Reimbursement of Acupuncture Treatment in Statutory Health Insurance Scheme : A Cross-Country Comparison of Germany and South Korea

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Abstract

Since 2007, the acupuncture treatment has been included in the reimbursable healthcare service catalog of the German statutory health insurance system. Even though it has been actively performed in the German ambulatory healthcare sector, there is a paucity of research conducted to investigate the process and the impact of this policy.

This study analyzed the reimbursement policy of the acupuncture treatment in the German statutory health insurance scheme and compared it with the policy in Korea, where the traditional medicine is well-established in the national health insurance system. Specifically, it investigated the qualification of the acupuncture providers and the reimbursement standards of both countries to identify the opportunities for an improvement. Government publications, legal regulations and previously published articles were reviewed, and semi-structured in-depth expert interviews were conducted.

The study found that the qualification for the acupuncture reimbursement in Germany is a 360-hour-training course for physicians whereas the qualification in Korea is a six-year traditional medical degree program and a national board exam. Both Germany and Korea have fee-for-service model for the reimbursement but only two indications are covered for the acupuncture treatment in Germany.

Based on these findings, the reevaluation and update of the reimbursement policy as well as the standardization and regulation of the acupuncture provider qualification in Germany are suggested. However, further research is needed to better understand the impact of the reimbursement policy and to offer guidance to a desirable institutionalization of acupuncture treatment coverage.

Keywords: Acupuncture, German statutory health insurance, Korean national health insurance, Healthcare reimbursement, Traditional medicine

Abstrakt

Seit 2007 sind Akupunkturbehandlungen in den kostenerstattungsfähigen Leistungskatalog der deutschen gesetzlichen Krankenkassen aufgenommen worden. Obwohl Akupunktur Teil des deutschen ambulanten Gesundheitssektors ist, gibt es kaum Forschungsarbeiten, die den Prozess und die Auswirkungen der Kostenerstattungspolitik von Akupunkturbehandlungen im gesetzlichen Krankenkassensystem untersuchen.

In dieser Studie wurde die Kostenerstattungspolitik von Akupunkturbehandlungen in den deutschen gesetzlichen Krankenkassen analysiert und mit der Gesundheitspolitik in Korea verglichen, wo die traditionelle Medizin im nationalen Krankenversicherungssystem gut etabliert ist. Insbesondere wurden die Qualifikation der Akupunkturanbieter und die Kostenerstattungsstandards beider Länder untersucht, um die Unterschiede und die Möglichkeiten für eine Optimierung von kostenerstattungsfähigen Akupunkturbehandlungen herauszuarbeiten. Veröffentlichungen staatlicher gesundheitspolitischer Akteure, rechtliche Bestimmungen und relevante wissenschaftliche Forschungsliteratur wurde besprochen. Ergänzend wurden ausführliche semi-strukturierte Experteninterviews geführt.

Diese Forschungsarbeit wies schließlich daraufhin, dass die Qualifikation für eine Kostenerstattungsberechtigung von Akupunkturkosten in Deutschland ein 360-stündiger Ausbildungskurs für Ärzte ist, während es in Korea eines sechsjährigen traditionellen medizinischen Studiums und einer zusätzlichen staatlichen Zulassungsprüfung bedarf. Sowohl in Deutschland als auch in Korea gibt es eine Einzelleistungsvergütung für die Kostenerstattung, aber in Deutschland sind nur zwei Indikationen für Akupunkturbehandlungen abgedeckt.

Diese Forschungsarbeit schlägt schließlich eine Neubewertung und Aktualisierung der deutschen Kostenerstattungspolitik, sowie eine Standardisierung und Regulierung der medizinischen Qualifikation zur Akupunkturbehandlung vor. Es ist jedoch weitere Forschungsarbeit erforderlich, um die Auswirkungen der Kostenerstattungspolitik besser verstehen zu können und Leitlinien für eine wünschenswerte Institutionalisierung von Akupunkturbehandlungen und deren Kostenerstattungsfähigkeit im gesetzlichen Krankenkassen System herausarbeiten zu können.

Keywords: Akupunktur, Deutsche gesetzliche Krankenkasse, Koreanische nationale Krankenversicherung, Kostenerstattung im Gesundheitswesen, Traditionelle Medizin

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
ARC	Acupuncture in Routine Care Studies
ART	Acupuncture Randomized Trials
ASH	Acupuncture Safety and Health Economics Study
CAM	Complementary and Alternative Medicine
EBM	German Uniform Evaluation Standard (Einheitlicher Bewertungsmaßstab)
G-BA	Federal Joint Committee (Gemeinsamer Bundesausschuss der Ärzte und Krankenkassen)
GERAC	German Acupuncture Trials
GOP	Uniform evaluation standard number (Gebührenordnungsposition)
HIRA	Health Insurance Review and Assessment
KBV	National Association of Statutory Health Insurance Physicians (Kassenärztliche Bundesvereinigung)
KV	Association of Statutory Health Insurance Physicians (Kassenärztliche Vereinigung)
NHI	National Health Insurance
NHIC	National Health Insurance Corporation
PHI	Private Health Insurance
SHI	Statutory Health Insurance
TCM	Traditional Chinese Medicine
WHO	World Health Organization
ZI	Central institute for statutory healthcare in the Federal Republic of Germany (Zentralinstitut für die kassenärztliche Versorgung in der Bundesrepublik Deutschland)

I. Introduction

Background and Context

Acupuncture is the most common form of treatment from traditional medicine in eastern Asia, which is to insert a needle into certain points on the body. It can be used for various indications, but it is known to be particularly effective in chronical conditions with pain. Although it is widely accepted by the public and already well settled as part of the healthcare system in Asian countries such as the Republic of Korea (Hereinafter referred to as 'Korea'), the effort to institutionalize acupuncture into the healthcare system is relatively recent in western countries. According to World Health Organization (WHO), more than 100 countries around the world recognizes the usage of acupuncture within the country and 20 countries provide acupuncture treatment with health insurance coverage(WHO, 2013). [1]

For example, Medicare, the federal health insurance program of the U.S., has recently decided to include acupuncture treatment for chronic lower back pain in the healthcare coverage in 2020 (Centers for Medicare & Medicaid Services, 2020). In Switzerland, Traditional Chinese Medicine (TCM) pharmacotherapy and acupuncture are covered in the compulsory national health insurance (NHI) system (Federal Office of Public Health, 2020), after two-thirds of Swiss citizens casted a vote for the inclusion of complementary and alternative medicine (CAM) into the NHI system in 2009.

In Germany, western medicine is the only recognized official medical system but it tolerates some types of traditional medicine treatment (Moon et al., 2003). With the growing interest and demand for acupuncture treatment in the 1990s, Federal Committee of Doctors and Health insurance funds decided to conduct a model project to assess the validation of introducing acupuncture treatment into the benefits catalog (Trinczek, 2015). As a result of this model project, acupuncture treatment for patients with chronic lower back pain or chronic pain from knee arthritis lasting longer than six months has been included in the reimbursement catalog of statutory health insurance (SHI) scheme since 2007. As a result, there are several ways to get acupuncture treatment costs reimbursed in Germany: 1) privately insured patients can get their acupuncture treatment costs reimbursed not for all but for many indications, 2) SHI insured patients can get acupuncture treatment for chronic lower

[1] Both public and private payers are included.

back pain and knee arthritis reimbursed, but acupuncture for all the other indications will not be reimbursed so it must be paid out-of-pocket, [2] 3) SHI insured patients can take out an additional private insurance which covers the acupuncture treatment by the physicians or naturopaths[3] for various indications.

On the other hand, in Korea, where its traditional medicine is rooted in TCM, the entire traditional Korean medicine (TKM) system was brought into the NHI scheme without historical precedent around the world and this led to an expansion of TKM in national healthcare system (B. Lim, 2013). That said, TKM is recognized as an official medical system and exists in parallel with western medicine. This was possible because TKM has always been part of Korean people's lives since thousands of years (Leem & Park, 2007). Moreover, the economic improvement and industrialization in the 1970s fueled the revival of TKM after going through the persecution under the Japanese colonial regime in the early 20th century (G. Han, 1997). From February 1st, 1987, TKM insurance came into effect nationwide. The range of insurance benefits was limited to 'acupuncture, moxibustion,[4] cupping therapy, medical examination and hospitalization,' and certain types of TKM herbal medicines were also covered (Cooperation Foundation Wonkwang University, 2007). Since the Korean NHI covers the whole population of Korea, people living in Korea have been benefiting from an accessible and affordable acupuncture treatment.

Problem Statement

It has been roughly 15 years since the acupuncture treatment has been officially institutionalized in German SHI scheme. Various concerns have already been raised in the implementation phase of the acupuncture reimbursement in the German SHI such as the incompetence of practitioners, legitimacy of commissioned research on the effectiveness of acupuncture and issues regarding the remuneration paid to health professionals. Were these concerns properly addressed and improved? Did the decision to reimburse the acupuncture

[2] Acupuncture treatment costs between 30 and 70 Euro per session (Krankenkasse Zentrale, n.d.).

[3] Complementary and alternative healthcare practitioners in Germany (*Heilpraktiker*)

[4] Moxibustion is a traditional medicine therapy, burning herbal mugwort on acupoints to give thermal and chemical stimulus (S.-Y. Kim et al., 2011).

treatment promote German population's health after all? Then why is the billing data showing continuous decrease in the use of acupuncture (Hickstein et al., 2018)?

This is the opportunity to observe how the coverage for acupuncture treatment have been operating on the ground in Germany. Also, this study attempts to investigate Korean NHI system and its acupuncture reimbursement policy, to suggest improvements for the acupuncture treatment reimbursement in the German SHI by comparing with acupuncture treatment coverage in the Korean NHI system. Even though the TKM reimbursement in the Korean NHI also has been encountering problems such as the limited range of covered treatments, limited accessibility (B. M. Lim, 2017) and a constant decrease of billing in the proportion of reimbursed medical costs in the NHI system but as far as the acupuncture treatment reimbursement is concerned, it still takes a largest share (70.1%) of the total TKM medical service fee, together with cupping (17.2%) and moxibution (5.9%; Health Insurance Review & Assessment Service, 2015). Therefore, lessons from Korean NHI can be worth investigating for Germany, which is still in the early stage of adopting and developing traditional medicine into the national healthcare system.

Research Questions

Germany boasts of world's oldest national social health insurance system whose origin dates back to 1883, but it has been only 15 years since the acupuncture treatment has been officially included in the reimbursable treatment catalog of SHI scheme. Whereas in Korea, even though the NHI was first implemented only in 1989, the acupuncture (TKM[5] acupuncture) reimbursement for all citizens was carried into force in 1987. In other words, German social health insurance set a precedent for the Korean NHI to follow and to overcome its weakness. But in terms of bringing traditional medicine into the health insurance system, Korea can be a precedent for Germany. Given the focus on the SHI scheme, this thesis poses the following research question: What is the acupuncture

[5] Korean Oriental Medicine (KOM) and Oriental Medicine (OM) have been used interchangeably as an official term to refer to traditional medicine of Korea until the association of Korean Medicine changed the official term to 'Korean Medicine' in 2012 (Shin, 2012). WHO uses the term 'Traditional Korean Medicine (TKM)' and therefore TKM will be used as a standardized term in this paper.

reimbursement policy of Germany and Korea and can acupuncture treatment coverage in German SHI be improved?

The overall research aim of this study is to analyze the reimbursement policy of acupuncture treatment in the German SHI scheme in the context of the qualification of acupuncture providers and the reimbursement standards, and to compare it with the acupuncture treatment reimbursement in the Korean NHI system based on the historical and political background of each country. The research objectives, to facilitate the achievement of this aim, are as follows:

1. To investigate the acupuncture reimbursement policy focusing on the education and qualification system of the acupuncture providers and the reimbursement standards of acupuncture treatment in Germany and Korea
2. To identify the status and challenges of acupuncture treatment reimbursement in German SHI scheme and to compare with the example of Korea
3. To suggest strategic direction of policies, regulations, and guidelines to further integrate acupuncture treatment into German healthcare system, reflecting on Germany's national profile

Relevance and Importance of the Research

Health insurance is undeniably a major part of global public health and regarded as a promising way to achieve universal health coverage (UHC; Erlangga et al., 2019). However, neither the traditional medicine itself nor the impact of integrating traditional medicine treatments into the health insurance scheme, especially in western medicine centered countries, is not yet fully understood. Since the implementation of the reimbursement of acupuncture treatment in Germany, there is hardly any publication addressing either the current status or the impact of this policy. Because this concept of 'traditional medicine from Asia' is relatively new in the German healthcare system, it seems like most of the research on acupuncture is practice-based and aims to prove the clinical effectiveness of acupuncture on various indications. Clinical studies are also of great importance in the existence and development of complementary and alternative medicine but the current coverage of acupuncture treatment in Germany seems to require further investigation for potential improvements of the public health system in the long-term perspective.

Moreover, as traditional medicine is usually categorized as non-mainstream medicine or non-medicine and is innately different from western medicine, there is a limit to applying existing assessment and prognosis standard of western medicine. However, the similarity of healthcare system between Germany and Korea, the preexisting acupuncture reimbursement policy of both countries and the tolerant attitude of Germany towards CAM might validate this country comparison and contribute to identifying the opportunities for the improvement in Germany.

The findings of this cross-country comparison provide insights on German and Korean health insurance systems and policies with respect to traditional medicine. It also offers a guidance to German SHI on a desirable institutionalization of acupuncture treatment coverage (Marmor et al., 2005) for the actors involved in the decision making process such as the policy makers, as this thesis can be an informative base data in the development of the traditional medicine reimbursement policy. Finally, this publication will favor the insured of the SHI who are entitled to benefit from their contributions.

II. Contextual Background

Literature Review

As western countries also started to recognize the limitation of clinical effectiveness of modern western medicine in treating chronic diseases (VanderPloeg & Yi, 2009), a considerable amount of clinical trials have been conducted in Germany in the effort to scientifically prove the clinical effectiveness of acupuncture treatment in various indications: chronic pain (Witt et al., 2006), seasonal allergic rhinitis (Brinkhaus et al., 2013), allergic asthma (Brinkhaus et al., 2017), adhesive capsulitis (Schröder et al., 2017), diabetic peripheral neuropathy (Meyer-Hamme et al., 2018), stress (Wild et al., 2020), etc.

Also, the research projects on the cost-effectiveness of acupuncture treatment compared to the conservative method of treatment, have been conducted to find grounds to expand the realm of CAM based treatment of indications apart from the chronic back pain and gonarthrosis[6] within the health insurance system of Germany: chronic neck pain (Willich et al., 2006), seasonal allergic rhinitis (Reinhold et al., 2013), osteoarthritis pain (Reinhold et al., 2008), etc.

However, since the introduction of acupuncture treatment in German SHI, there are very few publications examining the implementation of the acupuncture reimbursement policy and evaluating its impact (Centers for Disease Control and Prevention, n.d.). Only a few works (Hickstein et al., 2018; Hildebrandt et al., 2014; Trinczek, 2015) in literature demonstrates the status quo of German acupuncture reimbursement policy.

The previous publication by Trinczek (2015), examined key issues relating to the reimbursement system of acupuncture treatment. The data based on the reimbursement report showed that the remuneration for acupuncture services discourages general practitioners from providing acupuncture services because it was not rewarding enough for the doctor to invest at least 30 minutes of consultation time and occupancy. Orthopedics, on the other hand, almost half of them were providing acupuncture treatment and the sales from acupuncture treatment comprises up to 24% of total sales of orthopedics. This approach pointed out the

[6] osteoarthrosis of the knee

systematic problems of reimbursement system of acupuncture treatment and provided an insight on the trend analysis of Hickstein et al.

Hickstein et al. (2018) have conducted a retrospective observational study based on the 4 million anonymized billing data of the SHI insureds in Germany between 2008 and 2015. This trend analysis showed that since 2010, the number of acupuncture sessions billed in ambulatory sector decreased significantly across all indications and for all sexes ($p<0.001$). Statistically, it was mostly women who used acupuncture and the mean age of patients was 61.1 years. The rate of premature termination of acupuncture sessions was high in both gonarthrosis patients (14%) and lower back pain patients (21%). Moreover, the half of all acupuncture sessions in 2014 were billed by 11% of the doctors, which shows abnormally unequal distribution. Even though Hickstein et al. couldn't identify the justifiable reason behind this decreasing trend (Geib, 2018), this paper shed a light on the understanding of the actual use of acupuncture in the German SHI.

Some case studies published in Korea (K. I. Han et al., 2013; Dongsu Kim et al., 2019; Melchart, 2003; J. Yoon et al., 2013) solely concentrated on analyzing the clinical research methodology of German acupuncture trials (GERAC), the Programme for the Evaluation of Patient care with Acupuncture (PEP-Ac) and Acupuncture in Routine Care (ARC), which was the most important factor in decision-making process of bringing acupuncture treatment into reimbursement catalog of the German SHI.

D. Kim et al. (2019) have analyzed the acupuncture treatment coverage in Germany, especially concentrating on the public decision-making process of introducing acupuncture treatment into German health insurance system. This case study analyzed the introduction of acupuncture coverage in chronological order and provided an overview in depth. D. Kim et al. demonstrated the model projects as a positive precedent for Korea to learn lessons from, in expanding the TKM reimbursables catalog. Korea Institute of Oriental Medicine (KIOM) has been constantly conducting research projects and publishing policy analysis reports on traditional medicine of foreign countries to draw lessons from: A comparative study of oriental medicine policies in Korea and the three oriental countries (China, Japan and Taiwan; (KIOM, 1997a), Current status of oriental medicine in Japan (KIOM, 1997b), Taiwan's oriental medicine policy and current status (KIOM, 1997c), A study on the status of the complementary and alternative medicine system industry in Germany (KIOM, 2018),

Current status of Koryo medicine[7] and ways to exchange and cooperate between North and South Korean traditional medicine (KIOM, 2020), China's national traditional Chinese medicine system (KIOM, 2021), etc.

To the best of my knowledge, no prior studies have been conducted to compare Germany and Korea with respect to the reimbursement of acupuncture treatment in statutory/national health insurance system. As each country features a distinctive healthcare system and various attitude towards traditional medicine, it is hard to find a compatible model with traditional medicine embedded that fits perfectly to Germany. To fill this literature gap, this thesis sets the Korean NHI model as a precedent to contextualize Germany's acupuncture reimbursement policy against. This cross-country comparison aims to demonstrate not only the reimbursement standards and regulations, but also the relevant factors: structure of the health care system, service provider of acupuncture treatment and introduction process of the acupuncture reimbursement policy.

Overview of Healthcare System in Germany and Korea

> *Universal health coverage means that all individuals and communities receive the health services they need without suffering financial hardship. It includes the full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care across the life course.* (World Health Organization, 2021a)

Germany and Korea both have achieved universal population coverage through statutory/national health insurance system. Since a strong health system and an access to healthcare contribute to the overall health outcomes, it is not surprising that life expectancy (years of life at birth) of Korea (82.7 years) and Germany (81.1 years) are both over the average of OECD countries (80.7 years; OECD, 2019b). However, chronic disease morbidity of population in Germany (8.3%) and Korea (6.8%) are also higher than OECD average (6.4%; OECD, 2019b). As of 2019, 58 % of Germans aged 65 and above reported having at least one chronic condition (OECD, 2019a) and the top three causes of disability-adjusted life

[7] Koryo medicine (高麗醫學): traditional medicine of North Korea

years (DALYs) were ischemic heart disease, low back pain and lung cancer (see Table 1; Institute for Health Metrics and Evaluation, 2019).

Table 1

Top 10 Causes of Death and Disability (DALYs) in Germany and Korea

Rank	Germany	Korea
1	Ischemic heart disease	Stroke
2	Low back pain	Low back pain
3	Lung cancer	Diabetes
4	Stroke	Self-harm
5	Diabetes	Other musculoskeletal disorders
6	COPD	Lung cancer
7	Falls	Ischemic heart disease
8	Alzheimer's disease	Falls
9	Headache disorders	Liver cancer
10	Colorectal cancer	Osteoarthritis

Note. Adapted from "Country profile: Germany" and "Country profile: Republic of Korea" by Institute for Health Metrics and Evaluation, 2019.

Korea and Germany both shoulder a significant amount of socioeconomic burden due to the increase of prevalence and incidence of chronic diseases and therefore traditional medicine, which has a potential capacity in the prevention and treatment of chronic diseases and elderly illnesses, is anticipated to expand its share in the healthcare system (MarketResearch.biz, 2020). Considering that traditional medicine treatment can be provided without large-scale medical equipment and facilities and it also can be administered on the spot, which is a great advantage as a primary care (Ministry of Health and Welfare, 2021), it has the potential for a wider use in the German primary healthcare system.

Healthcare System of Germany

> *The health insurance as a solidarity community has the task of maintaining the health of the insured, restoring it, or improving their state of health. This also includes the promotion of personal health competence and personal responsibility of the insured. The insured are jointly responsible for their health; through a health-conscious lifestyle, through early participation in preventive health measures and through active participation in the treatment of illnesses and rehabilitation, they should help to avoid the onset of illness and disability or to overcome their consequences. The health insurance companies have to help the insured with information, advice and services and work towards healthy living conditions. (Social Code (SGB) Book Five (V) – Statutory Health Insurance – (Article 1 of the law of December 20, 1988, Federal Law Gazette I, p. 2477))*

Germany boasts of the world's oldest and most historic social insurance system, which was introduced in 1883 by Bismarck and marked the beginning of today's SHI system in Germany (Federal Ministry of Health, 2020). In 2007, universal health coverage became mandatory and everyone residing in Germany is required to take out either a SHI or a private health insurance (PHI; Busse et al., 2017). Employees earning less than a certain amount of income[8] are subject to SHI, whereas employees earning more or working as a freelancer, a civil servant, a doctor, or a student can choose to opt out and join PHI (Krankenkassen Deutschland, 2021). The difference between SHI and PHI is that the insurance premium to PHI depends on the age, health, individual risk, and insurance tariff whereas the contribution to SHI depends on the salary of the insured. In 2021, around 73 million people are covered by the German SHI, which corresponds to 90 percent of the whole population (GKV-Spitzenverband, 2021). There are 113 SHIs in Germany and all insured persons within SHI are entitled to medical care and receive equal level of services (European Commission, n.d.).

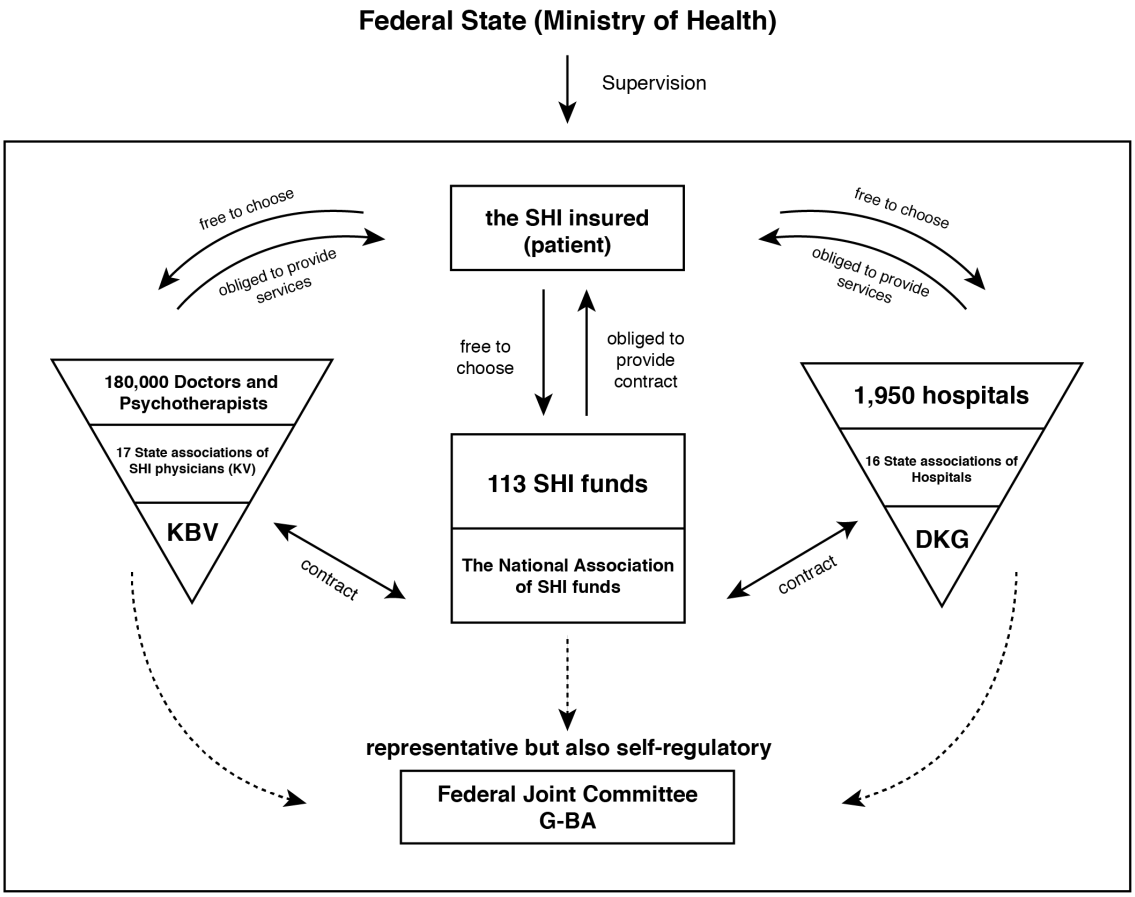
In order to remain neutral amongst the conflicting interests, German SHI chose to establish a self-administration body called Federal Joint Committee (*Gemeinsamer Bundesausschuss der Ärzte und Krankenkassen*, G-BA), the supreme decision-making body, which defines the boundaries of health services that should be covered by SHI (Federal Ministry of Health, 2020). Service providers in German SHI, for example 180,000

[8] EUR 58,050 per year in year 2021 (krankenversicherung.net, 2021)

ambulatory doctors and psychotherapists are the members of the Association of Statutory Health Insurance Physicians (*Kassenärztliche Vereinigung*, KV) and these doctors' and psychotherapists' provision of treatment and reimbursement are tied to KVs (Federal Ministry of Health, 2020). Figure 1 demonstrates an overview of the German SHI.

Figure 1

German SHI System



Note. KBV: National Association of Statutory Health Insurance Physicians (*Kassenärztliche Bundesvereinigung*), DKG: The German Hospital Federation (*Deutsche Krankenhausgesellschaft e. V.*)

When the insured falls ill, benefits are provided in cash or in kind after the health insurance card is presented but the exemption can be applied when the case is medically urgent. SHI benefits in kind include medical check-ups, medical treatment in inpatient care and outpatient care, medicines, material etc. (European Commission, n.d.). The patients can receive these benefits without having to pay in advance. When the ambulatory care is provided, physicians bill their services to the SHI fund the patient belongs to, based on the

uniform evaluation standard (EBM),[9] which sets the medical fee for each medical procedures within the SHI system (Schreyögg & Milstein, n.d.). The remuneration fees are composed of reimbursement points, which expresses the intensity of a service, and a base rate[10] of each year (see Table 2 as an example). However, the reimbursement from this fee-for-service billing is capped by the quarterly thresholds for the number of patients and the reimbursement points per patient (Tikkanen et al., 2020). If a physician exceeds this threshold, the additional service provided receives a deduction to discourage SHI physicians from outperforming their peers (Schreyögg & Milstein, n.d.). In the inpatient care sector, the reimbursement is paid as a lump-sum based on the disease related groups (DRGs) to regulate health care expenditures (Bäuml & Kümpel, 2020). However, as acupuncture treatment is only reimbursed in the ambulatory care sector, inpatient care is not addressed in this paper.

Table 2

Simplified Excerpt of the EBM for Acupuncture Treatment

Number	Service	Points	Remuneration fee (Points x Base rate)
30790	Initial diagnosis and final examination for treatment using body acupuncture	516	57.41 Euro
30791	Performing a body acupuncture	166	18.47 Euro

Note. Data from "Online-Version des EBM" by Kassenärztliche Bundesvereinigung, 2021 (https://www.kbv.de/html/online-ebm.php). In the public domain.

Even though Germany also faces new challenges within the healthcare system in the process of healthcare reforms, demographic changes and increase of disease burdens (Dietrich & Riemer-Hommel, 2012), the German model of the SHI system has been showing continuous adaptation and modernization by accommodating the advent of new technologies and reflecting German public's needs (Busse et al., 2017).

[9] The uniform evaluation standard (EBM, Der einheitliche Bewertungsmaßstab) forms the basis for billing the SHI services and defines the content of the billable contract medical services. The price of each EBM number is yearly updated based on the base rate in Euros determined by the evaluation committee of SHI physicians and the companies (Bundesministerium für Gesundheit, 2016).

[10] The base rate of 2021 is 0.111244 Euro (Kassenärztliche Bundesvereinigung, 2021).

Introduction of Acupuncture Reimbursement in Germany

With the growing interest and demand for acupuncture treatment in the 1990s, German health insurers had been partially reimbursing the acupuncture treatment for various indications even though acupuncture was not included in the ambulatory care reimbursement catalog in the SHI scheme. Among the complementary medical treatment, acupuncture ranked at the top of the demand for insured persons with around 40% of the total costs and 25% of the total cases reimbursed (Marstedt & Moebus, 2002). Since the burden of direct reimbursement became immense (c.a. 300 mil. Euro annually), the AOK federal association (*AOK Bundesverband*) requested the G-BA to assess the validation of introducing acupuncture treatment into reimbursement catalog (Trinczek, 2015).

In 2000, the G-BA decided to conduct a model project to examine the effectiveness of acupuncture treatment in four indications : lower back pain, gonarthrosis, tension headache and migraine (Molsberger et al., 2004). The model project consisted of German Acupuncture Trials (GERAC), the Programme for the Evaluation of Patient care with Acupuncture (PEP-Ac) and Acupuncture in Routine Care (ARC), with each study sponsored by different SHI funds and conducted by different medical institutions (see Figure 2) but aimed for the same objective: to determine whether and to what extent the acupuncture service should be included in SHI for 70 million insurees (see Appendix for the overview of the model project; Bundesausschuss et al., 2006). The GERAC study, for example, on 'Body acupuncture with needles without electrical stimulation', with more than 300,000 patients in the cohort study and more than 3600 patients in the controlled study, was then scale-wise the largest acupuncture study worldwide (Haake et al., 2007).

From the GERAC study, the effectiveness of acupuncture treatment on lower back pain was partially clarified but the result showed that there was hardly any difference in the effectiveness of verum acupuncture[11] and sham acupuncture[12] (Bundesausschuss, 2006). Even though whether the selection of acupuncture point based on TCM had an influence or not remained unclear, the G-BA was able to identify a significant advantages of both verum

[11] acupuncture based on the principles of TCM

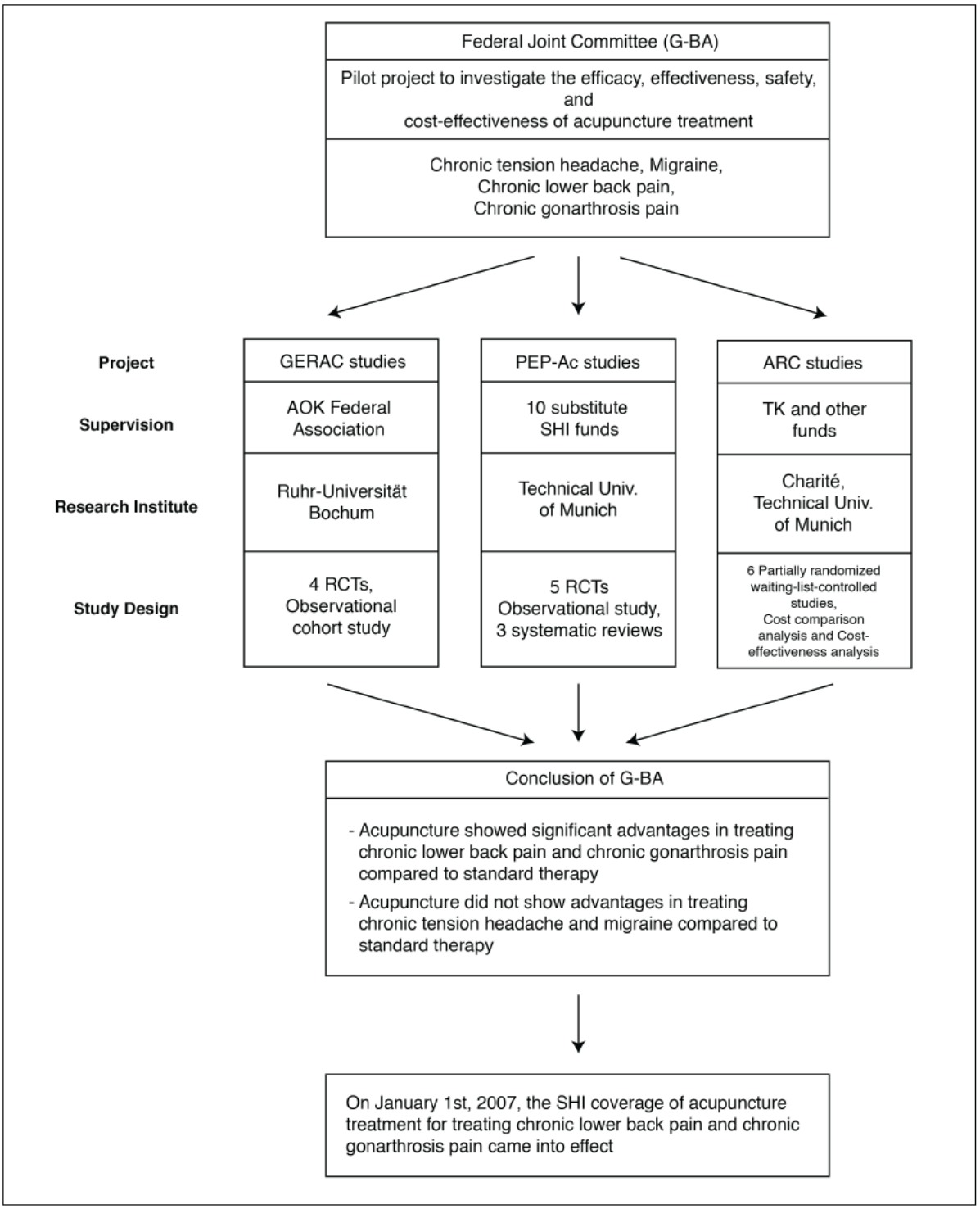
[12] method of acupuncture to avoid stimulation or effect, often used as control in scientific studies

and sham acupuncture compared to standard therapy (Gemeinsamer Bundesausschuss, 2007). The ART study on gonarthrosis showed that verum acupuncture was more effective in comparison to sham acupuncture. Therefore, the G-BA decided to include only 'Chronic pain caused by lower back pain' and 'Chronic pain caused by gonarthrosis' into the reimbursement catalog, not as an independent measure of treatment but rather as an embedded part of the chronic pain therapy. The clinical effectiveness of acupuncture treatment on migraine and tension headache couldn't be determined through the model project.

Consequently, the G-BA decided to amend the 'Guideline on Methods for Contractual Medical Care' which came into force on January 1st, 2007. Since then, patients with chronic lower back pain or chronic pain from knee arthritis can benefit from reimbursable acupuncture treatment in the German ambulatory healthcare. Acupuncture for all the other indications have been excluded from the coverage to this day.

Figure 2

Structure of the Model Project by G-BA



Healthcare System of Korea

> *The purpose of this Act is to improve citizens' health and promote social security by providing citizens with insurance benefits for the prevention, medical examination, medical treatment of and rehabilitation from diseases and injury, for childbirth and death, and for improvement of health.* (National Health Insurance Act, n.d.)

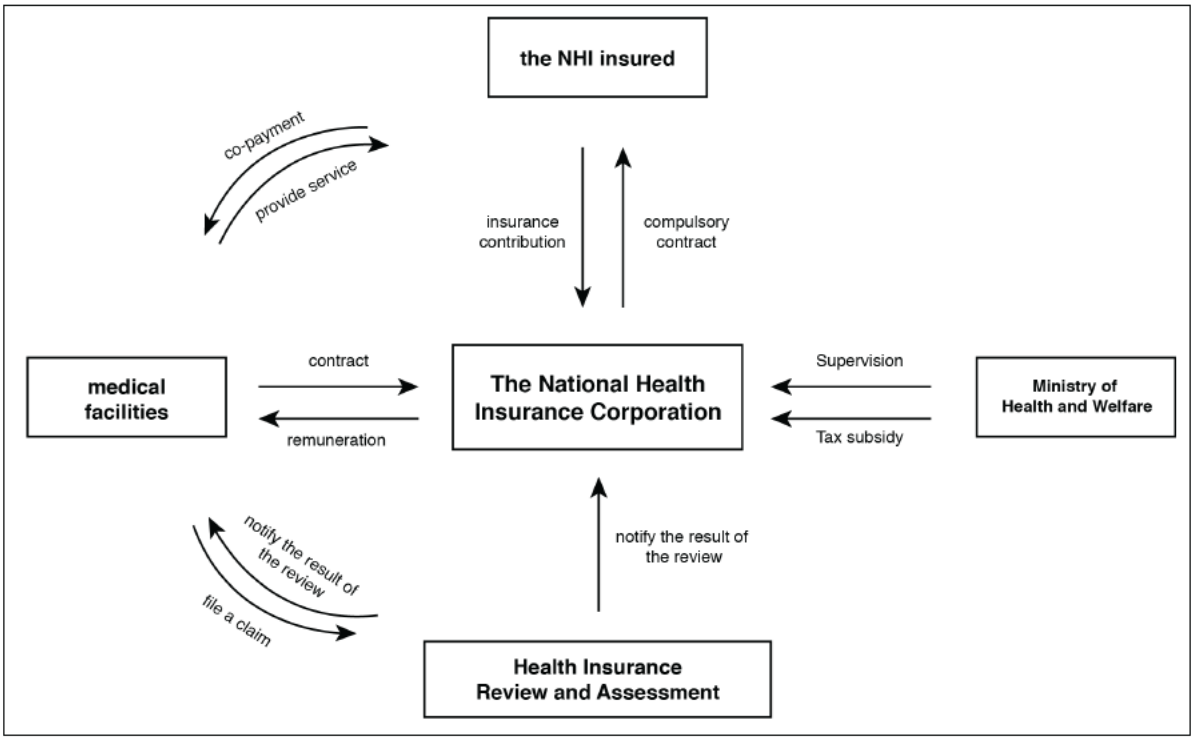
As in Germany, the whole population in Korea has access to core medical services, thanks to the compulsory NHI scheme. Korean Medical Insurance Act was enacted on December 16, 1963 and enforced on June 5, 1964. Through more than a dozen of amendments to the Medical Insurance Act over the decades, the NHI Act was finally enacted at the end of the last millennium and the current Korean NHI system took shape (Health Insurance Review & Assessment Service, 2020). Two agencies take a central place in the Korean health insurance system: a single insurer agency as the main operating body (the National Health Insurance Corporation, NHIC) for the collection of contributions, fund pooling and provision of reimbursement and a separate agency (Health Insurance Review and Assessment, HIRA) to claim review and to assess the health services (S. Kwon, 2015). Even though the independent bodies were set up to sustain neutrality and equidistance, the Ministry of Health and Welfare still has a heavy influence on the health insurance policy and the approval of the operating budget of the two agencies.

The insured of NHI receives insurance benefits both in kind and in cash. In the case of diseases or injuries, healthcare services such as medical examination, diagnosis, treatment etc., are provided as insurance benefits from healthcare institutions (see Figure 3 for the overview of the Korean NHI system; NHIS, 2019). Health checkups and cancer checkups are also included in the benefit catalog. However, not all services are free of charge. The co-insurance policy charges a certain percentage of the total cost of medical care to patients, according to the types of the medical care and the healthcare institution.[13] When the amount

[13] In the ambulatory care sector, the co-insurance rate can go up to 60% of the total treatment cost and other expenses at the tertiary referral hospital, whereas in the clinic, only 30% of the total care benefit expenses will be charged as a co-insurance payment (Health Insurance Review & Assessment Service, 2021a).

of patient's share exceeds the insured's payment ceiling, HIRA evaluates and approves the case and NHIC provides the exceeded amount of money in the form of benefit-in-cash to the insured. Moreover, benefit for maternity and pregnancy costs are also provided in cash.

Figure 3
Korean NHI System



Korea has reported an annual health spending increase per capita of 7.3% in real terms between 2013 and 2018, which is the highest rate among 32 OECD countries. However, the percentage of health expenditure from public sources in total expenditure is only at 57.4%, almost as low as in the United States (50.2%), where its citizens' access to health care services is not guaranteed (OECD, 2019b). The financial coverage for the cost of inpatient care and outpatient care as proportion of the total health spending is 65% and 58% respectively, which is significantly lower than the average of OECD (88% and 77%; OECD, 2019b). Accordingly, in 2017, Korean people spent 5.6% of their household consumption as out-of-pocket spending while German people spent only 2.7% (OECD, 2019b).

According to the NHI Act, all the medical institutions, pharmacies, public health institutions and Korea Orphan & Essential Drug Center are designated as medical institutions under the NHI scheme and mandated to provide medical services for the insured (On, 2016).

Therefore, TKM practices and hospitals, which are defined as the medical institutions by the medical service act, are also designated medical institutions obliged to provide medical services (Medical Service Act, 2020c). But for TKM to secure its current position in the Korean healthcare system, TKM doctors had to go through legal challenges and constant struggle for the institutionalization.

Introduction of Acupuncture Reimbursement in Korea

When the Korean NHI was implemented in 1977, TKM institutions were excluded from the list of designated medical care institutions in the NHI system (Y. Kim, 2007). The reason for this was because the clinical characteristics of TKM was innately distinctive from western medicine and the remuneration for the herbal medicine ingredients was too complex to price. Before the NHI, people spent more than 20% of their household medical expenditure at TKM institutions, which plummeted to only 0.57% of the total medical costs after the introduction of NHI. The association of Korean medicine drafted the TKM service insurance fee standard and demanded for the NHI coverage of TKM.

Reflecting the needs of the people and the association, government launched a two-year model project on the reimbursement of TKM services in Cheongju city and the suburb area in 1984, to identify the pattern in the billed diagnoses or medical services among the patients using TKM services. Arthralgia (13.5%), excess syndrome of the stomach (11.4%) and sprain (10.5%) were the most billed diagnoses, which showed that the common reasons for using TKM service were chronic diseases and lifestyle diseases (Y. Kim, 2007). Thanks to the optimistic result of the model project, since February 1, 1987, basic medical care services from TKM doctors were officially included in the NHI benefit catalog nationwide: medical examination, outpatient and inpatient treatment, acupuncture, moxibustion, cupping therapy and herbal medicine fee. Since then, TKM has expanded its realm within the Korean healthcare system.

Currently, acupuncture treatment in TKM is the most common form of Korean medical practice that prevents, relieves, or treats the disease by inserting needle into the body. The exact categorization of which treatment falls into Korean medicine or Western medicine is not clearly defined by law (Hai Woong Lee, 2017), but the fact that the acupuncture treatment should be performed by a Korean medical doctor is explicit.

III. Methodology

Research Design

This case-based cross-country comparison study aimed to identify how acupuncture reimbursement policy operates on the ground in both Germany and Korea, to review what is known about them based on the government publications regarding the reimbursement statistics and legal regulations (primary sources, see Table 3) and previously published articles (secondary sources) on this topic. Literature search was restricted to the studies published since 2006, the year when the G-BA published the result of the model project, and the reimbursement of acupuncture treatment commenced. Language restrictions were applied in the literature search: English, Korean and German.

Table 3

Research Sources by Type of Organization

Type	Source	Title
GOV	Gemeinsamer Bundesausschuss	Zusammenfassender Bericht des Unterausschusses „Ärztliche Behandlung“ des Gemeinsamen Bundesausschusses über die Bewertung gemäß §135 Abs.1 SGB V der Körperakupunktur mit Nadeln ohne elektrische Stimulation
GOV	Kassenärztliche Bundesvereinigung (KBV)	Online-Version des einheitlichen Bewertungsmaßstabs (EBM)
GOV	Kassenärztliche Bundesvereinigung (KBV)	Honorarbericht für das zweite Quartal 2012 Zahlen und Fakten
GOV	Kassenärztliche Vereinigung	Qualitätssicherungsvereinbarung Akupunktur
GOV	ZI	Verlagerungseffekte zwischen stationärem und ambulantem Sektor – Bundesweite Analyse im Zeitverlauf
GOV	Korea Legislation Research Institute	National Health Insurance Act
GOV	Korea Health Industry Development Institute	Korea Health Industry Statistics 2011
GOV	Korea Institute of Oriental Medicine	The Journal of Korean Medicine Policy
GOV	Ministry of Health and Welfare	The 1st Comprehensive National Health Insurance Plan <2019-2023>
GOV	Ministry of Health and Welfare	The 4th Traditional Korean Medicine development plan <2021-2025>
GOV	Korea Institute of Oriental Medicine	2019 Yearbook of Traditional Korean Medicine

Additionally, in-depth interviews (original data collection) were conducted targeting relevant subjects such as both German and Korean acupuncture practitioners who are active in practicing acupuncture treatment. Based on the collected data from the literature research, semi-structured interviews were conducted. Interviewees were informed that the interview will not be directly cited in the paper and that the identity of the interviewee will not be revealed, except for some specification (See Table 4) to justify the selection of the interviewee. Main questions of the interview corresponded with the research objectives: the introduction of acupuncture treatment into statutory/national health insurance scheme, status and challenges of acupuncture treatment reimbursement and the strategic direction to further integrate acupuncture treatment.

Table 4

Interviewees for In-Depth Expert Interviews

Germany	Korea
Interviewee A-1	Interviewee B-1
Specialist in general surgery, practiced TCM in Germany for 12 years, currently a practitioner for TCM at the university clinic in Germany	TKM doctor practiced TKM for 10 years in Korea, currently living in Germany
Interviewee A-2	Interviewee B-2
Specialist in general medicine, practiced TCM in Germany for seven years, currently a practitioner for TCM at university clinic in Germany	TKM doctor practiced TKM for three years in public health medical institution, a year in TKM hospital and two years in private TKM practice

To put the paper in context, in the following section, the structure and the legal ground of German SHI and Korean NHI are introduced as well as the overview of traditional medicine in each country, to provide the basis for establishing a clear understanding of the research goal. In the succeeding section, the qualification programs of acupuncture providers are compared between the two countries. Subsequently, the reimbursement standard of acupuncture treatment in German SHI is addressed and compared with the reimbursement policy of Korean NHI, focusing on the problems and debates about the current reimbursement policy of Germany. The next section then seeks to identify where and how the improvements can be made. Finally, the key points, final thoughts and the limitations of this paper are brought together in the concluding section.

Methods and Sources

The analysis of the administrative data was accompanied by the in-depth interviews to explore the factors that affect the provision of the acupuncture services and the reimbursement policy based on the detailed personal experiences and judgement. In-depth interviews with four interviewees, two experts currently delivering acupuncture treatment in the ambulatory sector in Germany and the other two experts who have been practicing traditional medicine in Korea, were conducted. Acupuncture practitioners are the primary subjects of this policy and therefore could provide intact and direct insights on the ground. I was not able to find any interviewee who received the acupuncture treatment and had their acupuncture treatment costs reimbursed by the SHI or who was involved in the decision-making process of acupuncture reimbursement policy.

Gaps in Existing Knowledge

After conducting an exhaustive literature review, I have identified that far too little attention has been paid to what happened after the implementation of the acupuncture reimbursement policy in Germany. It has been 15 years since the implementation and enough time has passed to open up a discussion on the progress and the vulnerability of this policy, by retracing from the agenda setting and the formulation phase and by evaluating how it is currently implemented based on the acupuncture reimbursement statistics. By comparing the German model with the Korean model, this thesis makes some suggestions for a constructive improvement of the acupuncture treatment and its reimbursement policy in Germany.

IV. Results

Comparison of Qualification of Acupuncture Providers in Germany and Korea

Qualification of Acupuncture Provider in Germany

In Germany, various professions can provide acupuncture treatment: medical doctors, naturopaths (*Heilpraktiker*) and midwives.[14] However, the acupuncture service of naturopaths and midwives are not included in the German SHI system and therefore it will be left out from this paper. Strictly speaking, there is no regulation that limits physicians in Germany from providing acupuncture without a single training course. But the billing of acupuncture treatment (EBM 30790 and EBM 30791) in SHI is only possible by the medical doctors on the list below (Hermanns, 2020) who have successfully acquired 'the additional qualification in acupuncture (*Zusatzbezeichnung Akupunktur*)':

- Specialists in general medicine, specialists in internal and general medicine, general practitioners, and doctors without a special field
- Specialists in pediatric & adolescent medicine
- Specialists in pediatric surgery
- Specialists in internal medicine
- Specialists in surgery
- Specialists in orthopedics, specialists in orthopedics & trauma surgery
- Specialists in neurology, specialists in neurology & psychiatry,
- Specialists in neurosurgery
- Specialists in anesthesiology
- Specialists in physical & rehabilitation medicine

In order to acquire the additional qualification in acupuncture, physicians must undergo the additional training in acupuncture (Abels et al., 2020) at one of the 11 institutions currently accredited by the Medical Associations. 200 teaching units (TU)[15] in the additional training in acupuncture (*Zusatzweiterbildung Akupunktur*) are the minimum requirement (Bundesärztekammer, 2011), which should take place over a time span of 24 months. Subsequently, the internal exam has to be accomplished for the additional

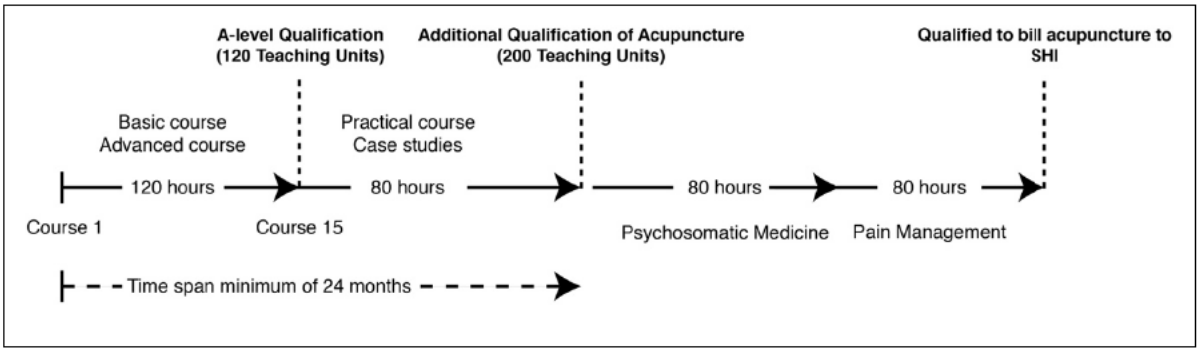
[14] limited to the case of birth, according to Midwifery Law (*Hebammengesetz*, HebG)

[15] 1 Teaching Unit (TU) = 45 minutes

qualification in acupuncture (Deutsche Ärztegesellschaft für Akupunktur e.V., n.d.). The additional training in acupuncture program is offered by most Medical Associations and the curriculum is established and recommended by the German Medical Association (see Table 5; Bundesärztekammer, 2011). Furthermore, 80 TUs in psychosomatic medicine and 80 TUs in pain management must be accomplished to claim for an approval from the KV (see Figure 4). The execution and billing of acupuncture treatment is only permitted after the approval from the KV (Kassenärztliche Vereinigung, n.d.).

Figure 4

Additional Training and Qualification of Acupuncture



Note. Applied from "Basic training – additional qualification in acupuncture" by Deutsche Ärztegesellschaft für Akupunktur e.V., n.d.

Table 5

Course Structure of Additional Training in Acupuncture

Course type	Contents	TU
Basic course A	Scientific principles of acupuncture, Presentation of the basics of TCM relevant to acupuncture, Performing acupuncture treatment	24
Advanced course B	Systematics of the organ systems of the ventral circulation, the conception vessel, its acupuncture points, exercise of the treatment	24
Advanced course C	Systematics of the organ systems of the dorsal circulation, the handlebar vessel, its acupuncture points, exercise of the treatment	24
Advanced course D	Systematics of the organ systems of the lateral circulation, their acupuncture points, extra points, exercise of treatment	24
Advanced course E	Treatment concepts including ear acupuncture / microsystems	24
Practical course F	Practical acupuncture treatments	60
Case seminar G	Case Seminars	20

Note. From "Sample Course Book- Acupuncture" by Bundesärztekammer, 2011. In the public domain.

The Federal Medical Register showed that the number of doctors participating in SHI with the additional training in acupuncture is 7386 in 2020 (KBV, 2020), which has been constantly decreasing in the last five years (see Table 6). However, the total number of doctors in Germany with the additional qualification in acupuncture has been increasing, which might imply that even though the number of physicians willing to provide acupuncture service is increasing, the interest of physicians in providing acupuncture under the SHI scheme is decreasing.

Table 6

Number of Doctors with Acupuncture Qualification in Germany

	Year					
	2014	2015	2016	2017	2018	2019
No. of doctors in SHI with acupuncture qualification	9523	9432	9313	9165	9055	8889
No. of doctors with acupuncture qualification	13946	14082	14339	14425	14648	14874
No. of registered doctors	481174	485818	496240	506014	515640	526146

Note. From "Ärztestatistik" by Bundesärztekammer, 2014-2019, "Qualitätsbericht 2018" by Kassenärztliche Bundesvereinigung, 2018b. In the public domain.

Qualification of Acupuncture Provider in Korea

The Korean medical system is dualistically composed of western medicine and TKM, which means that TKM does not serve as a complementary sector, but it exists as a whole medical system. TKM doctors have an equal legal status as other medical personnel[16] in the health care system. In legal terms, western medicine doctors can only practice medicine within the exclusive boundaries of western medicine and Korean medicine doctors can only practice medicine within the exclusive boundaries of TKM. The boundaries of Korean medicine are defined as 'traditional Korean medical care and traditional Korean medical guidance (Medical Service Act, 2020a),' 'that is inherited from our ancestors and therefrom scientifically developed and applied (Oriental Medicine Promotion Act, 2018).' That is, TKM treatment cannot be performed without a TKM doctor (S.-J. Kwon & Eom, 2015).

To become a TKM doctor, a bachelor's degree in TKM from a nationally standardized six-year-program, composed of two years of pre-med program and four years of traditional Korean medical program, is a prerequisite. The total hours of education required for graduating this program is around 6000 hours (S. Y. Han et al., 2016). The educational curricula slightly vary between the universities, but both TKM lectures and western medicine lectures are included in the curriculum, as well as the foundation lectures in humanities and basic sciences (See Table 7 as an example). The last year of this six-year course contains 900 hours of clinical training (Youn, 2019), mainly dedicated to the case study lectures and the clinical apprenticeship at the TKM university hospital.

The effort to standardize TKM education and service based on the evidence is an elementary but an essential step to further integrate traditional medicine within national health system, to strengthen primary health care and ultimately to achieve better health of the population (World Health Organization, 2021b). According to the TKM Promotion Act, the ministry of Health and Welfare must establish a TKM development plan every five years to promote and develop TKM. Currently, the TKM development plan concentrates on enhancing the accessibility and reliability of TKM by expanding the NHI reimbursement of

[16] Medical personnel by law refers to a physician, a dentist, an oriental medical doctor, a midwife or a nurse (Medical Service Act, 2020b).

herbal medicine and developing evidence-based TKM clinical practice guidelines[17] (see Table 8; Ministry of Health and Welfare, 2021). TKM universities in Korea aim to reflect these clinical practice guidelines into the educational curriculum to help TKM students to acquire standardized clinical competencies (Youn, 2019).

Table 7

Curriculum Example of TKM Bachelor's Degree

Curriculum	Subject
Pre-med program (Two years)	General physics, General biology, General chemistry, Human embryology, Anatomy, Anatomy lab., Chinese readings, Ethics of oriental medicine, Oriental classics, Medical philosophy, Synopsis of oriental medicine, Oriental philosophy, Biochemistry, Introduction to medical herbology, Original text of oriental medicine, Pharmaceutical botany, Principles of oriental medicine, etc.
Medical program (Four years)	Internal medicine (Hepatic system, Digestive system, Cardiac system, Urinary system, Respiratory system), Obstetrics and gynecology, Radiology, Physiology, Pathology, Pediatrics, Neuropsychiatry, Histology and lab., Preventive medicine, Formulas of oriental medicine, Oriental pathology, Oriental physiology, Oriental pharmacology, Oriental surgery and dermatology, Oriental otorhinolaryngology, Oriental rehabilitation medicine, Acupuncture and moxibustion, Meridian & acupoint, Oriental diagnostics, Oriental osteopathy, Oriental rehabilitation medicine, Medical herbology, Medical law, Original text of oriental medicine, History of oriental medicine, etc.

Note. Adapted from "Academic curriculum" by Dong-eui university Dept. Oriental medicine, n.d.

Table 8

Clinical Practice Guidelines in TKM

Status	Clinical Practice Guidelines (CPGs)
Developed and certified	Facial nerve palsy, Anger illness, Ankle sprain, Shoulder pain, Neck pain, Chronic low back pain syndrome, Lumbar disc herniation, Knee pain, Complementary treatment for breast cancer
Developed and in the process of certification	Stroke, Cold, High blood pressure, Cold hands and feet, Migraine, Vertigo, Parkinson's disease, Insomnia, Functional dyspepsia, Temporomandibular joint disorder, Allergic rhinitis, Fatigue, Cancer anorexia/cancer fatigue, Anxiety disorder, Dementia, Autism, Post-operative syndrome, etc.

Note. Adapted from "Clinical Practice Guidelines Database" by National Institute for Korean Medicine Development, n.d.

[17] These guidelines are available on the website of National Clearinghouse for Korean Medicine (http://www.nckm.or.kr/).

After completing a bachelor's program in TKM, graduates take a national board examination for Korean medicine doctor's license, which was first introduced in 1951. The examination is regulated and supervised by the national institution,[18] which administrates all national board examinations for healthcare professions such as western medicine doctors, dentists, nurses etc. (Korea Health Personnel Licensing Examination Institute., n.d.). There are around 20,000 TKM doctors in Korea (See Table 9) and only these TKM doctors are allowed to open, run and manage TKM medical institutions and bill TKM services including acupuncture treatment to the NHI (Medical Service Act, 2020c). Some TKM doctors choose to pursue specialization in TKM,[19] which requires a year of internship and three years of residency at the TKM university affiliated hospitals (S. Y. Han et al., 2016). Every year, c.a. 150 TKM specialists are produced (Pusan National University School of Korean Medicine, 2021).

Table 9

TKM Human Resources and Medical Institutions Statistics in 2017

TKM Institutions	No.	TKM Human Resources	No.
TKM University	12	TKM Doctor	20389
TKM Hospital	312	TKM specialist	2464
TKM practice	14,111	TKM Graduates/year	750

Note. Adapted from "Medical Expenses Statistics Index" by Health Insurance Review & Assessment Service, 2017.

Korea has already achieved high degree of standardization and safety management in traditional medicine through the national license system for TKM doctor and TKM university with a 6-year-curriculum. Nowadays, academia and industry of TKM sector concentrate on the monitoring of herbal medicine manufacturing and distribution, the integration of herbal medicine into evidence-based clinical practice as well as the safety management and reimbursement of herbal medicine in the NHI (Ministry of Health and Welfare, 2021).

[18] Korea Health Personnel Licensing Examination Institute

[19] There are currently eight branches of TKM Specialization: TKM Internal Medicine, TKM Gynecology, TKM Pediatrics, TKM Neuropsychiatry, TKM Ophthalmology/Otorhinolaryngology/Dermatology, TKM Rehabilitation medicine, Acupuncture and TKM Sasang Constitution.

Comparison of Acupuncture Reimbursement Standard in Germany and Korea

Reimbursement Standards of Acupuncture Treatment in Germany

Since 1st of January 2007, an insured of the German SHI can get an acupuncture treatment covered in few indications. There are two billing codes associated with the acupuncture treatment in the German SHI system: EBM 30790 and EBM 30791. The EBM 30790 is billed for the diagnosis and examination for acupuncture treatment and can be billed once per case (see Table 10). For the body acupuncture treatment without electrical stimulation, EBM 30791 is billed (see Table 11).

Table 10

Billing Standard of EBM 30790

Description	Initial diagnosis and final examination for the treatment using body acupuncture in accordance with the quality assurance agreements in accordance with Section 135 (2) SGB V
Indications	a) chronic lumbar pain, and/or b) chronic pain in one or both knee joints from osteoarthritis of the knee
Mandatory service content	• Pain analysis for localization, duration, intensity, and frequency • Determination of the impairment in everyday activities due to the pain • Assessment of the influence of pain on mood • Integration of acupuncture treatment into an overall pain therapy concept • Pain analysis and diagnostics according to the rules of TCM (e.g., using channels, disorder patterns, constitutional features or using syndrome diagnostics) • Creation of the therapy plan for body acupuncture with selection of the channels, specification of acupuncture locations, consideration of the optimal point combinations, distribution of acupuncture locations • Detailed consultation of the patient incl. defining therapy goals • Carrying out a progress survey at the end of the treatment • Documentation • Duration at least 40 minutes • Report to the general practitioner
Billing provision	Once per documented indication

Note. Reprinted from "*EBM 30790 : Eingangsdiagnostik und Abschlussuntersuchung zur Behandlung mittels Körperakupunktur*" by Kassenärztliche Bundesvereinigung, n.d.-b.

Table 11

Billing Standard of EBM 30791

Description	Carrying out body acupuncture and, if necessary, revising the therapy plan in accordance with the quality assurance agreements in accordance with Section 135 (2) SGB V
Indications	a) chronic lumbar spine pain and/or b) chronic pain in one or both knee joints from osteoarthritis of the knee
Mandatory service content	• Performing acupuncture treatment according to the therapy plan • Searching for the specific acupuncture points and the exact location • Needling the acupuncture-specific points with sterile disposable needles • Needles must be inserted for at least 20 minutes
Optimal service content	• Soothing or stimulating needle stimulation • Induction of the acupuncture-specific needle effect (de-qui feeling) • Consideration of the adequate needling depth • Adaptation of the therapy plan and documentation • Determination of the new combination of points, type of stimulation and needling depth
Billing provision	per documented indication up to ten times, except for special cases up to 15 times in the event of illness
Annotation	The material costs including the acupuncture needles used are included in the EBM 30791.

Note. Reprinted from " *EBM 30791: Durchführung einer Körperakupunktur*" by Kassenärztliche Bundesvereinigung, n.d.-c.

To be specific, patients with either chronic pain in the lumbar spine that lasted for at least 6 months or chronic pain in the knee due to osteoarthritis lasted for at least six months can have their acupuncture treatment up to ten sessions within six weeks covered in the SHI (Bundesausschuss et al., 2006). For the lower back pain, 14-20 needles can be used per session and for the gonarthrosis pain, 7-15 needles can be used. A new series of treatments may begin no earlier than 12 months after the last series of acupuncture treatments.

After providing the acupuncture treatment, at least 5% of the doctors who billed acupuncture treatments to SHI are randomly chosen, based on the billing data, to have their documentation audited including the therapy plan as well as the initial and follow-up survey (Kassenärztliche Bundesvereinigung, 2018b), for the purpose of quality assurance and safety control.

Remuneration for an Acupuncture Service in Germany

Currently, the remuneration fee for the initial diagnosis and final examination for the body acupuncture treatment (EBM 30790) is 57.40 Euro (see Table 12), which can be charged once a year. The remuneration fee for performing body acupuncture (EBM 30791) is 18.47 Euro.

Table 12

Change in the Remuneration after EBM Reform

EBM	Points before EBM reform in 2020 (Remuneration fee)	Points in 2021 (Remuneration fee)
30790	470 points (50.08 Euro)	516 points (57.40 Euro)
30791	212 points (22.59 Euro)	166 points (18.47 Euro)

Note. From "EBM - Weiterentwicklung ab 1. April 2020 Überblick über die wichtigsten Änderungen - aufgeschlüsselt nach Fachgruppen" by Kassenärztliche Vereinigung Bayerns, 2020. In the public domain.

However, the reimbursement of acupuncture is not solely influenced by the fee-for-service model. Before 2010, the reimbursement provided to the doctors was extra-budgetary, which means that the more acupuncture services were provided, the more fee was reimbursed. Since 2010, acupuncture treatments became subject not only to a fee-for-service model, but also to qualification dependent additional services (*Qualifikationsgebundene Zusatzvolumen*, QZV; Hickstein et al., 2018), which plays a role as a budget cap to prevent too much fee from being reimbursed for one kind of treatment. That said, each specialist category of doctors has designated sum of remuneration that they can get reimbursed from acupuncture treatment and if the number of cases of billed acupuncture treatment increases, the reimbursement per case decreases (Trinczek, 2015). Naturally, the heterogenous reimbursed fee per case led to the different preference of acupuncture provision between the doctor groups.

Analysis based on the acupuncture billing statistics

EBM 30791 ranked 5th among the top 20 most billed service by the orthopedics in 2nd quarter of 2012 and 7th in 3rd quarter of 2016 (see Table 13; Kassenärztliche Bundesvereinigung, 2018a). According to the most recent data in 2020, it is the third most billed GOP (uniform evaluation standard number) by the orthopedics followed by the basic charge for age 6 to age 59 (EBM 18211) and basic charge for age 60 or older (EBM 18212) (Kassenärztliche Bundesvereinigung, 2020). Given that two indications allowed for acupuncture treatment reimbursement are musculoskeletal disorders, it is not surprising that acupuncture treatment is de facto the most billed treatment of orthopedics.

Table 13

Frequency of the Billing of EBM 30791 in each Doctor Group

Specialist group	2nd quarter of 2012 Rank among Top 30 most billed fees in each doctor group (Frequency of services per case)	3rd quarter of 2016 Rank among Top 20 most billed fees in each doctor group (Frequency of services per case)
Orthopedics	5th (22.7%)	7th (19.6%)
Anesthesiologists	7th (6.0%)	Fail to rank in the top 20
Internists specializing in rheumatology	17th (1.0%)	Fail to rank in the top 20
General practitioners / General practitioner internists	19th (1.8 %)	Fail to rank in the top 20
Specialists for Physical and rehabilitative medicine	-	7th (22.2%)

Note. Adapted from "Honorarbericht für das zweite Quartal 2012 Zahlen und Fakten" by Kassenärztliche Bundesvereinigung, 2019 and "3. Quartal 2016, Sonderthema: Top 20 Gebührenordnungspositionen - Teil 2" by Kassenärztliche Bundesvereinigung, 2018a. In the public domain.

Another statistical analysis report published by ZI[20] (Heuer, 2017) aimed to record, analyze and present the volume of ward-replacing service[21] in the SHI based on the billing

[20] Central institute for statutory healthcare (ZI)

[21] services originally exclusively provided in the inpatient sector and only approved recently as 'new' services for the ambulatory sector

and the reimbursement records. This report defined EBM 30790 and 30791 as 'ward-replacing' service, which is one of the newly introduced services in the outpatient sector that has previously required an inpatient stay. The statistics showed acupuncture's capacity to shift from inpatient stay to an outpatient service in the pain management. EBM 30791 had the second highest decrease of performance requirement between 2009 and 2014, by 46.94 million Euros (18.7%) per year, which directly shows the economic impact of bringing acupuncture treatment into the pain management of the SHI.

Reimbursement standards of acupuncture treatment in Korea

In the case of any disease (e.g., a lower back pain, an infectious disease, or a cancer), injuries or childbirths, the NHI insured can receive TKM treatment benefits at TKM medical institutions, except for the obviously unnecessary purposes such as cosmetic procedures. As of 2016, 240 types of TKM treatments are included in the reimbursement catalog of the NHI system (C. Han, 2017). Among these TKM Resource-Based Relative Value Scale (RBRVS),[22] 12 codes are associated with acupuncture treatments (see Table 14). The reimbursement of acupuncture treatments in the NHI can only be claimed up to once a day for outpatient care and twice a day for inpatient care, up to two times per week (Reimbursement Reform on 2007.12.28, 2007).

In general, initial consultation on the disease patterns and syndrome diagnostics based on the information from history taking, observing, pulse diagnostics and tongue diagnostics, precedes an acupuncture treatment (Health Insurance Review & Assessment Service, 2015b). Unlike EBM 30790, the consultation fee can be billed for every treatment session, because this consultation can evaluate the result from the last treatment and identify the remaining problems for the next acupuncture treatment.

When performing body acupuncture, the body is divided into five sections: head and neck, chest and abdomen, lumbar region, upper extremities, and lower extremities (Health Insurance Review & Assessment Service, 2012). When acupuncture is performed on one section, RBRVS 40011 can be billed. When acupuncture is performed on more than one section, 50% of the relative value of RBRVS 40011 is added. There are also other types of acupuncture which can be combined with RBRVS 40011, such as bloodletting, acupotomy,[23] warm needling etc., but only up to three types of acupuncture therapy can be combined for one treatment session. Except for a few special acupuncture techniques,[24] the acupuncture

[22] Korean RBRVS applies on the same principle as German EBM.

[23] treatment using bladed needle to remove chronic lesions (Jeong et al., 2018)

[24] Intraorbital acupuncture, intranasal acupuncture, intraperitoneal acupuncture, intra-articular acupuncture, intervertebral acupuncture and penetrating method acupuncture (RBRVS 40030 to RBRVS 40080) have designated acupuncture points that have to be acupunctured (Health Insurance Review & Assessment Service, 2012).

treatment procedure, including the selection of acupuncture points, the number of needles to be used and the duration of the acupuncture session, is left to the discretion of the TKM doctor.

Remuneration for an Acupuncture service in Korea

After the ambulatory care is provided in the TKM clinic or hospital, TKM doctors bill the provided medical service to the NHIC using the RBRVS, which sets the medical fee for each medical procedure within the NHI system, combined with disease code from Korean Standard Classification of Diseases (KCD).[25] The TKM remuneration fees are composed of relative value, which expresses the consumption of resources, and a conversion factor (CF)[26] of each year (see Table 14 as an example). As in Germany, the billing for fee-for-service is capped, not on a quarterly basis but on a daily basis, based on the number of outpatients. When this threshold is exceeded, the total amount of reimbursement is gradually deducted (B. Lim, 2013).

The RBRVS system was introduced in 2000, to rectify the skewed incentives of the medical services due to the imbalanced pricing and to easily adjust the incentives to reflect the inflation(J. Kim, 2004) . Even though it went through two major reforms[27] in 2007 and 2017, the association of Korean medicine claims that relative value in TKM still does not reflect the labor costs and the inflation of the expenses (Kang, 2019).

[25] KCD is a disease classification system developed based on the International Classification of Diseases. It is shared by western medicine doctors and TKM doctors. The diseases only defined in TKM are categorized into the U-code.

[26] Conversion factor of 2021 is 89.3 KRW (EUR 0.065; Health Insurance Review & Assessment Service, 2021)

[27] The 3rd reform will be implemented in 2023.

Table 14

RBRVS code for Acupuncture Treatment in Korea

RBRVS Code	Description	Relative Value (RV)	Remuneration Fee (RV x CF)	Remuneration Fee in Euro
40011	Acupuncture on acupoints (1 section)	33.94	3050	2.23
40030	Intraorbital acupuncture	40.16	3610	2.64
40040	Intranasal acupuncture	36.46	3270	2.39
40050	Intraperitoneal acupuncture	36.51	3280	2.40
40060	Intra-articular acupuncture	39.64	3560	2.60
40070	Intervertebral acupuncture	40.67	3650	2.67
40080	Penetrating method acupuncture	40.81	3660	2.67
40091	Electronic Stimulation needle	34.81	3130	2.29
40092	Electronic Acupuncture	38.88	3490	2.55
40100	Laser acupuncture	33.98	3050	2.23
40121	Sectional acupuncture[28]	34.96	3140	2.29
40131~4	Others (intradermal acupuncture, skin acupuncture, magnetic acupuncture, etc.)	34.96	3140	2.29

Note. From "Medical/Dental/TKM/pharmacy fee file (as of '21.2.1.)" by Health Insurance Review & Assessment Service. Reimbursement fee as of 2021, ambulatory care in TKM practice. In the public domain.

Coinsurance for Acupuncture service in Korea

In the Korean NHI ambulatory care sector, also including the TKM clinics, 30% of the total reimbursement is imposed to insurees as co-insurance, to stop them from overutilizing the healthcare system (E. Park & Choi, 2020). Not only the co-insurance burden from the reimbursables but also the non-reimbursable services such as herbal acupuncture or bee venom acupuncture must be paid out-of-pocket (J. kyoung Park & Kim, 2017). As of 2019, the average NHI coverage rate[29] at the TKM clinic was only 54% (National health

[28] auricular acupuncture, head acupuncture, foot acupuncture, hand acupuncture, finger acupuncture, facial acupuncture, nasal acupuncture, wrist acupuncture etc.

[29] Health expenditure reimbursement from the NHI as a share of total health expenditure incurred for medical purposes (National health insurance service, 2019).

insurance service, 2019), which might lead to an economic burden of households and limit the access to health care services (Chunho Kim, 2017). This is not only relevant to TKM clinics, but also relevant to the entire Korean health care system, which ranks at near the bottom among OECD countries for its health expenditure from public sources as a share of total health spending (only financing less than two-thirds of spending; OECD, 2020).

Trend analysis according to Acupuncture Billing Data

Since Koreans can receive TKM services for all indications, the yearly reimbursement statistics from HIRA (see Table 15) shows how many patients chose to receive TKM services with which indications. According to the statistics, the nine out of the ten most reimbursed disease classifications in the TKM ambulatory care sector and the seven out of the ten in the inpatient care sector, were musculoskeletal disorders. It is a reasonable result, considering the characteristics of acupuncture and its clinical effectiveness especially in the musculoskeletal disorders (Korea Health Industry Development Institute, 2011). Even though Table 15 does not specify which treatment was provided, considering the fact that 48% of the people visiting TKM institutions receive acupuncture treatment (Korea Institute for health and social affairs, 2012), it is possible to speculate that acupuncture treatment is mainly provided in the case of musculoskeletal diseases. Moreover, this might explain the reason why TKM medical costs takes up to more than 40% of total reimbursed medical benefit costs from auto insurance in 2019 (Changho Kim, 2020), whereas the share of TKM medical costs of the total reimbursed medical benefit costs from NHI was only 3.5% (Daeyoung Kim, 2020). However, K. Yoon (2017) raised concerns about the use of TKM being heavily deviated to treating musculoskeletal diseases, which can actually hinder the expansion of TKM coverage and accessibility in the long-term perspective.

Table 15

Performance of TKM Reimbursement Ranking by Disease

Rank	Outpatient		
	KCD code and diseases		Persons (n)
1	M54	Back pain	4,098,696
2	M79	Other soft tissue disorders, not classified	1,998,986
3	S33	Dislocations, sprains and strains of joints and ligaments of the lumbar spine and pelvis	1,904,463
4	M62	Other disorders of Muscle	1,146,158
5	S93	Dislocations, sprains and strains of joints and ligaments in the ankle and foot area	1,006,652
6	M25	Other joint disorders, unclassified	821,884
7	M75	Shoulder lesions	806,247
8	K30	Functional indigestion /Postpartum disease	766,755
9	S13	Dislocations, sprains and strains of joints and ligaments in the neck	745,830
10	S43	Dislocations, sprains and strains of the joints and ligaments of the shoulder girdle	518,844

Note. As of 2017, Reprinted from “Medical Expenses Statistics Index” by Health Insurance Review & Assessment Service, 2017. In the public domain.

V. Discussion

It has been 20 years since the official attempt to introduce the acupuncture treatment into the German SHI system. The amount of costs reimbursed for acupuncture treatments had become uncontrollable and the SHI funds had been asking for the establishment of acupuncture reimbursement standards. After an extensive experimental project to verify the efficacy, effectiveness, safety, and cost-effectiveness of acupuncture treatments, acupuncture was finally brought into the SHI benefits catalog. Each healthcare system is different, but if there is a precedent in similar settings, it would be worthy of investigating in a comparative manner. Until so far, there was no publication analyzing the acupuncture reimbursement policy of Germany in comparison to another country with well-established traditional medicine reimbursement policy. The purpose of this study was to gain a better understanding of acupuncture reimbursement policy in the German SHI system and to suggest what can be improved compared to the preceding example of the Korean NHI.

Discussion on Methods and Sources

The reason Germany was chosen as a research topic is that since the introduction of the acupuncture reimbursement in German SHI, enough time has passed to analyze it but also not many publications were addressing the status quo or recognizing room for improvement. The reason Korea was chosen for comparison is that both countries operate a national health insurance system and Korea is an excellent precedent of acupuncture reimbursement based on its parallel medical system where both western and traditional medicine coexist. Even though the German SHI decided to rather ‘tolerate’ acupuncture as a means of pain management therapy, which is a different perspective from how Korean NHI approaches traditional medicine, this paper identified similar issues to be addressed and the issues that have been addressed in Korea in the past.

In this cross-country comparison paper, a theoretical background with respect to the overview of healthcare system and national health insurance scheme of Germany and Korea was provided to help understanding. The qualification of the acupuncture provider and the reimbursement standard as well as the reimbursement statistics of the German SHI was investigated in-depth and compared with the Korean NHI.

There are several potential limitations concerning the results of this study. The first limitation of this study is the bias. Although academic research ought to be objectively handled, this qualitative study was not free from both research bias and researcher bias. The author of this research as well as four interviewees are all acupuncture treatment providers who had or have been practicing acupuncture service, which makes it extremely difficult to minimize the bias affecting the analysis. However, to avoid participant bias, simple, open-ended, neutral questions were asked while conducting the semi-structured interview.

The second potential limitation is that the quantitative figure for the evaluation of the outcome and the impact was not included in the scope of discussion of this paper, mainly due to the limited access to data. In this paper, not only the qualitative data on the reimbursement policy itself but also the political, economic, and cultural background was brought into consideration to understand the traditional medicine in the national healthcare system from the perspective of Germany and Korea. However, the textual data of the exploratory research findings cannot be generalized without preceding quantitative research (Sparks, n.d.). Therefore, further research on the acupuncture treatment of comprehensive German health insurance sector accompanied by quantitative data which reflects the impact of the policy would be essential to analyze the acupuncture treatment in the overall picture and develop an overall strategy to facilitate the usage of acupuncture in Germany.

Third, acupuncture treatment in the German SHI does not represent the current state of acupuncture treatment in Germany. Around 90% of German citizens are insured by SHI and the other 10% are covered by PHI. Even though it depends on the premium, PHIs usually cover the costs of acupuncture treatment in a broader scope of indication than the SHI. Therefore, it would be difficult to apply the conclusion and implication of this study in the context of the overall situation of German healthcare system.

This paper also did not address the realm of the naturopaths (*Heilpraktiker*) in Germany. Naturopath is a CAM healthcare profession recognized by German law (Bundesamt für Justiz, 1939) and there are around 47.000 naturopaths who are actively practicing in Germany (as of 2015). Naturopaths are allowed to provide acupuncture treatment in their own practice and the treatment is covered to some extent, by the PHI companies. For this thesis, the realm of naturopaths was excluded because technically speaking, naturopaths are considered as non-medical practitioners (Kattge et al., 2017).

However, further research is needed to provide insights on the role of naturopaths in acupuncture treatment in German healthcare system.

Despite these limitations, the present study has enhanced the understanding of the status quo of the acupuncture reimbursement policy in German SHI and identified some room for improvement.

Discussion on Results

There are three key findings of the present research. First, both in Germany and Korea, the qualification for an acupuncture treatment provision is required to provide acupuncture in a broader sense. The difference is that in Korea, acupuncture treatments can be offered exclusively by TKM doctors who had an extensive traditional medicine education and a national certification exam to acquire the status as medical personnel. Whereas in Germany, acupuncture treatment in clinical settings can be provided only by physicians but doesn't require any training or education on traditional medicine or acupuncture by law. But to be able to bill for the reimbursement of acupuncture treatments in the German SHI scheme, physicians are required to accomplish a minimum of 360 hours of education and training.

Second, both Germany and Korea have capped fee-for-service as a payment model, but the reimbursement standard showed a big difference. Since acupuncture treatment in Germany is a mere means of ambulatory pain management and was only proved to be effective in chronic lower back pain and chronic gonarthrosis that lasted for more than 6 months, these are the only two indications covered by the SHI. The reimbursement fee for acupuncture treatment was higher in Germany than Korea but the remuneration was apparently not high enough to economically motivate German physicians to provide acupuncture treatment in the SHI.

Third, these similarities and differences have resulted in significant implications in each country. In Germany, the decreasing number of physicians willing to provide acupuncture under SHI scheme, the insufficient pricing of the acupuncture treatment remuneration as well as the unstandardized and unregulated qualification process of acupuncture providers are identified as the main tasks to be dealt with. Even though the TKM sector in Korea is also facing with issues concerning remuneration of TKM services, Korea

has achieved the quality assurance through a standardized and regulated qualification program and a governmental investment in evidence based TKM treatment guidelines, which might propose the nearest solution for German SHI to start with.

Discussions on Qualification of Acupuncture providers

The biggest difference in the qualification of acupuncture providers between Germany and Korea is that acupuncture qualification in Germany is rather an additional qualification for physicians whereas in Korea, qualification of traditional medicine treatment including acupuncture is an exclusive six-year medical program and national board exam, clearly separated from western medicine qualification.

The German Medical Association settled on introducing the additional training in acupuncture (*Zusatzweiterbildung Akupunktur*) program in 2003, to assure the professional competency in practicing acupuncture (Bundesärztekammer, 2011). The reason why the additional training in acupuncture was designed to be 200 hours is unknown but considering the fact that the other qualifications in complementary medicine recognized by the German Medical Association also requires several hundred hours of training (e.g., 240 hours for the additional training in naturopathic treatment, 260 hours for the additional training in homeopathy; Ärztekammer Nordrhein, 2014), presumably it was for the sake of balance between the qualifications. Acupuncture societies such as DÄGfA[30] have been opposed to the training guideline since the introduction (Rüdinger, 2003), claiming that the competency in acupuncture cannot be reached within such short training hours. Moreover, according to the in-depth interviews, even though the training guideline by the German Medical Association is established and recommended, the specific content or the lecturer/trainers are de facto not regulated.

The EBM 30790, which is billed for the initial TCM diagnosis before the acupuncture treatment, includes conducting a comprehensive medical examination and establishing a treatment plan using TCM theories, especially based on the disease patterns and syndrome

[30] the German Association for Medical Acupuncture (*Deutsche Ärztegesellschaft für Akupunktur e.V.*, DÄGfA)

diagnostics (*Bian Zheng Lun Zhi*).[31] Whether 200 hours of TCM courses could ensure enough competency to manage this is highly questionable, according to the interviews with both German experts and Korean experts. Until so far, no research has yet been conducted to investigate the correlation between an evident decreasing trend in the use of acupuncture in the SHI (Hickstein et al., 2018) and the competency of the acupuncture providers of Germany. However, the result of the PEP-Ac study of the G-BA's model project showed that acupuncture training hours were not associated with the therapeutic effect (see Appendix; Weidenhammer et al., 2007). Considering the circumstances, it is reasonable to be open to doubt if the quality of the training had influenced the effectiveness of the acupuncture treatment.

As the content and curriculum of the complementary medicine in additional training (*Weiterbildung*) have been very heterogenous and uncertified, it is still unclear to what extent physicians develop their competence in acupuncture. However, the 'National competence-based catalog of learning objectives medicine (NKLM),[32] recently defined the learning objective to perform CAM as 'to describe the physiological hypotheses of relevant complementary and alternative medical directions and discuss their effectiveness and risks' (Medizinischer Fakultätentag, 2015). Valentini (2021) claims this formal clarification can be regarded as the first milestone of complementary medicine education in Germany and the starting point of the standardization of CAM. Also, a competence-based curriculum for CAM is in development by the German College of General Practitioners and Family Physicians (DEGAM), which hopefully could be applied to the additional training and qualification for CAM (Valentini, 2021). In this case, the Korean TKM educational system could be an important reference for Germany, even though it would be highly unlikely that there would be an independent medical degree dedicated to acupuncture or TCM, but in order to achieve

[31] *Bian Zheng Lun Zhi* (辨證論治) is the most distinctive and fundamental feature of TCM, which distinguishes it from western medicine. *Bian zheng* is to differentiate disease patterns and *Lun Zhi* is to determine treatment principles based on the pattern differentiation (Lin et al., 2014).

[32] NKLM is an official document that defines the knowledge and set of skills that doctors should possess after completing the qualification process (Medizinischer Fakultätentag, n.d.).

quality assurance and validity in health insurance system, a standardized, quality-regulated education and qualification is seemingly a priority task in Germany.

Nonetheless, Germany has a structural advantage over Korea when it comes to utilizing acupuncture to the maximum and achieving the integration between traditional medicine and western medicine. In Korea, western medicine and TKM have long been in an institutional conflict over the TKM doctor's use of modern medical devices (Ha, 2018), claiming that modern medical devices are within the exclusive boundaries of the western medicine and TKM doctors should be banned from utilizing medical imaging in the practice of TKM. This conflict is one of numerous exhausting conflicts occurring between TKM and western medicine, which is essentially driven from a competition over the limited medical market (E. J. Lim et al., 2014). On the other hand, since German physicians practicing acupuncture are not limited from using western medical technologies such as radiography, computer tomography or magnetic resonance imaging, which can be dramatically helpful for the medical diagnosis and treatment planning, the acupuncture treatment can be ideally provided. Therefore, under the premise that competency in traditional medicine is achieved, Germany might have a relatively superior position in achieving integrative medicine.

Discussions on Reimbursement Standard

Acupuncture treatment is covered in both the German SHI and the Korean NHI. Acupuncture treatment in the German SHI is a kind of treatment for a pain management whereas acupuncture treatment in the Korean NHI is rather a major part of TKM system together with other TKM services such as herbal medication.

The acupuncture reimbursement in German SHI started in 2007, after the large-scale, then up-to-date model study proved acupuncture to be cost-effective and safe enough to be included in the SHI benefits catalog in two indications: chronic lower back pain and chronic gonarthrosis that lasted longer than six months. The acupuncture reimbursement in German SHI is subject to the fee-for-service model and qualification dependent additional services (QZV) model. The remuneration for acupuncture has decreased compared to 2007, when the acupuncture reimbursement was initiated. When the G-BA conducted cost-comparison analysis and cost-effectiveness analysis, one session of acupuncture treatment was fixed to 35

Euros (Gemeinsamer Bundesausschuss, 2007), which is almost the double of what physicians are reimbursed per session in Hamburg in 2021. Moreover, the application of QZV which basically caps the total amount of the reimbursement from acupuncture treatment supposedly led to the decrease of the actual remuneration that physicians receive from billing acupuncture treatment to the SHI (Pollmann, 2020). It means that the cost-effectiveness resulted from the model project is not valid anymore and the reimbursement system needs to be updated.

Interviewees were of a similar opinion, saying that the current remuneration of acupuncture services in the SHI is simply not viable considering the effort and the course fees that had been invested to be qualified as an acupuncture practitioner in the SHI system, not to mention the paperwork from KVs they must cooperate with, for the quality assurance. This is not necessarily the case for all the medical services in SHI, because for example in Hamburg, only 26 types of therapies are required to participate in quality assuarance and acupuncture is one of them (Kassenärztliche Vereinigung Hamburg, 2020). It cannot be a coincidence that the recent statistics showed that the number of the physicians who provide acupuncture in the German SHI was constantly decreasing, even though the total number of physicians providing acupuncture in Germany was increasing. Regardless of whether this increment was absorbed into the PHI or not, the decrease of acupuncture providers in the SHI implies the decrease of accessibility to acupuncture services for the vast majority of people. Furthermore, if this increment was absorbed into the PHI, considering that the PHI scheme is only allowed to people with higher income or to those with a particular occupation and that the PHI offers a more extensive coverage of acupuncture treatment, it could imply that this acupuncture reimbursement policy in the SHI resulted in the expansion of acupuncture services in PHI. Further research into the PHI is needed to better understand the overall impact of the acupuncture reimbursement policy in the SHI.

What is also noticeable is that there has been a drastic change in the composition of acupuncture providers. In the early 2010s, many specialist groups seemed to have a clear preference for acupuncture based on the billing data in 2012. In 2016, no other specialists were billing acupuncture service as frequent as before, except for the orthopedics and specialists for physical and rehabilitative medicine. The most recent statistics showed that the preference for providing acupuncture service by the orthopedics increased even more that it is

currently the most billed treatment of orthopedics. This marked preference might indicate that the application of QZV did not affect orthopedics like it did to other specialist groups. Additionally, it might imply that the dominance of orthopedics in acupuncture provision would continue as long as the therapeutic indication is limited to two musculoskeletal disorders and as long as the acupuncture reimbursement policy remains the same.

Discussions on a proposal for improvement

In Korea, where the traditional medicine is not only a medical system but also a cultural heritage, TKM is legally protected and promoted by the government investing hundreds of millions of Euros per year in research and development (Kang, 2021). Accordingly, it is highly unlikely that the academic and clinical value of traditional medicine will unexpectedly vanish. However, this is not the case for Germany. The German SHI has a finite number of resources and institutions, experts, and stakeholders involved in charge of decisions on health goods and services require the highest possible degree of evidence (OECD, 2018), to validate its expenditure on the provision of health care benefits. If acupuncture cannot keep up with the evidence-based research and quality assurance in clinical setting, there is no guarantee that acupuncture service will be expanded, or that the acupuncture remuneration will be raised, or that acupuncture coverage will be continued at all in the German health insurance system.

As an example, medical homeopathy, which is another well-established CAM in Germany, has been successfully provided by thousands of doctors in Germany (Ärztezeitung, 2018). However, recently at the German Medical Assembly, controversy aroused that the scientific proof is no longer available for homeopathic medicine and therefore there is no need for the healthcare system to support it. Consequently, in 2019, Medical Associations (*Ärztekammer*) in Germany[33] started to exclude 'the additional qualification in Homeopathy' from the list of additional qualifications, which means no further homeopathy qualification will be issued to the physicians from the state (Lassiwe, 2020). This can happen to any

[33] In 2020, the state of Bremen, Hesse, Mecklenburg-Western Pomerania, Lower Saxony, North Rhine, Saxony-Anhalt, and Schleswig-Holstein decided to discontinue the homeopathy qualification program.

treatment in SHI, when the treatment fails to deliver “scientifically demonstrated sufficient effectiveness to justify a reimbursement (DW, 2019).”

Also, even though a large number of clinical trials on the effectiveness of acupuncture treatment are published each year in Germany, it seems like the up-to-date information from these publications were not yet reflected to policymaking, considering that the acupuncture reimbursement policy hasn’t been updated since the introduction in 2007, except for the decreased remuneration. Now that enough time has passed since the G-BA’s decision of accepting acupuncture into the SHI and much scientific evidence have been updated, it is necessary to reevaluate the acupuncture reimbursement policy, revalidate the evidence from the model project and conduct an impact analysis to suggest a strategic direction for the future policy development.

Furthermore, given that the acupuncture reimbursement policy is already in place, and that the acupuncture service is being provided at this very moment, the standardization of the education and qualification of the acupuncture providers to achieve clinical competency might be a matter of urgency.

VI. Conclusion

When the G-BA and the SHI funds started discussions on qualifying acupuncture treatment for the SHI benefits catalog and decided to conduct large-scale research, they aimed to reflect people's needs, to prevent SHI contributions from being wasted and ultimately to influence population's health and well-being. By allowing the acupuncture treatment reimbursement for the pain management of two indications, acupuncture was institutionalized in the German SHI.

This research aimed to demonstrate the reimbursement policy of acupuncture treatment in the German SHI scheme and suggest improvements to be made in comparison with the acupuncture treatment reimbursement in the Korean NHI system. Based on the government publications, academically published articles, and in-depth interviews, an absence of quality assurance in the qualification of German acupuncture providers was identified, which should be urgently dealt with, by standardizing the qualification program with a better quality to achieve traditional medical competency. The result also indicated that the German physicians are not as encouraged as before, to provide acupuncture in the SHI possibly due to the decreasing remuneration fee for the acupuncture service.

Despite the limitations of research as a qualitative study and the exclusion of the realm of the PHI and naturopaths, this is the first academic attempt to analyze the acupuncture reimbursement policy of Germany in depth and to compare it with the Korean NHI. This paper drew a map of the current regulations and touched on the related issues of acupuncture reimbursement in the SHI. In terms of future research, it would be useful to extend the current research by including other actors in the study, such as policy makers and the NHI insurees for a multifaceted approach to the acupuncture reimbursement policy.

Based on the contextual data provided from this paper on how acupuncture reimbursement policy is operating in Germany and how it should be developed in the future, hopefully acupuncture would become an accessible, affordable, and effective treatment and contribute to increase the quality of life of the people.

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VIII. Appendix

Overview of the Model Project on Acupuncture in Germany

Sponsor	Project	Study design	Contents	Indication	Result
Federal Associations of Allgemeinen Ortskrankenkasse (AOK), Betriebskrankenkassen (BKK), Industriekrankenkasse (IKK), the Agricultural and Maritime Health Insurance Fund and the Federal Miners' Union	German Acupuncture Trials (GERAC)	Randomized, Multicenter, Blinded, Parallel-group Trial	Efficacy of TCM acupuncture treatment compared to conventional therapy or sham acupuncture	Osteoarthritis of the knee, Chronic low back pain	The result showed significant superiority of effectiveness of verum acupuncture over standard treatment, but superiority over sham acupuncture was not confirmed
				Migraine, Chronic tension headache	Treatment outcomes for migraine do not differ between TCM acupuncture, sham acupuncture, or conventional therapy
		Observational cohort study	Evaluating the safety of acupuncture based on the report of side effects based on the questionnaires	Chronic tension headaches, migraines, chronic back pain, chronic coxarthrosis or gonarthrosis	A total of 14,404 mild side effects were observed (754 per 10,000 patients) and 45 serious side effects (2.4 per 10,000) observed
10 SHI funds (Deutsche Angestellten-Krankenkasse, Barmer Ersatzkasse,	The program for the evaluation of patient care with acupuncture (PEP-Ac)	Four randomized, controlled trials (ART) with c.a. 300 patients for each indication	Efficacy of verum acupuncture compared with sham	Migraine, Tension-type headache, Chronic lower back pain,	Acupuncture group showed significantly better result than the control group, but as effective as sham acupuncture group.

Sponsor	Project	Study design	Contents	Indication	Result
Kaufmännische Krankenkasse, Hamburg-Münchener Krankenkasse, Hanseatische Krankenkasse, Gmünder Ersatzkasse, Krankenkasse für Bau- und Holzberufe, Brühler Ersatzkasse, Krankenkasse Eintracht Heusenstamm, Buchdrucker Krankenkasse)			acupuncture[34] and no treatment	Osteoarthritis pain	Acupuncture group showed better result than sham acupuncture and control group.
		One randomized, controlled trial with 114 patients	Effectiveness of acupuncture compared with standard treatments	Migraine	Acupuncture group showed similar result as prophylactic drug group. Acupuncture group showed better result in the follow-up period, but prophylactic drug group showed high dropout rate due to the side effect and therefore findings can be uncertain.
		Survey of 5,217 physicians, Observational study of 454,920 patients	Description of routine care and safety	Headache, Lower back pain, Osteoarthritis pain	7.9% of all treatments showed non-serious complications. *No association between the amount of acupuncture training and outcome of the treatment was confirmed
		Three systematic reviews	Efficacy assessment based on the available trials	Chronic headache, Chronic lower back pain	Acupuncture was moderately superior to sham acupuncture and clinically more effective than no acupuncture, but the results were heterogenous.
				Chronic osteoarthritis pain	Review showed acupuncture to be effective compared to no treatment or sham acupuncture.

[34] minimal acupuncture on the points irrelevant to TCM

Sponsor	Project	Study design	Contents	Indication	Result
Techniker Krankenkasse and the health insurance companies that joined the model project[35]	Acupuncture in Routine Care (ARC)	Six partially randomized waiting-list-controlled studies.	Effectiveness of acupuncture treatment	Chronic lumbar spine pain, headache, gon- or coxarthrosis pain, Cervical spine pain, asthma / allergic rhinitis, or dysmenorrhea associated with osteoarthritis	Significant ($p < 0.001$) improvement after three months for all diagnoses in acupuncture group versus waiting list control group
		Cost-comparison analysis and Cost-effectiveness analysis	QALYs and Incremental cost-effectiveness relationships (ICER) based on the direct and indirect costs of each indication		The total costs after 12 months were higher in acupuncture group than without acupuncture group. Compared to the control group, acupuncture brought a gain of 0.02 QALYs.
	Acupuncture Safety and Health Economics Study (ASH)	Survey of 260,159 patients	Frequency of the adverse effects due to the acupuncture treatment		8.5% reported experiencing at least one side-effect, 0.8% required treatment due to acupuncture-induced side-effect.

Note. Adopted from "The Programme for the Evaluation of Patient Care with Acupuncture (Pep-Ac) – a Project Sponsored by Ten German Social Health Insurance Funds" by Linde et al., 2006. https://www.g-ba.de/downloads/40-268-487/2007-09-27-Abschluss-Akupunktur.pdf https://www.aerzteblatt.de/pdf.asp?id=49984 , "Acupuncture for chronic pain within the research program of 10 German Health Insurance Funds--basic results from an observational study" by Weidenhammer et al., 2007.

[35] Handelskrankenkasse, Innungskrankenkasse Hamburg, BKK of Allianz companies, Bertelsmann BKK, BKK BMW, Bosch BKK, DaimlerChrysler BKK, BKK Deutsche Bank AG, Ford BKK, BKK Hoechst, HypoVereinsbank BKK, BKK Aktiv, Siemens-Betriebskrankenkasse