of physician choice has been strongly associated with consumers' dissatisfaction with their health plans (Berenson, 1997) as elaborated later in this paragraph.

Gatekeeping is a method in which a primary care physician coordinates all healthcare services needed by an enrollee. It is also a means of controlling utilization. Gatekeeping emphasizes preventive care, routine physical examinations, and other primary care services. Secondary care services, such as diagnostic testing, consultation with specialists, and admission to a hospital are provided only when referred by the primary care gatekeeper. Under the gatekeeping method, the primary care physician controls access to higher levels of medical services, hence the term "gatekeeper" (Shi, L. and Singh, D., 2008).

Respondents acknowledge choice restriction and gatekeeping as generally counting for the biggest downside of managed care. Both patients and providers strongly criticize managed care as it brings them several implications. Patients generally worry about the fact that managed care organizations are mostly private and profit-driven. This was already described by C. Everett Koop in 1996, at that time Surgeon General of the US under president Ronald Reagan: "in the early HMOs, cost containment was an unexpected benefit, not a primary purpose (...) But now the rapidly proliferating HMOs – most of them investor-owned and for profit – seem to be interested in firstly managing costs and only secondarily in maintaining health".

While patients worry about the possible wrong priorities of profit-driven MCOs, at the same time they indicate controlling costs should be a major priority for health system reform in the US and California. Interestingly, however, people who are most indifferent to tight cost and utilization controls are the uninsured or the young and healthy, who consume relatively little healthcare. Both of these groups seemingly have little to lose if tight utilization measures are adopted. Those who have the worst health status do not approve of strategies that might interfere with their ability to obtain healthcare (Schur et al., 2004).

With patients worrying, it would be interesting to evaluate the actual impact managed care has on access. On a broad scale, managed care's impact on access is not known. For instance, it is not clear to what extent, during the 1990s, managed care might have enabled small employers to offer employees health insurance coverage by holding down premium increases (Kaiser/HRET, 2002). With no clear impact on access, does managed care influence the quality of care? During the 1990s, concerns were raised that risk sharing between providers and payers would influence treatment decisions made by physicians, which would result in cutting on necessary services. However, evidence suggests that financial pressures do not lead to significant changes in physician behavior because under capitation a physician takes full responsibility for the patient's overall care (Eikel, 2002). This is particularly true for life-saving treatment decisions such as treatment of cancer patients (Bourjolly et al., 2004). Despite anecdotes, individual perceptions, and isolated stories propagated by the media, no comprehensive research to date has clearly demonstrated that managed care's growth has been at the cost of quality in healthcare. In fact, available evidence points to the contrary. Quality of healthcare provided by MCOs has improved over time (Hofmann, 2002).

Besides patients worrying, providers – especially physicians – backlashed the transition of healthcare delivery to the managed care system. In reaction to tight utilization management and lower reimbursement from MCOs, physicians became openly hostile toward managed care. In fact, national surveys show managed care penetration continues to be negatively correlated with physicians' satisfaction (Landon et al., 2003). Much of this discontent arises from pressures to change the way physicians had traditionally practiced medicine with no accountability for the appropriateness of utilization and costs. Physicians' vocal discontent no doubt also helped shape patient's view about managed care. Both physicians and patients perceived that managed care would drive a wedge between the patient-provider relationships. In addition, Berenson (1997) remarked that physicians are generally individualistic and strive for personal achievement. They resist management techniques that reduce their authority and autonomy. Because physicians are not upset about the cost or quality of care, they are not interesting in remaking the healthcare system.

The public backlash of patients and providers seem to have produced their intended effects as MCOs have taken significant steps to develop better relationships with physicians and other providers. MCOs also relaxed tight

controls on utilization. Yet, 40% of privately insured Americans continue to believe their doctor is strongly influenced by health plan rules when deciding about their care (Reed and Trude, 2002). Enthoven (2001) demonstrated that choice restriction was a main cause of the managed care consumer backlash. Satisfaction increases as employers offer more choices among plans. (Tu, 2005b).

In “Jonas’ Introduction to the U.S. healthcare system”, the authors Raymond and Karen Goldsteen state a question summarizing the main conclusion of this paragraph: “can managed care be provided in a system that still has a primary focus on either physician or corporate incomes/profit accumulation?”

### ***B. The role of primary care in decreasing inefficiencies***

According to our respondents, a properly functioning primary care system is vital for a successful operating healthcare system. Traditionally, primary care has been the cornerstone of ambulatory care services. The World Health Organization (WHO) describes primary healthcare as “essential healthcare based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community by means acceptable to them and at a cost that the community and the country can afford to maintain at every stage of their development in a spirit of self-reliance and self-determination. It forms an integral part of both the country’s healthcare system of which it is the central function and the main focus of the overall social and economic development of the community. It is the first level of contact of individuals, the family, and the community with the national health system, bringing healthcare as close as possible to where people live and work and constitutes the first element of a continuing healthcare process (World Health Organization, 1978, 25). In addition, The Institute of Medicine (IOM) defined primary care as “The provision of integrated, accessible healthcare services by clinicians who are accountable for addressing a large majority of personal healthcare needs, developing a sustained partnership with patients, and practicing the context of family and community” (Vanselow et al., 1995, 192).

Two elements in the definition of the WHO are particularly noteworthy for an understanding of primary care: point of entry and coordination.

In a properly functioning healthcare system, primary care is the point of entry into the health services system in which healthcare delivery is organized (Starfield, 1992). Primary care is the first contact a patient makes with the healthcare delivery system. The first contact feature is closely associated with the “gatekeeper” role of the primary care practitioner, explained in the paragraph on Managed Care in this chapter. One of the goals of primary care is to bring healthcare as close as possible to where people live and work. It represents convenience and easy accessibility.

Another main function of primary care is to coordinate the delivery of health services between the patient and the myriad delivery components of the system. Hence, in addition to providing basic services, primary care professionals serve as patient advisors, advocates and system gatekeepers. In this coordinating role, the provider refers the patient to sources of specialized care, gives advice regarding various diagnoses and therapies, discusses treatment options, and providers continuing care for chronic conditions (Williams, 1993).

Countries whose health systems are more oriented toward primary care achieve better health levels, higher satisfaction with health services among their populations, and lower expenditures in the overall delivery of healthcare (Starfield, 1994). Countries with weak primary care infrastructures incur poorer health outcomes and higher healthcare costs. Even in the US, better health outcomes are achieved in states with higher ratios of primary care physicians and better availability of primary care (Shi et al., 2002). Higher ratios of family and general physicians in the population are also associated with lower hospitalization rates for conditions treatable with good primary care (Parchman and Culler, 1994). Adults who have primary care physicians as their regular source of care experience lower mortality and incur lower healthcare costs (Franks et al., 1998).

From the above follows a healthcare system incorporating primary care as its core point for patients’ access to healthcare services might be preferable. Yet, respondents mention several reasons why it has not been incorporated in the California healthcare system, as it should be.

First of all, the amalgam of public and private financing has created a fragmented system (refer to Chapter 4) in which primary care does not form the organizing hub for continuous and coordinated services. Although the primary care model has gained increased popularity under the managed care system (refer to paragraph A), its current role appears to be limited to low-cost general medicine and gatekeeping to the rest of the healthcare system.

One requirement for making the primary care system work is equal accessibility for all patients. Accessibility refers to the ease with which a patient can initiate an interaction with a clinician for any health problem. Within the California healthcare system, equal accessibility remains an unrealized goal for several reasons.

First and foremost, financial barriers restrict patients to access primary care. According to respondents, especially under- or uninsured individuals show resistance to access primary care, as they cannot pay the out-of-pocket-costs. It is commonly believed that Obama has tried to solve this issue by providing equal, affordable access to healthcare to all Americans by implementing the Patient Protection and Affordable Care Act (PPACA), which is commonly referred to as "Obama-care". Respondents mention this measure still has to prove itself as the implementation of PPACA runs into several problems. Moreover, the digital "marketplace" where consumers are supposed to buy healthcare insurance shows severe operational difficulties. The most important reason for doubting the future success of PPACA however, comes from a critical error congress made in designing the act as it was assumed that all citizens would consider healthcare insurance desirable. As the idea of insurance involves pooling resources, young and healthy people paying premiums are required to provide financial resources required to take care of frail, elderly and/or unhealthy people. Yet, many young and healthy people have no interest in insurance, as they don't expect to be using a lot of healthcare services and don't want to pay for the healthcare services others receive. The fine imposed by the federal government for not acquiring healthcare insurance amounts to \$95 per year, which is an insignificant amount to the yearly costs of buying healthcare insurance. However, the government has announced to increase the fines in the future. In conclusion, whether PPACA will be successful or not is still doubtful, but it didn't solve many of the access issues, as sometimes is believed.

Besides financial barriers, insufficient available workforce lowers the access to primary care services in California (refer to Chapter 4, paragraph D). Two key factors determine the proportion of primary care personnel to specialists needed for the adequate provision of primary care. The first is how rigidly a healthcare delivery system employs the concept of gatekeeping. In the US, gatekeeping has gained prominence in the managed care system, and the proliferation of healthcare delivery through managed care has increased demand for primary care physicians. The second factor driving the need for primary care is the propensity of people in a given population to use primary care services. Utilization of primary care is greater in a system offering universal access, hence the need for more primary care professionals in national healthcare systems. As access is considered particularly low in the US and in California, this second factor does not have major influence yet but might increase in importance dependent on the developments around PPACA.

Another barrier to profound implementation of primary care in the California healthcare system lies in cultural, racial and lingual heterogeneity of the population. A key element in successful primary care lies in the relationship between the primary care physician and the patient. Mutual trust, respect and responsibility are the hallmarks of the partnership between the two. The heterogeneity of population characteristics increases the difficulty of connecting a primary care physician and a patient sharing the same norms and values.

In conclusion, the California healthcare system lacks a properly functioning primary care system as a consequence of low accessibility of primary care services caused by financial, workforce and population characteristics challenges. Because of a non-functional primary care system, patients wait for their complaints to escalate rather than visiting a primary care physician to ask for advice. When complaints do actually escalate, patients usually visit the emergency room (ER) in hospitals. Whether they are insured or not, hospitals are by law obliged to accept those patients. When the patients arrive at the ER, the physicians have no medical information or background available to consult. As a result, they have to perform numerous tests and possibly provide other services to patients. The data flowing from these tests has no central point of communication where

it can be stored to avoid having to run the tests again in the future. It needs no further explanation this uncoordinated, non-centralized manner of treatment causes major inefficiencies in the form of unnecessary healthcare expenditures.

### C. The shift from institutional to home-based care

Long-term care services and supports (LTSS) are delivered to the elderly in a variety of ways. Most striking is a global trend of keeping people in their homes as long as possible, driven by the desire of elderly to stay independent and remain autonomous at home. However, aging in place has moved far beyond a mere preference; it opposes the traditional, highly expensive model of institutional care that faces a lot of pressure due to the rising population of elderly and the increased rates of disabilities.

While only 4.2 percent of seniors in the United States are situated in nursing homes, and 2.7 percent of the elderly live in community housing that offers supportive services (Federal Interagency Forum on Aging-Related Statistics, 2012), LTSS are a top priority for policy makers. This is predominantly because of the dramatically high cost of care in nursing homes. On average, it costs \$73,000 annually to share a room, and \$81,030 per year for a private room (Genworth Financial, 2012).

There are basically two types of long-term care institutions, which are *nursing homes* and *assisted living facilities (ALFs)*, which are synonymous to *residential care facilities for the elderly (RCFEs)*. The first category, nursing homes, provides residential and medical services to people who need sub-acute care and rehabilitative care after major medical incidents, as well as end of life care and services for people with dementia. Around 19% of the residents stay less than three months, 24% stay up to a year, and the remainder stays longer than a year (Jones, Dwyer, Bercovitz, & Strahan, 2009). There are around 16,000 nursing homes in the US, of which 61.5% of them are privately owned, averaging 105 beds per residence. Almost 88% of the nursing homes are dually certified by Medicare and Medicaid, and over half of them are part of a chain. In 2004, there were around 1.7 million beds, and 1.5 million residents, meaning an occupancy rate of 87.3% (Jones et al., 2009).

The second category, assisted living facilities, provides 24-hour care including help with basic activities of daily living, assistance with taking medicine, providing meals, and social activities. The rooms are more homelike and mainly private. The people that live in ALFs are generally more self-directed in their daily activities. In 2010, there were around 15,700 ALFs in the US with an average capacity of 75 beds per facility. The annual cost averages \$39,000 for a private room in 2010 (Genworth Financial, 2012). Their occupancy rate was projected to be 88.4% in 2009 (Assisted Living Federation of America, 2009).

It is often believed that Medicare will pay for residents in nursing homes, but this is only true for a maximum of 100 days of post-acute care. No coverage is provided for custodial care (non-medical care supportive of activities of daily living). However, Medicaid provides coverage for both types of care. In 2007, nursing home expenses accounted for 8% of all Medicare-, and 19% of all Medicaid expenditures. These services are so expensive, that many people who are not eligible for Medicaid will often become eligible after paying for the services out-of-pocket for a while, exhausting their financial resources.

Alternatively, people prefer to age in their own homes. To make this feasible they often require help with *activities of daily living (ADLs)*, which is a categorization of services that alleviate the most severe restrictions of living at home. Examples of ADLs are getting out of bed, bathing, and getting dressed. These services may be provided formally by nurses, (trained) home health aides, and untrained workers, or informally through family caregivers and friends. Both types fall under the classification of *community-based* LTSS. Those LTC services that are provided outside of institutional settings over an extended period of time are also collectively called home- and community-based services (HCBS).

Medicare pays for limited community-based care, as it does not focus on financing long-term services. An exception is the Program for All-Inclusive Care of the Elderly (PACE), which was initiated as a Medicare benefit in 1997. This program combines Medicare and Medicaid funding in a capitated program that provides all

needed medical and LTSS to low-income seniors who are disabled enough to qualify for Medicaid nursing home care. The integrated delivery model offers a continuum of community based services (social and medical), to keep seniors at home. However, only about 23,000 people are enrolled in PACE, due to some requirements that pose strong barriers for people to enter the program. One of those requirements is that in order to enroll, one should leave their personal physicians and switch to the program's physicians.

HCBS are not mandatory and states have considerable discretion as to whether and to whom they offer these services to their Medicaid-eligible populations. HCBS are offered as optional state plan services or through Medicaid waivers (SCAN Foundation, 2010). Public programs in California include In-Home Supportive Services (IHSS), Adult Day Health Care (ADHC), and the Multipurpose Senior Services Program (MSSP). Without going into much detail about the focus of these programs, it is clear that they have different points of entry and varied eligibility requirements. They are financed through different funding streams and administered through different departments, and they are not consistently available in all counties of California. This not only leads to fragmentation, it also contributes to the confusion for seniors, who have to piece together a tenuous network of care. Moreover, state cuts to funding and programs have weakened the infrastructure and reduced the scope of LTC coverage in California (Kietzman, Durazo, Torres, Choi, & Wallace, 2011).

Federal policies focus on cost containment. Community-based services are generally less expensive than nursing home care for a single individual, and these services can delay institutionalization (Gaugler, Kane, Kane, & Newcomer, 2005), but total costs tend to be higher as more persons are served by community-based services, than would have been served by nursing homes (Weissert, Chernew, & Hirth, 2003). This development contributes to the attempts of states to restrict Medicaid eligibility to those with a high risk of being institutionalized. So, even though the majority of elderly with chronic care needs prefers to age at home, the public reimbursement systems continues to be biased toward institutional care (Harrington, Ng, Kaye, & Newcomer, 2009). Cutbacks to the LTSS safety net raise concerns about how, in the absence of adequate supportive services, it will be possible to effectively meet the needs of the elderly population (Kietzman et al., 2011). Numerous studies have shown multiple adverse outcomes- including increased rates of hospitalization, emergency room use, nursing home placement, and caregiver burden- following the reduction, or elimination, of resources for home care (D'Souza, James, Szafara, & Fries, 2009; Jacobs et al., 2007; LaPlante, Kaye, Kang, & Harrington, 2004; McCall, Korb, Petersons, & Moore, 2002; Sands et al., 2006; Schlenker, Powell, & Goodrich, 2005). This directly implies that there still is no focus on the continuum of care.

#### **D. The role of technology in solving inefficiencies**

Respondents generally recognize the importance of technological advancement in solving healthcare system inefficiencies. The development of nation- or statewide technological standards might contribute to the decrease of overall system fragmentation, when it is followed by standardization of linked (communication) processes. Furthermore, providing healthcare delivery using electronic hardware is likely to create insightful data that increases visibility on cost-savings. This might facilitate the process of "sharing the pie": aligning incentives righteously taking into account cost-effectiveness for involved parties. At the same time, increased use of technology brings possibilities to increase the focus on the patient and the continuum of care. In line with this, the pressure on the workforce elaborated earlier could be partially alleviated. Regarding the desire of patients to live at home rather than to live in facilities, technology also plays an important role in realization. Ultimately, increased use of technology has the potential to increase the quality and equity (i.e., access) of care, thereby indirectly reducing cost-inefficiencies.

The subsection above describes the many potential benefits that increasing the use of technology may hold. Yet, realizing this potential seems troublesome. To understand the challenges that lay ahead in achieving cost-efficiencies from the implementation of technology, this paragraph first elaborates on information technology that is required by payers and providers, and telehealth solutions that bring benefits to them and also to patients. Next, factors that influence the innovation, diffusion and utilization of technological innovations are described. This section poses related insights provided by companies that currently implement solutions in the healthcare

system. The paragraph is concluded with a comparison to the Dutch system and why the potential of technological innovation is better utilized in the Dutch than in the California healthcare system.

At a fundamental level, medical technology is the practical application of the scientific body of knowledge produced by biomedical research. Within this practical application, the disciplines of computer science and communication systems find their application in IT and telemedicine (Tan, 1995).

IT deals with the transformation of data into useful information. In healthcare organizations, applications of IT fall into three general categories (Austin, 1992, 215):

- Clinical information systems involve the organized processing, storage and retrieval of information to support patient care delivery.
- Administrative information systems are designed to assist in carrying out financial and administrative support activities, such as payroll, patient accounting, billing, materials management, budgeting and cost control, and office automation.
- Decision support systems provide information and analytical tools to support managerial decision making, used to forecast patient volume, project staffing requirements, and schedule patients to optimize utilization of patient care and surgical facilities.

Telemedicine employs the use of telecommunications technology for medical diagnosis and patient care when the provider and client are separated by distance. It eliminates the requirement for face-to-face contact between the examining physician and the patient. It also enables a generalist to consult a specialist when a patient's illness and diagnosis are complex. Sometimes the term telehealth is used to encompass educational, research and administrative uses as well as clinical applications that involve nurses, psychologists, administrators and other non-physicians (Field and Grigsby, 2002). In this research, instead of telemedicine the term telehealth is used. Telehealth implies a desired focus on health rather than purely on medicine. This focus is acknowledged by many of our respondents. In addition, the Californian state government recently showed its recognition of telehealth as an improved term for telemedicine when Assembly Bill 415 (AB415) became law as of January 1, 2012 and formally replaced the term "telemedicine" by "telehealth".

Telemedicine can be synchronous or asynchronous. Synchronous technology allows real-time interactive videoconferencing in which two or more professionals can see and hear each other and even share documents in real time. The technology allows a specialist located at a distance to directly interview and examine a patient. Asynchronous technology provides greater flexibility because it does not depend on the simultaneous presence of parties at the sending and receiving ends (Maheu et al., 2001).

The adoption of telehealth in general has been slow. Some of the main barriers have been licensing of physicians and other providers across state lines, concerns about legal liability, and lack of reimbursement for services provided via telemedicine. Also, the cost-effectiveness of most telemedicine applications remains unsubstantiated. The next subsection elaborates on factors influencing the innovation, diffusion (i.e., adoption) and utilization of both IT as telehealth initiatives.

The spread of technology into society, once it has been developed, is referred to as technology diffusion (Luce, 1993). Rapid diffusion of a technology occurs when the innovation is beneficial and the benefit can be evaluated or measured, is compatible with the adopter's values and needs, and is covered through third-party payment. Some of the main forces that have shaped innovation, diffusion and utilization of IT and telehealth (from now on referred to as "technology") include governmental interference, the alignment of incentives, competition among providers, the (lack of) availability of workforce and the (lack of) focus on the continuum of care and the patient within.

Nations all over the world have tried to control medical costs by limiting, mainly through central planning, the scattering of new high-tech procedures. By contrast, in the US and California in particular little is done to limit the fragmentation of technology. Issues regarding cost, safety, benefits and risks have accompanied the growth of technology. Federal legislation has been primarily aimed at addressing these concerns. Acquisition of new technology and developing construction programs used to be regulated under the certificate-of-need (CON) legislation, but have more recently been left to the discipline of the marketplace (Iglehart, 1982). Various reasons have been cited for the federal government's relinquished support of health planning:

- The assumption that providing quality healthcare did not require extensive use of technology conflicted with societal expectations that all available technology should be used (Rakich et al., 1992, 188);
- The CON-emphasis on high-cost technologies was considered misdirected because high-volume utilization of low-cost technologies could also have significant effect on healthcare costs (Rakich et al., 1992, 188);
- The CON regulations fell victim to the shift away from regulatory controls over healthcare providers in favor of a competitive market approach to cost containment (Haglund and Dowling, 1993). In fact, the CON regulations were blamed for unfair interference with the ability of hospitals to compete based on which services they could offer;
- As technology became increasingly portable, freestanding facilities could acquire the same technology that hospitals had been prohibited from acquiring. Because these freestanding facilities were not subject to CON review (Rakich et al., 1992, 188), the state approval process was regarded as unfair towards hospitals.

While CON legislation developments took place some time ago, still both federal and state governments show low interference when it comes to innovation, diffusion and utilization of technology. The corporate website of the Center for Connected Health Policy California (CCHP) raises an important issue: “The bill (AB415) critically creates parity among clinical services, regardless of whether they are delivered in person or via telehealth. AB415 does not mandate the use of any telehealth services by health plans or health providers, be they public or private. Covered services are still subject to contract negotiations between health plans or health providers, and by policy in public insurance programs. AB415 does remove barriers, real or perceived, that have prevented telehealth technologies from being implemented.”. The configuration of AB415 clearly indicates that the government recognizes the importance of stimulating further expansion of telehealth, yet retains the free-market perspective by allowing but not mandating the use of telehealth services.

While the California state government maintains this free-market perspective, other nations such as Sweden, the Netherlands and Canada created centralized technology assessment agencies (Neumann and Sandberg, 1998). These agencies conduct Health Technology Assessments (HTAs) aiming to identify the potential value of certain technologies. Moreover, these agencies play an important role in advising national governments on desired legislation surrounding those technologies.

In California, HTAs are conducted predominantly in the private sector. Efforts in HTA remain fragmented and poorly funded, with little or no coordination between public or private sector groups to deliberately address the assessment and diffusion of technologies. Also, information garnered from HTA studies is not efficiently shared among medical organizations, healthcare systems, and policy makers. The response has been a demand for broad regional and national HTA programs that would study the effects of healthcare technology more systematically and involve providers, policymakers, patient advocacy groups and government representatives (Bozic et al., 2004). In addition, future efforts in HTA will require greater transparency of methods employed and standardization that would allow comparison of efficacy and cost-effectiveness results across studies.

According to respondents, a lack of governmental inference does not necessarily mean a dysfunctional system for the innovation, diffusion and utilization of technology. However, in case of low governmental interference, system participants should have clearly aligned incentives, which unfortunately is not the case for the United States.

American consumers often want all available medical resources to be utilized regardless of how little health benefit is received in relation to costs. Especially individuals with broader coverage plans specifically look for quality care and show less interest in cost containment. They incur no out-of-pocket costs as their health plan covers their cost. In addition, providers know that the services demanded by their patients are covered by insurance. This makes them show little hesitation towards the patient to provide the services. Simultaneously, providers often find themselves in a precarious situation when they are required by payers to withhold treatment because of its cost-inefficiency. Simultaneously, payers generally are blamed as uncaring profit-mongers when they intervene in the delivery of medical care based on costs. Even US and California policymakers are generally not at ease with bringing cost-effectiveness into the equation of healthcare delivery. Consequently, cost-effectiveness has not taken central stage in the US and California, and its application is not openly discussed in healthcare decision-making (Neumann and Sullivan, 2006). The result of the inability of either the government

nor the parties naturally participating in the system to appropriately find the balance between clinical efficacy and economic worth leads to lower levels of innovation, diffusion and utilization of technology having the potential to realize cost-efficiencies.

Another factor decreasing the potential of technology when it comes to realizing cost-efficiencies lies in the competitive nature of the providers. As discussed earlier, the healthcare delivery in the California is not characterized by true market conditions in which competition is prompted by patients who shop around for the best value: the most benefits possible for the price they are willing to pay. Providers of healthcare services do compete. Paradoxically, competition in healthcare often increases costs. Hospitals as well as outpatient centers compete to attract insured patients who are looking for quality by acquiring and advertising the newest available technologies. Some physicians have opened highly specialized hospitals. In response, hospitals are adding new service lines and acquire costly machines (Kher, 2006). When hospitals develop new services and invest heavily in modernization programs, other hospitals in the area are generally forced to do the same. This results in a tremendous amount of duplication of services, equipment and technology. In addition, strong rivalry among providers does not positively contribute to willingness to collaborate in finding technology standards in IT-systems. A lack of IT-standards causes migration problems when patients switch between different providers. According to respondents, a commonly recognized cost-inefficiency follows from the fact that often a patient has to run through many tests over and over again as different providers are unable to communicate test-outcomes as a consequence of lacking IT-standards.

As mentioned in the first subsection, the innovation, diffusion and utilization of technology might address the current pressure on the workforce caused by a deficit in available physicians and nurses. Although it is generally acknowledged a reduction in pressure on workforce might lead to decreased cost-inefficiencies (refer to Chapter 4, paragraph D), adopted technology might also cause an increase of costs. According to some respondents, technology in the healthcare field demonstrates a unique characteristic. In other industries, new technology has the effect of reducing labor force and production costs. Price considerations often play an important role in the adoption of new technologies. In healthcare, however, new technology has usually increased both labor and capital costs (Costa-Font, Courbage, & McGuire, 2009). There is the cost of acquiring the new technology and equipment. Specially trained physicians and technicians are often needed to operate the equipment and to analyze the results, which often leads to an increase in labor costs. Costs associated with utilization of technology, once it becomes available, may be more important because a technology's clinical performance is often evaluated on the basis of its effectiveness and ease of operation, rather than cost reduction (Gelijns and Rosenberg, 1994).

A final factor decreasing the potential of technology in solving inefficiencies lies in the lack of focus on the continuum of care and the patient involved. As both providers and financers focus on acute care rather than the full continuum of care, technology innovations, diffusion and utilization mostly take place around acute care. Providers invest in technologies focused on acute care; payers determine their reimbursement structure based on delivering acute care. This causes a lack of full utilization of technology potential especially in the fields of telehealth.

According to respondents, patients are highly interested in using telehealth solutions supporting them in the avoidance of illness and injury. Examples include remote monitoring solutions where sensors are put in the homes of frail elderly, continuously monitoring medical data such as heart rates and blood pressures. Respondents mention these solutions have high potential to increase the quality, access to and efficiency of care. Their potential however is insufficiently utilized as providers and payers do not recognize the importance of focus on the continuum of care. This is emphasized by the fact that the national telehealth bill declared at Medicare in 2012 amounted to \$15 million, less than 1% of the total healthcare bill of \$260 billion. According to respondents, lack of awareness is mainly caused by the absence of clear business-cases: experiments with telehealth solutions clearly showing the added value for the patient, the provider and the payer.

Low support for technical innovation, diffusion and utilization of telehealth solutions decreases the possibility of avoiding acute care spending by focusing on preventive care. As long as telehealth solutions are not able to support patients in preventing future care needs, patients will unnecessarily end up in costly acute care services.

## **E. The Dutch healthcare system as a comparison for solutions**

The Dutch healthcare system, which has been thoroughly reformed in 2006, is frequently acknowledged as one of the best in the world. This paragraph describes the fundamentals of the current healthcare system in the Netherlands. Next, it describes why it is seen as one of the best systems in at least Europe, and perhaps even in the rest of the world. Finally, the factors of the California healthcare system leading to inefficiencies in Chapter 4 and Chapter 5 are evaluated taking into account the Dutch healthcare system.

### **I. The basics of the Dutch healthcare system**

The currently operated Dutch healthcare system originated in 2006 when the so-called “Zorgverzekeringswet (ZVW, literally translated *healthcare insurance law*) was accepted. Within this healthcare system, a law called “Algemene Wet Bijzondere Ziektenkosten” (AWBZ) functions as a basic insurance package for LTC healthcare services. This law provides all Dutch citizens public insurance for healthcare costs incurred in severe cases (e.g. cancer). On top of this government-sponsored insurance, which is paid from income taxes, every Dutch citizen is by law obliged to buy a basic package of health insurance, which are offered by for-profit health insurance companies (hereafter called “insurers”). Citizens can buy this basic package on individual or collective basis, via an employer or another collective basis. Access to this basic insurance package is guaranteed to all citizens as law prohibits insurers to execute premium discrimination based on pre-existing conditions. Additionally, citizens with relatively lower incomes are eligible to receive government funding to pay for their healthcare insurance. Finally, if citizens prefer to they can buy additional insurance for healthcare, which is not covered by the mandatory basic package. They do however have to make sure to be accepted by the insurers: opposed to the situation in the basic-package, enrollees can by law be denied for an additional-package by insurers, for example based on pre-existing conditions.

The Dutch healthcare system is financed by a nominal premium of enrollees, federal financing and an income-determined employers premium (employers tax). A so-called “vereenvoudigfonds” compensates insurers for incurring higher risk portfolios, for example due to insuring patients with chronic conditions. The basic thought behind the system is increasing efficiency by encouraging market forces in the system. Insurers try to get enrollees to buy their plans as enrollees are allowed to switch providers every year. Enrollees can buy a “naturapolis” where the insurer directly pays the provider for healthcare services provided or a “restitutiepolis” where the insurer reimburses the enrollee for services the enrollee bought at the provider. As opposed to enrollees with a “naturapolis”, enrollees having a “restitutiepolis” are free to choose their own provider. Insurers negotiate prices of health services with providers for enrollees with a “naturapolis”. If the insurer by negotiation manages to acquire a better price-quality relation, and this benefit partly recharges to the enrollee, the efficiency of the Dutch system increases. This configuration is called “gereguleerde marktwerking” or “regulated market forces” because the private execution is limited by public conditions.

The success of the system is determined by three factors: ensuring sufficient competition among insurers, guaranteeing solidarity among enrollees and the key role insurers play.

Sufficient competition among insurers is dependent on market penetration in certain areas, the possibility of closing collective insurance deals and the mobility behavior (i.e., changing from one insurer to another) of enrollees. Especially in the field of market penetration, the Dutch system faces some challenges. Most of the smaller insurance companies have merged into a few large insurance companies, which show such large market shares that their market power is relatively large. Therefore, strong supervision from the “Autoriteit Consument en Markt (ACM, a public organization responsible for oversight and/or supervision of market forces) is required. Concerning solidarity, the right of good healthcare is in many countries anchored in the national constitution, as it is believed to be of public interest to keep healthcare accessible to all citizens. In a public system, income solidarity and risk solidarity are easy to maintain. However, in a private system healthcare can only be kept accessible to fragile enrollees if the government enforces law and regulations and financially compensates lower incomes. The Dutch system therefore obliges insurers to accept all citizens for basic-insurance packages, prohibits them from premium discrimination based on pre-existing conditions and administers the system of “risicoverevening” to preserve insurers from going bankrupt because of high-risk enrollee portfolios.

In the Dutch system, insurers play a key role. In public systems, resources for healthcare are determined by the government by budgeting and demand regulation. By doing this, governments get a grip on costs but often lose sight on increasing efficiency. In private systems the deployment of resources is carried out at a marketplace: insurers contract providers for a certain quality and price to comply with requirements of enrollees. Insurers have the incentive to keep prices and waiting lists down and innovate the way healthcare is provided. To ensure insurers can play a key role in the system, the government has to provide them sufficient opportunities for contracting and risk sharing with other insurers.

One final critical criterion to ensure proper functioning of the Dutch healthcare system is governmental supervision on the financial solidity of insurers to avoid bankruptcies. As a consequence of providers being financially dependent on insurers, financial trouble on the side of insurers could lead to problems in providing healthcare. The risk of insolvency is therefore limited by government regulations on solvability levels besides the earlier mentioned “vereveningssysteem”.

## ***II. The Dutch healthcare system: #1 according to EHCI 2012***

Each year, the “Health Consumer Powerhouse” (HCP) evaluates the characteristics of 34 national healthcare systems in Europe in their “Euro Health Consumer Index” (EHCI). Healthcare systems are ranked according to five main categories: patient rights and information; accessibility; outcomes; prevention/range and reach of services provided; and pharmaceuticals. Every discipline has its own sub-criteria on which the countries are graded, ultimately leading to a score ranging between 0 – 1000 points. The EHCI is limited to measuring the “consumer friendliness” of healthcare systems (i.e., it does not claim to measure which European state has the best healthcare system across the board).

The outcomes of the evaluation for the Netherlands compared to the nation ranking #1 are visualized below.

Category	Score Netherlands	Ranking	#1 country + score
Patient rights and information	170	2	Denmark, 175
Accessibility	200	5	Belgium, Luxembourg, Switzerland, 233
Outcomes	263	3	Sweden, 300
Prevention/Range	163	1	n/a
Pharmaceuticals	76	10	Denmark, 90
<b>Total Score</b>	<b>872</b>	<b>1</b>	<b>Denmark (#2), 822</b>

Table 5.1: A summary of how the Dutch healthcare system compares to the number one in Europe.

Although the Dutch healthcare system only ranks first on one category, it shows consistency in being among the top performers across the board. This leads to an overall first position after combination of the scores. Room for improvement may still lie in regard to waiting times, which some central European states excel on. Furthermore, the report notes the Netherlands is the only country that has consistently been among the top three in the total ranking of any European Index the HCP has published since 2005, when the evaluation was first published.

## ***III. Comparing California's inefficiencies to the Dutch healthcare system***

In chapter 4 and 5, multiple inefficiencies and proposed solutions are discussed. As a result of the facts mentioned above, this subsection takes the Dutch healthcare system as an example of an efficient system and compares it to the California healthcare system.

Chapter 4 starts describing the California healthcare system being fragmented as a result of the enforced market justice principle. Contrary to the California system, the Dutch healthcare system employs a social justice principle. Historically, Dutch citizens expect the government to (partly) regulate the healthcare market. As a consequence, the Dutch system is less fragmented. Clear governmental departments are responsible for specific parties operating in the healthcare system. As earlier mentioned, California organizations run into the problem of being unable to compare peers' value propositions if they want to create or implement new innovations. Opposed

to California's situation, it appears Dutch companies collaborate much more easily in driving efficiency in healthcare as the configuration of the system is more clear and transparent.

When it comes to incentives, they are more clearly aligned in the Dutch system. Basically, the insurers lead the system by competing on price policy and delivering the right quality asked for by patients. Earlier, insurers were by law obliged to contract specific providers. As this federal measure to protect the providers was eliminated, providers now have the incentive to work on their quality levels and internal efficiency to be able to negotiate good deals with the insurers. In California, fee-for-service reimbursements are set by the state and therefore neither the insurer nor the provider has the incentive to increase quality or efficiency (refer to chapter 4). Additionally, insurers in California are afraid to invest in increasing quality and efficiency because of two reasons. First, the PPACA now forbids insurers to reject applicants based on pre-existing conditions. Yet, the federal government did not establish a "vereveningsfonds" for those insurers to financially back them up in case their portfolio configuration starts showing high levels of risk. Thus, insurers look for other ways to make their policies unattractive for patients with higher-risk profiles (for example, due to chronic conditions). Secondly, public insurers such as Medicaid and Medicare have no financial resources available to invest in increased quality and efficiency as is showed by their budget-cutting policies over the past years.

Concerning the continuum of care, the Netherlands is ahead in their focus and achieves higher quality and efficiency in healthcare because of this. In California, it remains unclear who benefits when a patient requires less healthcare. At least the Californian providers have the opposite incentive when it comes to healthier patients because healthier patients means less services required, consequently leading to lower fee-for-service reimbursements. In the Netherlands, the capitation fee system is widely introduced. Providers are often receiving a fixed-fee per patient (especially in "naturapolissen") giving them the incentive to keep patients out of the hospital as much as possible. Furthermore, insurers in the Dutch healthcare system recognize the benefits of keeping people at home as this will ultimately enable the insurers to negotiate lower capitation fees with hospitals. Thus, insurers motivate and stimulate patients to focus on the continuum of care. In addition, insurers strongly motivate home care initiatives by providing the right reimbursement structures as opposed to insurers in California.

The lack of available workforce causes multiple problems in the California healthcare system. Among others, it is one of the main reasons why the primary care clinic is not functioning as the central point of access towards healthcare services for patients. In the Netherlands, using the primary care physician as first communication point is anchored as one of the main pillars of the healthcare system. Although according to some sources it might lead to longer waiting times (therefore, decreases accessibility) it has strong potential of driving cost efficiency and effectiveness of healthcare services delivered. In California, using the primary care physician outside a managed care model (refer to chapter 5) often doesn't work because patients are uninsured and afraid of high out-of-pocket costs when they visit a primary care physician. Instead of consulting a primary care physician, patients wait until complaints escalate and then visit the ER in a hospital. In the Netherlands, patients do not worry about out-of-pocket costs, as primary care physician visits are included in the basic insurance package that is bought by all citizens under the ZVW. Moreover, patients in the Netherlands need a referral by a GP in order to gain access to hospital services.

One final benefit of putting the primary care physician as central communication point for the patient lies in the fact that it makes the system more transparent and easy to access for patients in general, but especially for the elderly population. Thanks to this, it is easier for elderly to get informed about possibilities for staying at home longer making use of the right services. Ultimately, this positively contributes to the shift from institutional to home-based care.

Delivering healthcare in a managed care model shows some similarities with the Dutch way of healthcare delivery. As in the Dutch system, managed care uses a primary care physician for cost restriction and gatekeeping. Moreover, in managed care the primary care physician is often positioned as a central point of communication for the patient as is the case in the Netherlands. A difference lies in the attitude of providers towards insurers. In California, providers experience a lot of problems with insurers because the content of different health plans is highly fragmented. This causes intransparency and confusion about whether a specific

healthcare delivery is reimbursed or not. In the Netherlands, much of the possible healthcare delivery is included in the basic-package. The additional packages of insurance in addition are much more structured than in California. This makes the Dutch system less fragmented and more transparent, easing operations for providers.

When it comes to the innovation, diffusion and utilization of technological solutions the California and Dutch system show clear differences. As the Dutch system witnesses higher levels of government interference, it is easier for different parties to set-up agreements on technological standardization of software and hardware ultimately enabling to migrate and exchange technological solutions. This also reduces the fragmentation of technology, a problem the California system is clearly struggling with. Finally, in The Netherlands reimbursement structures for technological advancements bringing clear benefits to the way healthcare is delivered are to a larger extent professionalized. To the contrary, in the California system reimbursement structures for technology are not extensively implemented, as it is often unclear for major insurers which specific technological advancements are bringing cost or efficiency-benefits. This is especially true since the US federal government eliminated their CON-program (refer to chapter 5, paragraph D).



# CHAPTER 6: DISCUSSION & LIMITATIONS

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*First, this chapter reviews the initial goal of the research and elaborates on the relevance of the results in answering the research question. It provides a discussion of the strengths and weaknesses that the research comprises of, and summarizes the implications of the findings. Next, limitations to the research are evaluated as well as the possible impact of those. The chapter is concluded by recommendations for future research.*

## A. Introduction

This thesis aims to contribute to the success of the HIT foundation by taking a multi-disciplinary approach to investigate how the healthcare system inefficiencies may be alleviated through interpreting them as business opportunities and translating them to practical applications, while simultaneously posing a holistic framework for policy makers, managers and health professionals. Therefore, the company problem statement as presented in the introduction is:

*How should the Healthcare Innovation Transfer foundation support collaboration opportunities between US and Dutch organizations in the California healthcare system for elderly?*

In line with this statement, the following research question is posed:

*What are the specific elements that lead to inefficiencies in the California healthcare system for elderly and how might these be solved?*

By answering this question the scientific relevance becomes evident as proposed outcomes may form a framework that can be used to scale the research to other states, ultimately improving the healthcare system on a national level.

This research answers these questions through utilizing various methods. A framework of the healthcare system is created, with use of extensive literature research, to create a general understanding of how the system works and of which players it is constituted. Expert interviews have been conducted to go into specific issues that each participant faces within their operations, and within the system. In the focus group, health care professionals and experts discussed several topics that have been determined from the research to corroborate these findings.

## B. Discussion of results

Four main elements have been identified, excluding contributing factors, leading to the inefficiency of the healthcare system: fragmentation, unaligned incentives, lack of focus on the continuum of care, and the lack of workforce. It should be noted that all elements are highly interlinked, making cause-effect relationships difficult to distinguish.

Functional fragmentation of the system is widely recognized as a characteristic of the US healthcare system. Concerning the results, respondents agreed and strongly confirmed this observation. During the focus group it became apparent that the lack of communication in this regard is a strong contributor. Respondents mentioned that the healthcare system operates in silos. It was even said that “sitting here today listening to an initiative that you are doing, and you are doing something else- it’s the first time I hear of it and we are so close. We are doing a very poor job of understanding what is going on out there, so there are no synergies. Today is a learning

experience". A lot of people already realize it, and the focus group raised awareness to some that there is an urgent need to share the information, so that they are not constantly reinventing the wheel. The impact of this finding is highly relevant as it is one of the major characteristics of the American healthcare system, thereby confirming the literature. Most strikingly, even though literature describes the fragmentation and respondents acknowledge the need for change, bringing parties together for the betterment of the good is deemed very difficult due to the role of politics. This issue comes back with most, if not all, of the inefficiencies.

With so many different parties that all have their own modus operandi, combined with very little regulation, incentives have been unaligned. This leads to a suboptimal system in which cost-efficiency and the quality of services are not always prioritized. There is no central entity that aims to take the lead and direct the incentives, which is why it is often seen that parties focus on their own operations, striving for their own maximum benefit, while being ignorant of others. The lack of communication and cooperation, the lack of data sharing, the weak position of the government as a regulator, and the powerful influence of private parties in obstructing interference strengthen this. Again, politics play a critical role. This research was able to develop a clear vision on this issue. Respondents acknowledge the theory and show awareness of the issue. E.g. CMS is trying to provide (financial) incentives to PCPs, but cannot mandate it for political reasons. As long as nobody is able to take a strong position and provide leadership to change the nexus, it will remain a strenuous task to get incentives aligned.

A third element, the lack of focus on the continuum of care, causes major inefficiencies within the system. It is in line with the earlier mentioned fragmentation, nobody knows what the others are doing. As one of the respondents put it, providers stop caring where the money stops. Patient centricity is the key to making it work, but this seems near impossible without consistent coordination. That is where the importance of first-line care becomes evident. Primary care physicians and/or registered nurses should form the first point of contact for any patient in order to coordinate the right types of care along the continuum, but that is where the fourth element, a lacking workforce, comes in. Respondents recognize it as a huge issue. One interviewee states that payers should gain more understanding of the continuum of care and not just reimburse the licensed-skilled side, but also the non-medical side of home care. An ounce of prevention may keep a patient three times out of the hospital. During the focus group the point was raised that there is not yet a comprehensive program, or set of technologies, that links things together across the continuum, while there is a huge need for that.

Considering general demographic trends, it has proven to be very difficult to educate sufficient levels of people to take care of the growing elderly population. Worsening the situation is the fact that students graduating from medical school are often in huge debt because of the high cost- and long study-path of education. Combining this with the fact that it is much more financially attractive to become a medical specialist, very few students are interested to become a general practitioner. The system is in urgent need of viable alternatives. As mentioned in one of the interviews, technology is the only way we are going to be able to make it work- there's just no question about it. The role of technology could extend all front-line workers. What really is needed, according to a respondent in the focus group, would be the emphasis on platforms and how to create linkages between all the technologies and changes in care processes, and how to change the way the workforce is trained and works across systems. The main barriers in obtaining technological solutions are in standardization, coordination, and financing of innovations.

These results are satisfactory to the extent that all outcomes are very consistent. They are described in literature and have been indicated by the respondents; thereby the results give a solid answer to the research question. There are no discrepancies left in the sense that respondents have mentioned the major elements as identified by literature. Also no elements have been brought up that have not been described in literature. However, there is no single source of literature that combines these elements and examines the practical implications for potential solutions in California, which this thesis attempts to do. Therefore, these results form a strong foundation for the continuation of the research.

Having discussed the results that answer why the healthcare system is inefficient, the crux lies in how to solve them. Although many initiatives have tried to, successes have been very limited and non-scalable. Evaluation of

the earlier mentioned results, has led to the description of several proposed solutions, why they hold potential benefit and why it has not worked (see chapter 5). The relevance lies in the notion that to make credible recommendations, it is essential to know which attempts have already been made and understand their outcomes. The results of this investigation have been validated by the combination of literature, earlier findings and discussions with the research participants, enabling to finalize an answer to the research question. A very concrete limitation lies in the cancellation of meetings that had been set up with secretary Diana Dooley, who leads the California Health and Human Services Agency in Sacramento, and Pamela Lane, deputy secretary of the California Health and Human Services Agency for Health Information Exchange. Due to their hectic agenda they requested to reschedule the meetings to a later date, which did no longer fit within the timeframe of the research. The implication is that there is a void in the results concerning legislation and policy setting on state level. This does not distort the findings, but could have created an extra layer to the comprehensiveness of the report.

### C. Limitations to the research

The aforementioned findings have come to existence only by verification of multiple sources. By taking a multi-disciplinary approach to the issue it is believed that the research provides the reader with a comprehensive, holistic response to the company problem statement and research question. Although, the IPN-model as developed in the course of this research is still in an early-stage, it aims to transcend the conventional line of thinking, by posing an idealistic view on reformation of the healthcare system.

Through a variety of triangulation methods this research aims to present a credible result. First, by means of applying *investigator triangulation*, this research has been conducted by two researchers instead of one, with guidance from two supervisors to minimize the intrinsic bias. Next, *theory triangulation* has been applied extensively, not just by taking literature from different sources, but also by interviewing participants from different angles of the healthcare industry as to compare different perspectives. Furthermore, comparing different types of qualitative research, interviews and a focus group, as a way of applying *methodological triangulation* has been used to increase validity. A common identified disadvantage of triangulation is that the process is time-consuming. Considering the timespan of this research was only three months, critical choices have been made in carefully selecting the right respondents. This may have led to a weakness in the comprehensiveness of applying theory triangulation, as not all perspectives have been taken into account.

Other limitations may be found in the ambition to provide an exhaustive description of all factors relevant to the healthcare industry. The research boundaries have been clearly set, focusing on elderly people in California, but concerning the explorative character of this thesis it is essential to have a clear understanding of how the healthcare delivery system is configured and how all parties relate to each other. It was discovered that it is not safe to assume that healthcare professionals have understanding of the full continuum of care. During the monthly meeting of an organization that advocates long-term care in California, someone asked how Medicare-eligibility works when people turn 65. The room fell silent, and nobody was able to answer this basic question, which should be easy to comprehend for elderly people- let alone experienced health professionals who aim to improve the system. This indicates that the system is highly complex. Therefore, it cannot be ensured that this research has included each and every relevant topic.

Another limitation lies in the comparison with the Netherlands. Although the research includes some interviews with Dutch respondents, this section is not as extensive as its California counterpart. This is not necessarily a weakness as the a priori understanding of the Dutch healthcare system is much greater, and the research focus lies on California.

Regarding the qualitative research methods, all interviews have been conducted by telephone. This brings advantages by increasing geographical access, saving a lot of traveling time and costs that would be incurred in face-to-face interviews. However, a weakness lies in the reduction of social cues. No body language is available, so interpretation of answers is based on the voice and intonation alone. To account for this, answers would be

shortly summarized to check understanding before moving on to the next question. All calls are recorded, so in case of uncertainties, the tape could be played back to listen to the answer again.

In the recommendations section the self-developed IPN-model is presented. However, the model comes with a caveat: it is in an early stage and holds assumptions that may need validation. Further exploration is required in order to examine the (long-term) impact of implementation.

#### *D. Recommendations for future research*

This research forms a basis for future endeavors by presenting a general overview of the issues in the California healthcare system for elderly. As the research is explorative and qualitative in nature, a next step could be to quantify the benefits of solving (parts of) the inefficiencies. Also, this thesis aims to provide learning points from the Dutch healthcare system to California, while a future research could focus on what the Netherlands may learn from California.

The IPN-model as presented in chapter seven, may form a starting point for future research. This model may be further developed from a vision to a framework for actual realization. In order to do so, challenges and barriers should be examined and a phased-plan should be devised for starting a pilot and implementation on larger scale. If viable, cross-state research may be conducted to approach national expansion.

#### *E. Concluding paragraph*

Acknowledging the need for a clear understanding of the healthcare industry, this research aims to be a relevant compendium for California. The results have been validated by several means of triangulation, thereby presenting a reliable answer to the posed research question. Additionally, a framework is created to describe an idealistic view to respond to the company problem statement. With this in mind, the IPN-model as presented in the recommendations section is believed to hold several potential components that could bring the healthcare delivery system in optima forma. This is translated to practical implications for the HIT foundation on how they should support opportunities for collaboration.

# CHAPTER 7: RECOMMENDATIONS

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*This chapter provides recommendations to solve the inefficiencies this research found. It proposes a new way of thinking about the delivery of healthcare as a solution to solve current inefficiencies: The IPN-model. Furthermore, it describes key learning points California can use from the Dutch system when implementing the proposed solution. Finally, it explains the role of HIT in assisting in the creation of a pilot-system.*

## A. A proposed solution for solving inefficiencies: The IPN-model

This paragraph describes the Integrated-Provider-Network-model (IPN-model). After extensive analysis of all research results and thorough brainstorming this model is created by the authors of this report, as a proposed model to solve inefficiencies in the healthcare system. It assumes to be specifically interesting for providing healthcare services to elderly and long-term care patients, as those populations require the highest amounts of healthcare services. This paragraph starts by describing assumptions made to create the model. Next, it describes the model in general. Then, it describes the difference between the IPN-model and delivering care in a managed care model. Thereafter, it describes why the IPN-model is likely to solve many of the inefficiencies found. Furthermore, challenges for the IPN-model and proposed solutions to approach these challenges are described. Finally, it is concluded why this system is desired for all parties involved and how it should be implemented.

### I. Basic assumptions

To be able to create the system, a number of assumptions have to be made. First of all, it is assumed the goal of a healthcare system is to keep a determined population as healthy as possible. In addition, a healthcare system providing services that are focused on the continuum of care actually increases the health of a population. Considering a healthier population requires less healthcare services, a focus on the continuum of care is assumed desirable.

Another assumption that has been made is that the role of the government is to make sure their population is as healthy as possible. The goal of an individual in a population (from now on referred to as “patient”) is to feel healthy and to keep their out-of-pocket spending on healthcare as low as possible. In other words, the goal of a patient is to find high quality healthcare services provided for low costs. In addition, it is assumed that a patient is, to some extent, willing to invest in a healthy lifestyle. The government might stimulate patients, who are not naturally willing to invest in a healthy lifestyle.

The goal of insurance parties (from now on referred to as “payer”) and of parties providing healthcare (from now referred to as “providers”) equals profit maximization.

Another assumption is that the Affordable Care Act (ACA) has made sure all individuals have access to basic healthcare services.

A final assumption is that providing healthcare in home-settings is cheaper than providing healthcare services in institutional-based services.

### II. General description of the IPN-model

This section describes how the IPN-model is designed. For a schematic representation consult Appendix D.

The first key element of the IPN-model is that a patients’ health status and its changes over time are measured regularly. Focusing on the continuum of care, patients undergo a basic check up and are measured each 6 months on personal health status indicators, such as blood pressure, blood sugar level, etc. In addition, each time a

patient receives healthcare services this is registered and measured. Measuring patients along these criteria provides a view on the health of a specific patient but also the health of a specific population of patients.

The second key element of the IPN-model is that providers merge their service delivery in so-called “Integrated-Provider-Networks” (IPNs). These IPNs consist of parties providing a basic package of different types of healthcare services together ranging from primary care services, to institutional care, to home-based-care, specialized-care, etc. Each IPN is responsible for delivering healthcare services along the full continuum of care to a determined group of patients (a certain population). The results and quality of care delivered are measured along key performance indicators (KPIs), among which the development of personal health status measurements is essential. Broadly speaking, if the population of one IPN shows better health development compared to another IPN, this shows that the IPN delivers a relatively higher quality of care (*ceteris paribus*). Of course many other KPIs are taken into account.

Each IPN has a governing body forming the central point for administration. This body represents the complete IPN and coordinates delivered healthcare services and the distribution of financial resources. In addition, the governing body is responsible for setting a capitation fee the IPN would like to receive per patient from the insurance company in order to make sure they can provide all promised services to their population.

Each IPN has a primary care clinic consisting of PCPs and RNs to provide primary care services. PCPs will, assisted by RNs, ultimately be held responsible for improving KPIs thereby determining the success of the IPN. As such, they are responsible for educating patients on healthy lifestyles and making sure all patients receive the right care services to stay healthy. They will also function as gatekeeper to determine whether patients require access to specialists.

A third key element of the IPN-model consists of patients selecting an IPN. A patient selects an IPN based on quality of healthcare delivered. A patient evaluates quality by looking at the score of the IPN on influencing KPIs of their patient populations. The patient will be connected to the IPN for a fixed period of three years to avoid continuous migration of patients (note: the ideal amount of years is determined based on the outcomes of the pilot (see part 6). After this period, patients are allowed to change to another IPN, which is similar to the procedure in the Netherlands for patients to select a payer, which is allowed once per year.

Besides selecting an IPN, a patient selects a payer. A patient selects a payer based on the height of the premium (i.e., out of pocket costs) and coverage. Coverage is provided on three levels: (i) basic care such as PCP-visits, medicine for flu, etc.; (ii) care for extremities such as cancer or LTC services; and (iii) additional care, such as vision-, hearing- and dental care. All patients will be mandated to get insurance for at least the first two levels of care.

A fourth key element of the IPN-model consists of payers contracting IPNs. Payers contract IPNs based on quality and efficiency. A high-quality IPN is likely to attract more patients, i.e. clients paying premiums to payers. A high-efficiency IPN is expected to incur lower costs, thereby able to set lower required capitation fees, thus getting more attractive for payers. To attract clients (i.e., patients), the payer will have the motive to keep premiums low. Each IPN is able to enter contracts with several payers (refer to part 5).

### ***III. The difference between the IPN-model and the managed-care-model***

A managed care setting integrates the provider and payer part of the system. This creates patient mistrust, as the patients are scared to be undertreated as a consequence of the efficiency-motive of the MCO. The IPN-model separates the provider and payer part. The provider has no incentive to undertreat as this leads to lower quality of care, hence more negative scores on KPI's and even lower efficiency because of higher readmission rates, hence negative publicity and ultimately less patients for the IPN. In addition, the payer functions as a party putting pressure on the capitation fee asked by the IPN. One single patient has no influence to pressurize capitation fees, but payers representing many patients do.

#### **IV. Problems solved by the IPN-model**

The IPN-model solves multiple current problems in the healthcare system leading to inefficiency.

Incentives are better aligned, creating a motive for the industry as a whole to invest in driving up efficiencies. Patients are looking for efficiency because they want to be healthier and efficiency will ultimately lead to lower premiums hence lower out-of-pocket costs; providers want efficiency because this decreases their costs and thus increases their margin between capitation fee received and spending on providing healthcare services; payers want efficiency as this might ultimately decrease the capitation fee required by providers increasing their spread margin between premium received and capitation fee paid.

The current lack of focus on the continuum of care will erode, as providers will focus on the continuum of care to keep their patients healthier to keep them out of the hospital, ultimately to have fewer costs from patients leading to an increased spread margin between capitation fee received and healthcare spending made.

As the system becomes more efficient over time, the pressure on the workforce will decrease, as less personnel is required in the future. Moreover, one of the main reasons for a lack of available PCPs and RNs was the undervaluation of the profession by many graduates looking for specialization. The IPN-model might solve this as it acknowledges the importance of the PCP and RN, thereby making it a prestigious profession again.

Although the urgent requirement of a shift from institutional-care to home-based care is widely recognized, payers did not yet stimulate it through reimbursement, as they couldn't see the value proposition. Within the IPN-model, the IPN is responsible for stimulating this shift, as keeping people at home will decrease their cost (refer to assumption section). Moreover, it is likely that IPNs will highly invest in communities, as this should also increase the efficient utilizing of resources.

Finally, the IPN-model is likely to increase the speed of innovation, diffusion and utilization of new technological solutions. They will actively look for new technologies and try to determine their value proposition in order to drive up efficiency. They will implement solutions where they actually work. Especially when it comes to providing telehealth-services, IPNs will invest as a proper telehealth network keeps their patients out of the hospital and lowers institutional costs. The fact that patients have the possibility to change between IPNs every three years urges the IPNs to collaborate in finding standards on both the content and technical aspects of EHRs and telehealth to avoid incurring high costs from migrating data each year. Additionally, the government is recommended to financially stimulate both this process as the use of telehealth and EHR in general in order to increase the speed in which it takes place.

#### **V. Challenges in the IPN-model**

The establishment and operation of the IPN-model acknowledges several challenges.

In establishing the IPN-model, KPIs have to be determined to measure the quality. Part of this involves developing the criteria to determine the health status of patients. In practice, this will be a huge operation since a wide range of variables determines the actual health status. Another challenge might follow from the fact that all IPNs must be able to provide a basic package of health services in order to avoid patients having to switch to other IPNs continuously. This is especially a challenge in less densely populated areas. Besides delivering a basic package of insurance, challenges might be faced when it comes to delivering services to populations showing specific characteristics in the form of language or culture. This might in practice be solved by market-forces, as for example Hispanics might choose to select IPNs taking into account their specific lingual and cultural demands.

Another problem that might occur when establishing the IPN-model is the initial strong industry pressure on providers. In the early years, developments in KPIs might not be directly visible or showing low effects. Consequently, IPNs might find difficulties in increasing the spread margin between capitation fee received and healthcare expenditures made. If the involved parties want to make the system work, it must be realized it will show its effects on the long term. The government might play a role in protecting IPNs in the early stages of implementing the model by providing financing for investments.

One final issue that should be considered when establishing the IPN-model is the role of public payers. In this model, it would be unfair to let public payers compete with private payers as public payers might be focused on

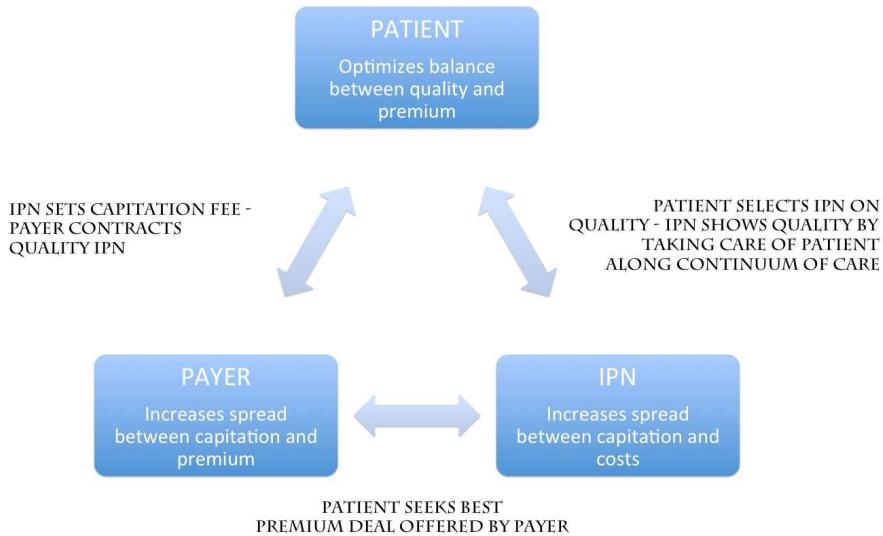
limiting spending rather than specifically profit-maximization. Therefore, the role of public financing for healthcare should be changed. Patients currently eligible to Medicaid or Medicare should be made eligible to receive discounts on their premiums, which are paid to the payer by the government. For example, if a patient would normally pay a \$200 premium, due to its low-income it only has to pay \$80 and the government will pay for the remaining \$120. Simultaneously, choices of low-income patients should to some extent be limited as this reimbursement system otherwise would encourage unfair competition (lower-income levels have fixed premiums so will always choose the highest quality, most expensive providers).

After the establishment, when the IPN-model is operational, other challenges might occur. IPNs are likely to try to specialize in certain healthcare services and find niche-markets in order to increase their attractiveness to specific patients. The requirement for every IPN to be able to provide basic services solves this to some extent and avoids patient having to move from IPN to IPN as they are all very specialized in a limited number of services. Furthermore, IPNs might run into problems when a large number of patients showing high-risk profiles sign-up to their IPN. These patients are likely to require more health services while the IPN is still receiving a fixed fee per patient from the insurer. As the IPN is still required to accept all patients (except when it is fully utilized) it might then have a high-risk patient portfolio. In the Netherlands, the insurance companies (payers) take this risk. Payers in the Netherlands can apply for a “vereveningsfonds” which might be translated as “risk-adjustment-fund”, a fund that is jointly financed by all payers and provides additional financing to payers having high-risk portfolios in order to guarantee their sustainability. To guarantee IPNs not having to worry about having high-risk patients in their portfolio, a similar risk-adjustment-fund should be created by IPNs in the IPN-model.

Finally, a practical problem might occur when it comes to emergency care. If a patient requires emergency (ambulatory) care and has to be taken to the nearest ER but does not belong to that specific IPN, an exemption has to be made and the patient still has to be taken to the nearest ER to guarantee the best healthcare services. Providers are likely to sign an agreement on this, as good care of their patient ultimately leads to higher efficiency (i.e., increased spread between costs made and capitation fee received).

## **VI. *In conclusion: why it works and how to start implementing***

The IPN-model works because it aligns incentives of all parties involved in healthcare. This is summarized in figure 7.1. It enables patients to compare IPNs on quality and determine what they want to pay for which kind of quality. It makes sure IPNs focus on the continuum of care and invest in a healthy population to create efficiency. Providers at this time are mostly paid fee-for-service and thus have no motives to invest in eroding inefficiencies. Although the IPN-model might put more pressure on providers, latter also have to realize that if no measurements are taken, ultimately the healthcare system will become too expensive and collapse. Still, in this system IPNs have a lot of possibilities for profit maximization as they ultimately determine the capitation fee they require from payers. Payers, finally, benefit from the system, as they are likely to decrease their spending on healthcare services and bare less risk from patients with pre-existing conditions. Still, they have a lot of freedom to find profit maximization by determining the right balance between capitation fees they have to pay and premiums they can ask from their clients. Finally, the government benefits from the system as it decreases the pressure on public healthcare budgets while simultaneously increasing the healthiness of its population.



**Figure 7.1:** A representation of the newly aligned incentives in the IPN-model.

This seemingly radical reforming of healthcare delivery cannot be implemented overnight. In order to evaluate the actual establishment and operation of the IPN-model it is recommended to start a pilot-project: a very small-scale project with a determined population with defined healthcare needs. Such a pilot-project is likely to exist in a less-crowded county, where it might be possible to set-up 3 IPNS, involving a multitude of payers and including for example 50,000 patients.

The next paragraphs of this chapter will focus on (i) what California can learn from the Dutch system in setting up this new model of healthcare and (ii) how the HIT Foundation might provide support in realizing a pilot-project as mentioned above.

### B. 10 California key learning points from the Dutch healthcare system

In realizing a pilot-project of the IPN-model described above, California can possibly learn a lot from the way the Dutch set up their healthcare system. To increase readability, 10 key characteristics of the Dutch healthcare system and the way California might learn from them are summarized in a table below.

No.	Key-characteristics Dutch system	Key learning points California system
1	Social justice rather than market justice oriented system	If California wants to strive for efficiency in healthcare in the future, it should acknowledge quality healthcare as a basic right. The mindsets of consumers have to be adjusted to understand a market-justice system is likely to cause unaligned incentives and fragmentation.
2	Guaranteed access to healthcare for all citizens	The Dutch are able to guarantee access to healthcare services to all their citizens. Although ACA strives for the same, it shows certain characteristics, which might negatively contribute to the actual realization of nationwide access to affordable care.
3	Three levels of healthcare: AWBZ, ZVW and additional care insurance	In realizing the IPN-model pilot, California might consider the levels of healthcare distinguished in the Netherlands as an example of how to determine which specific services should be included in which package.
4	Using a primary care physician as 1 <sup>st</sup> access point to healthcare services	As the Netherlands already uses PCPs as first access point, California might evaluate how they implemented it and what challenges they run into when operating this configuration. In addition, California might learn how the Netherlands deals with the problem of patients fearing gatekeeping.

5	The Dutch healthcare system is the #1 in prevention according to EHCI 2012	As prevention and the continuum of care plays a critical role in the IPN-model, California might consider researching how the Netherlands achieved this score on preventing patients requiring healthcare services.
6	The Netherlands uses a risk-adjustment-fund to prevent insurers going bankrupt because of high-risk client portfolios	As payers at this moment are no longer allowed to deny patients on pre-existing conditions, some efforts have been made to create a risk-adjustment-fund to provide payers from going bankrupt. At this moment however, this is still in its start-up phase and many states are unsure about the actual configuration. It might be interesting to use Dutch knowledge on how to implement this initiative.
7	Government premium funding for low-income individuals	As Medicaid and Medicare shift from directly reimbursing individuals to restituting gaps in healthcare expenses to IPNs, they might be interested in learning from Dutch peers how to determine eligibility for premium-restitution and to what extent this in practice should be provided
8	Technology in homecare (Telehealth) is highly stimulated and therefore extensively developed	California parties striving to implement technology in homecare should take the Dutch way of implementing telehealth as an example. Especially determining the value proposition of specific solutions might be done under the guidance of Dutch parties, which previously brought telehealth solutions to the market.
9	The way healthcare reform was organized: strong leadership	It was often argued due to strong leadership from politicians healthcare reform in the Netherlands was ultimately made possible. Especially in decreasing fragmentation and bringing parties together to set common goals, California might learn from their Dutch counterparts on how to start and implement healthcare reform.
10	The way healthcare reform was organized: public campaigns	Besides strong leadership, the Netherlands organized a huge public campaign around healthcare reform to educate its citizens and to find support from them. Multiple sources showed that campaigns did not show effect when ACA was or even at this moment is implemented: many Californians are barely informed about the consequences of ACA for their situation. In communicating about healthcare reform, California might invite Dutch counterparts to learn from their practices.

Table 7.1: Ten key learning points from the Dutch healthcare system for California.

### C. How HIT can support in transferring healthcare innovation

Referring to the learning points, there are many opportunities for HIT to fulfill their promise: exchanging knowledge between the US and Dutch healthcare systems.

First of all, HIT should take a leading role in educating government and policymakers from large party-representing associations on the benefits and urgency of the IPN-model. Ideally, they use their broad network in California healthcare to find the right parties to actually start a pilot. As the IPN-method might be patented, a successful pilot might put the HIT-foundation on the statewide radar. The unique selling point of HIT in setting-up the pilot is that they do not only have the American network for which they have a proven to be able to create business opportunities. In addition, HIT possesses a network with the right people from the Netherlands who might bring strong contributions to actually realizing the IPN-model pilot. Utilizing the knowledge of the Dutch policymakers might be key in the success of the IPN-model pilot.

In its initiatives, HIT should connect the Inspectie voor de Gezondheidszorg (IGZ, translated “inspection on healthcare”) to Californian politicians and policy makers to educate them on the benefits of guaranteeing universal benefits. In addition, Dutch knowledge should be shared on how to create policies supporting this universal access.

Furthermore, HIT should bring private Californian health insurers represented by the Californian Association of Health Plans (CAHP) in contact with Zorgverzekeraars Nederland (ZN, translated “Healthcare insurers the Netherlands), an industry representative of insurance companies in the Netherlands. ZN should educate the private health insurers about how to set-up capitation fees and how to make a separation between level 1, level 2 and level 3 care (refer to paragraph A of this chapter). Specifically, private insurers showing interest in participating in the IPN-model pilot should be provided extensive education, possibly in the form of workshops, on how to build up capitation fees and how to determine which services to deliver in certain packages.

Besides educating payers, HIT should also educate Californian PCPs on how to properly apply the focus on the continuum of care. Collaborations could be created between the California Primary Care Association (CPCA) and the Landelijke Huisartsen Vereniging (LHV, translated as “National PCP Association”). Special attention should be paid to how to educate patients to focus on their own health. Also, it is of great importance Dutch and Californian PCPs exchange knowledge on how to act as gatekeeper to the system and still earn trust from patients.

As mentioned in paragraph E of chapter 5, EHCI-2012 recognizes the Netherlands as having the #1 healthcare system when it comes to prevention. In compliance with what is mentioned in the period above, Health Consumer Powerhouse, the authors of EHCI-2012, should be further questioned on the origins of this finding in order to better understand it. The findings should be included in the education for Californian providers in general as it is likely to have a significant positive influence on the way the IPN focuses on the continuum of care, and ultimately on the results of the IPN-model pilot.

It is mentioned in paragraph A, part 5, a risk-adjustment-fund is of critical importance to guarantee the long-term sustainability of an IPN. In the Netherlands, such a risk-adjustment-fund applies to insurers and is governed by het College voor Zorgverzekeringen (CVZ, translated as Supervisory Board for Healthinsurers). In order to design a proper functioning risk-adjustment-fund for IPNs, a similar independent supervisory board should be created in California and educated on how to design such a fund. This supervisory board preferably is governmental.

In the Netherlands, the amount of premium-sponsoring for low-income of long-term/chronic patients is determined by het Ministerie voor Volksgezondheid, Welzijn en Sport (VWS). This governmental organization should by HIT be connected to the policymakers within the Center for Medicaid and Medicare Services (CMS) to support them in finding the right rates for premium-sponsoring within the IPN-model pilot project.

To help IPNs to find technical innovations which actually show a clear value proposition, HIT should connect Telehealth advocates such as the Center for Connected Health Policy (CCHP) and the Center for Technology and Aging (CTA) with organizations who successful implemented innovations in the Netherlands such as Sensire which successfully marketed video-consultation via iPads among elderly in their operating markets. In educating the Californian companies on how to determine the value of an innovation, it is highly likely such organizations already capable of implementing technology also find new technologies that they might want to import to the Netherlands. This means the exchange of knowledge works both ways: Californian shows the Dutch their great innovations and the Dutch teach Californian how to successfully implement and capitalize them.

One final recommendation is to educate policymakers in California, but possibly also in the US in general, on tools used to realize healthcare reform in the Netherlands. In 2006, Hans Hoogervorst (minister of the Ministry of Healthcare in the Netherlands at that time) was able to convince all involved parties to collaborate in reforming healthcare. In addition, the extensive public campaign on healthcare reform, which was set-up by the government, is often mentioned as one of the critical success factors which enabled them to actually realize healthcare reform. As the healthcare reform partly eliminated market-fragmentation and aligned incentives – critical problems within the California healthcare system- a gathering might be organized where both Dutch and Californian policymakers are invited to share knowledge and experience on how to achieve major healthcare reforms.



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## APPENDICES

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## APPENDIX A: STANDARDIZED INTERVIEW TOPICS

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### *Topic 1: General information*

1. Please describe your organization, its mission and vision, your role within the organization and day-to-day activities.
2. Please describe the business model of your organization: what is your value proposition?

### *Topic 2: The unit of analysis in the California system*

3. What is the role of your organization in the California healthcare system?
4. Which main parties in the California healthcare system do you deal with? Which of these parties show strong influence your operations?
5. What are the difficulties that you encounter in dealing with other parties? To which problems do they lead (e.g., rising costs)? How can they be overcome?

### *Topic 3: Organization specific questions*

6. Questions depend on organization / available information on organization

### *Topic 4: Innovation and Technology*

7. How should the system change to overcome problems that you face? What are practical solutions?
8. What is the importance of innovation for your organization? And for the system in general? Who benefits the most from innovations in the system?

### *Topic 5: Home care vs. Facility care*

9. There is a general trend in the California to keep people at home longer. Do you recognize this trend?
10. Is the system able to support this trend? Which changes should occur?
11. How is the financing required to keeping people at home longer arranged?

### *Topic 6: Comparing the Dutch and California healthcare systems: What-if scenarios*

12. What would the implementation of an increased role for primary care physicians mean for the exploitation of your business model?
13. Please elaborate on the effects of fee-for-service financing structures versus capitation-fee structures for your organization. Which is preferred and why?

### *Topic 7: Patient perspective*

14. From the patient perspective, what are the difficulties they encounter? How should those be solved?

### *Topic 8: Finalizing formalities*

15. Sharing of contact details, 2-3 recommendations to other interesting respondents.



## APPENDIX B: STANDARDIZED EMAIL COMMUNICATION

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### PRE-INTERVIEW

Dear **Include Name**,

Thank you for showing interest in our master's thesis research project by participating in an interview. We have scheduled an interview on the following time and date:

**DATE: MM-DD-YYY**

**TIME: 00:00 AM/PM** - [Timezone UTC/GMT -07:00 hours]

The main topic of the interview will be inefficiencies in the Californian Healthcare system for elderly. In the attachment of this e-mail, you will find a one-page document describing the aim of our research. Moreover, research topics are described in order to give you some more insights in the questions that will be asked.

We kindly remind you that your participation for our research is anonymous. Moreover, readers will not be able to link any insights from the report to individuals or organizations.

We highly value your participation. Should anything remain unclear, please do not hesitate to contact us.

Kind regards,

Bart Dix & Dyon Matulessy

Nyenrode Business Universiteit – The Netherlands

(415) 291 2046

[thesisteamsf@gmail.com](mailto:thesisteamsf@gmail.com)

Twitter: @ThesisTeamSF

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### POST-INTERVIEW

Dear **Include Name**,

Thank you for participating in the interview for our master's thesis research project on the Californian Healthcare system for elderly.

We kindly remind you that your participation for our research is anonymous. Moreover, readers will not be able to link any insights from the report to individuals or organizations.

We highly appreciate your cooperation in our research. If you would like to stay informed about our progress, we invite you to follow @ThesisTeamSF on Twitter. Moreover, we have added you to the list of people we will send our final report to. We expect to deliver this in January 2014.

Should anything remain unclear, please do not hesitate to contact us.

Kind regards,

Bart Dix & Dyon Matulessy

Nyenrode Business Universiteit – The Netherlands

(415) 291 2046

[thesisteamsf@gmail.com](mailto:thesisteamsf@gmail.com)

Twitter: @ThesisTeamSF



## APPENDIX C: A COMPREHENSIVE LIST OF CITATIONS

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This attachment provides a comprehensive categorized list of all quotes.

### First-line care and PCP

PCPs don't recognize the value of investing in telehealth. Changing the behavior and attitude is an underestimated area.
The lack of available PCPs is partly due to low salaries
PCPs focus on team-based care, to drive up efficiency. This also makes it smoother for the patient
PCPs don't recognize our shift towards patient-centered-care and/or team-based-care
PCPs drop their participation in Medicare as the reimbursement is too low
Partners with chronic diseases need self management support. PCPs are not trained. A team was created to solve this.
PCPs as gatekeeper might cause access problems.
PCP is access point to specialist care. Patients do not know how to access specialist care. Specialists want to see referrals, too.
Putting the GP as gatekeeper is hard due to political reasons. According to patients, Medicare shouldn't determine who the patients gets to see.
The PCMH improves access by making available service hours more flexible

### Fragmentation

There is no interoperability of tech between states due to the competitive nature of the industry. There is no incentive to change.
We are doing a very bad job in understanding what is going on out there, so there are no synergies
The government should focus on making the system more regulated.
On dec 4, curly starts using EHR. They are internally already fragmented. They do not work outside their network. This brings inefficiency.
Laws and regulations and the delivery of healthcare is almost entirely governed by states individually. Addressing each state's needs separately is a nightmare.
Everything works: it is just not integrated
Parties focus on the "pie being at stake" instead of on what collaboration can bring
Many parties in the system are not connected to each other and have no idea what they are doing.
The government is unable to regulate due to many special interests that work against a common approach. Health-policy is limited by states and discipline.
We do not yet have a comprehensive program that links together across the continuum. There is a need for that
The environment is fragmented. Everything is heavily politicized. Everybody agrees on urgency but change is impossible due to politics.
The system is highly fragmented and dysfunctional. This is due to the public/private aspect, lack of consistency between states and inequities involved.
EHR standards are not determined by the government. This is not the role of the government.
The federal government has limited authorization over states, where actual implementing of technology happens.
Competition amongst providers is getting fiercer. Providers not belonging to an ACO cannot compete on salaries.
There is no hub, no central entity connecting all the silo organizations.
There is a lack of integrated talk groups talking about all issues with all parties: techies should be connected to meds, financers, governments, etc.
Fragmentation slows changes and adoption.

### Homecare

Homecare is recognized as important by Medicaid's "Community First Choice Option" and "Money Follows the Person" program
People do not take care of the elderly: it is not in their culture
Our clients are not very mobile. We can solve this with in-home visits and/or tech. We prefer tech
People are willing to stay at home
DRG are standard practice for establishing reimbursements for other Medicare related reimbursements such as to home healthcare providers
People can't access LTC insurance coverage: they lack cash or eligibility
People go into facilities because they don't believe home care works, there is a lack of proof.
Medicare does not pay for LTC support. Thus people seek non-medical companies. This drives up the price, people can't pay and go to institutions

The involvement of community helps to keep people at home and will be critical in the success of future healthcare

People are not independent so they have no tech so they are not independent so they go into facilities

The relation between home and facility care: compete or collaborate?

The shift from facility to home-care is a widely acknowledged trend

Keeping people at home is already the focus for a long time. People reportedly want this.

Home-health providers are not involved in system and must proactively find information themselves.

We are still very much institutional based in our thinking. There are no systems established to do really good homecare.

## Incentivization

Democracy is the biggest problem. Leadership keeps changing. The best medical system would be dictatorial.

We're (trying to) provide financial incentives to PCPs to coordinate care but do not mandate it because of political reasons

Private payers command a lot of political weight and influence over politicians

The state is bankrupt. Healthcare spending is huge. Politicians decide on reimbursements and cut on budgets instead of focusing on innovation

Hospitals have an incentive to keep the costs for a particular case low (prospective payment system)

Hospitals are not interested in home care. They want people in the hospital because then they can make money.

Health care reform focuses on moving the country from a fee-driven to a value-driven model

Only the government can standardize EHR

In NL, people pay for insurance but not for healthcare. In the US, people pay for healthcare but not for insurance.

There is no interoperability of tech between states primarily due to the competitive nature of the industry. There is no incentive for change.

Value-based medicine focuses on bringing the highest quality medicine in the most efficient manner.

Private payers command a lot of political weight and influence over politicians

The payer is looking for efficiency, the provider wants quality and efficiency

Hospitals and home health organizations are paid fee for service. They are private and maximize profit and reimbursement. This brings concerns on fraud and abuse.

People communicate so different because everybody is paid separately. When the money stops, people don't care about the patient anymore.

The total bill for telehealth at Medicare last year amounted 15 million. A very small part of the full budget

It is a community-based issue, driven by financial/payment structure

As long as we are in a fee-for-service environment and providers are busy, there is no motivation for change

Some private payers are promoting telehealth by providing incentives for payments.

Patients do not care about EHR privacy concerns, they just want to get better. Corporations do, as data is power. They don't wanna share

## The continuum of care

The PACE program is better than the PCNH as it integrates needs over the full continuum of care. PACE breaks the crux between medical and supportive services.

If we find providers being responsible for a specific group of patients during their whole lifetime, it would bring incentives to improve communication.

The current system emphasizes acute care, not chronic health conditions

It is desired to change the volume-driven fee-for-service acute-care-oriented medical system into a system balancing between spending across medical and supp. services

Health plans do not recognize the continuum of care. They focus on licensed-skilled rather than non-medical.

If we can talk about the "quality of life" instead of the medical aspects of things, we can add the value proposition of solutions.

## Managed care

In a managed care plan, the PCP decides if you go to the specialist

They drive people in managed care plans but the set-up is not yet completed. This brings delay

System participants compete. Healthcare reform brings uncertainty: education is bad

People lack experience on how to collaborate. The worlds of healthcare and business have historically been separate

We should develop a care management solution to provide a low cost solution

Parties focus on "the pie being at stake" rather than on the impact they can have when collaborating. We need a change in mindset.

People don't have LTC insurance because they think they don't need it or family will help them in the future, or believe Medicare will pay for them

Medicare does not pay for LTC support. Thus people seek for non-medical companies. This drives up price, people can't pay and go in institutions

## Patient-centered care

Patients are educated via RN, via chronic disease self mgmt class, transitional case mgr and are learned how to advocate for themselves
If we can talk about "quality of life" instead of the medical aspect of things, we can add the value proposition
We should redefine the role of care delivery: assisting patients in care needs among the continuum of care
PCPs don't recognize our shift towards patient-centered care/team based care
If we find the provider being responsible for a specific group of patients during their whole lifetime, it would bring incentives to improve communication
Curry uses team-based care to enlarge the capacity
We need to create communities where there is an integrated approach to incorporating elders in the community
DAAS integrated intake unit is the link for patients to get access to LTSS. This improves access
Patients with chronic diseases need self mgmt support. Physicians are not trained for this nor have time, so a team was created.
A PCMH improves access by making available service hours more flexible. Arrangements are needed though as this increases the pressure on workforce
We need to give the patient more power and we need more community care to reduce costs and clear resources
EHR is a critical tech when it comes to making the PCMH work - assistants need it to prepare meetings
E-consult: an EHR system to which patients do not yet have acces; they did not think about that
That a patient owns their own data is regulated under federal law
It is fundamental to involve the patient in research and development of new initiatives
The patient will become more sophisticated in searching for and finding solutions

## Payment/Reimbursement

The single biggest issue for hospitals bringing inefficiency is that finance comes from private AND public sites
When a client does not have any form of insurance, we still take him adn pay his services from operating budgets
Competition amongst providers is getting fiercer. Providers not belonging to an ACO cannot compete on salaries
Medicare fails to cover the actual cost of care by 3.8 billion annually. Hospitals push these costs to private payers.
There is a lot of politics associated with payment rates plus CMS works in a bureaucracy: regulations have to be cleared by multiple different organizations
It all comes down to: who will pay for it?
Licensed home care agencies experience unfair competition and are pushed out of the market as they are not medicare certified.
CMS sets fee for services rates for in and out patient hospital services. They also establish policies for LTC hospitals
If you pay more, you can walk around the PCP
The front of the power is at the government, because it sets the payment rates and the structure of approval of regulations for how the market is governed
Tech innovation and integration is not reimbursed on statelevel: there is no money.
The question is, who will pay for preventive care?
In Holland, insurers create policies aiming stimulate innovation and quality
Home innovations are financed through policy measures and general financing of care
It is desired to change the volume-driven fee-for-service acute-care-oriented-medical system into a system that balances between spending across medical and supportive systems
All parties recognize tech as driving down costs. Yet, there is no government reimbursement
The access to healthcare is there, but coverage is low.

## Privacy

Privacy might be an issue. There is a level of concern personal data might be misused.
Patients have no problems with privacy. It is about meeting the patient expectation in a coordinated care system
Patients do not care about EHR privacy concerns they just want to get better. Corporations do, as data is power. They don't wanna share.

## Technology

Everybody wants to control data. Data is power.
Legislation providing a tech "blueprint" on federal level would be very useful
Some private payers are promoting telehealth by providing incentives for payments
VA is the most advanced user in telehealth of the whole country
If we want patients to use tech, we must clearly show the value for them.
There is no interoperability of tech between states due to the competitive nature of the industry. There is no incentive to change
Tech in home brings cost reductions, and seniors need to stay home. Although this is not proven
Many seniors are not tech ready, their willing but do not have the money
On Dec 4, curvy starts using EHR, we are internally already fragmented. We don't work outside the network
We alle need the same system. Its like Microsoft - everybody uses Word
Parties focus on the "pie being at stake" rather than on the impact they can have when collaborating
Providers do not have licenses to operate on interstate level. Thus, exchanging data amongst states is really not gonna happen
Telehealth can have a significant impact on reducing cost, improving quality and improving the patient experience
PCPs dont recognize the value of investing in telehealth. Changing the behavior and attitude of the provider is an underestimated area
The whole system shows lack of appreciation and understanding of telehealth
The term telemedicine implies its only about medicine and thus is too restricted. Thats why we changed it to telehealth
Our clients are not very mobile. We can solve this with in home visits and/or tech.
EMR is critical. Consumers are interested. It will become more consumer driven.
Issues around adopting tech: reimbursement, PCP doesnt recognize value, caregiver has no access to tech, no heterogenous population
SFCCC participates in an integrated tech system called E-consult. This includes SF general hospital.
Patients have no acces to their EHR, we have not been thinking about that yet.
We know tech saves costs, we might know how to quantify. But who will get the cost savings? ACOs work because benefits are integrated.
Everything works, it is just not integrated
We need emphasis on platforms and how you create links between all techs and changes in care processes.
Profit driven entrepreneurs develop their own system. It is difficult to integrate those.
Seniors don't trust tech because of the ACA failure
If we see tech improving the patient experience and relaizing cost savings... we will pay
Government sees telehealth as distinct service that requires a seperate billing code. Codes are denied and require reviews - this annoys providers
The biggest challenge in operating with other parties is the lack of the tech system
EHRs and Telehealth go hand in hand
We build the electronic rolodex: different providers put data of clients in it so they can integrate knowlegde
Linking data systems is not a simple thing to accomplish as there are major health systems which have their own EHRs and do not communicate.
Only the government can standardize EHR
The user interface is insufficiently developed causing a hard time for patients using the system
The total bill for telehealth last year for Medicare amounted to 15 million: a very small part of the full budget
Private parties will need to show that it works, governments are too slow
The workforce is not large enough, so tech is the only way we are going to make it work
Linking data from multiple sources to help in care mgmt is a problem. It should not be on individual/patient/organization level, but nation or statewide
It is easier to implement tech in a regulated healthcare system, look at VA for an example.
EHR standards are not determined by the government. This is not neccesarily the task of the government.
EHR is a critical tech when it comes to making the PCMH work - medical assistants will need it to prepare meetings
The best EHR allow the PCP/practice to tailer to some degree the software to suit an individual fit
Patients might be better able to understand tech than a registered nurse

## APPENDIX D: The IPN-Model

