



Project Report **healthtoday**

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Motivation

“The medicine of the future will certainly be a combination of different methods. There will be a strong focus on soft treatments without (meaningful) side-effects. Patients want to be listened to.” claims Dr. med. Irene Scharpf, who works in Ravensburg, Baden-Württemberg. Dr. Scharpf, who is specialized in alternative medicine, observed a large increase of patient numbers over the last couple of years. Possible reasons: growing discontent with conventional medicines, medical scandals spread by the media and political discussions about controversial issues, such as the compulsory vaccination of children.

Where does this growing dissatisfaction come from? Is it dangerous to decrease the priority of well-established conventional medicines? The project Healthtoday analyses the current public opinion about conventional medicine through expert interviews and surveys. But how can we conceive an opinion synopsis of such a complex issue? Qualitative and quantitative research methods were needed in order to gain an overview of peoples’ opinions, hence we organized written and online surveys as well as expert interviews.

Methods

Year’s conference	First survey
During March and July 2017	Survey (also online) with multiple-choice answers
Expertinterviews	During the whole project phase

A small outtake from one of our Surveys:

How would you answer these questions? Does your opinion reflect the results of our survey? Let’s find out

2.2 Did the usage of alternative treatment increased during the last year in your opinion?

yes no I don’t know

Answer: Yes 92,1%, No 4,9% and I don’t know 3%

5.1 Are possible side effects of conventional medicines deterrence factors?

yes no

Answer: Yes 61,6%, No 38,4%

5.2 Could the not proofed efficiency of homeopaths be a deterrence factor as well?

yes no

Answer: Yes 61,8%, No 38,2%

Expert interviews:

The validity of our hypothesis was discussed with health professionals (two doctors and a pharmacist) by means of interviews. All interviewed experts were asked similar questions. Surprisingly, they shared similar opinions.

How would you answer the following questions?

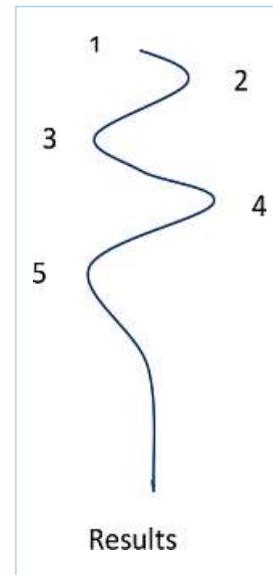
These are the answers of our experts:

1. What do you understand by “conventional medicine” and “alternative medicine”?
 - a) *Dr. Scharpf:* Alternative medicine is mainly based on experience, while school medicine has been proven and is based on facts and research.
 - b) *Dr. Finger:* General medicine (conventional medicine) comprehends scientifically proven methods, as well as other disciplines where the effectiveness of the treatments has been demonstrated, such as psychology and social medicine. Alternative treatments are those which have not been proven scientifically and have not got a long tradition like other pharmaceutical products.

- c) *Mr. Müller*: Conventional medicine, also school medicine, comprehends all the procedures and treatments that have been proven and studied thoroughly. Alternative medicine is an experience medicine, an empirical medicine based on experiences and not yet on scientific data. This does not mean alternative medicine is ineffective, but suggests that further studies should be performed in order to understand it more profoundly.
2. Do you think that certain groups in society favor alternative medicine? Does the educational background of the patients have an influence in the decision making?
- a) *Dr. Scharpf*: Those people who are very conscious about their health and their children's come to me looking for alternative treatments. They are mostly young patients and parents, while the elderly patients come mainly because of the time I spend on them. The persons I care for belong to the middle and upper classes, yet there are exceptions.
- b) *Dr. Finger*: Mostly middle-aged women are the ones that ask about alternative treatments, young patients want treatments with fast results. The patients with a higher education tend to be more critical about the medical treatments and hence ask more about alternative methods.
- c) *Mr. Müller*: Alternative medicine spreads in all social classes and age groups. Nevertheless, the majority asking about alternative treatments are young. Additionally, only people with a certain income have access to alternative drugs because these medical supplies are very expensive and are not covered by the insurances.
3. What does the future hold concerning medicine?
- a) *Dr. Scharpf*: The medicine of the future will certainly be a combination of different methods. There will be a stronger focus on soft treatments without (meaningful) side-effects. There will also be new drugs that are more expensive in their production.
- b) *Dr. Finger*: It would be great if the medical personnel could spend more time on the treatment of their patients, also in hospitals where plenty of specialists are present.
- c) *Mr. Müller*: The system will eventually collapse. New and better medicines will be produced through optimized processes and new scientific discoveries. Yet most of them will be so expensive that insurances, as they currently exist, won't be able to provide them. Therefore, the access to the general public will be limited.

Our journey and the development of our project:

- Hypothesis: There is a strong influence of social media and shared information through the internet, regarding health issues, on processes of decision making about our healthcare and therapy options.
=> Change towards our second Hypothesis:
- Hypothesis: In society today there is a growing suspicion about conventional medicine and drugs.
- Small survey during the last Conclusion: Alternative medicine and homeopathy were frequently perceived as equals
- Creation of a second survey with EvaSys.
- Expert interviews with health-professionals, such as doctors and a pharmacist.



Outcome

Now at the final chapter of the project Healthtoday, we can look back at thrilling and exciting months of work. Even if it wasn't easy, we had a lot of fun and learned about many complex topics. We learned about different medical treatments and the health system in Germany. We learned from the interviews that the topic "Health" will remain a current topic also in the future and we learned that everything could change in the next few years. Furthermore, the workshops offered by the TUM: Junge Akademie were very enriching and practical for the development of this project, as well as for our further work in academic areas. Moreover, we learned to work as a team, sharing the responsibilities and tasks. Fun and companionship were always present and we don't conclude this project just as team members, but as friends who will certainly remain in contact. To conclude, we encourage the new generations of TUM: Junge Akademie members to enjoy their projects as much as we did.

Yours sincerely,
Team Healthtoday

1. Abstract

With our project Healthtoday we examined our thesis: “In contemporary society there is a growing suspicion about conventional medicine and drugs.”

By means of two questionnaires and three expert interviews we evaluated the current state of opinion of patients, physicians and pharmacists.

2. Background

In the past decade research studies have reported an increased usage of complementary and alternative medicine (CAM) treatments in the western world. Therefore, the number of “Heilpraktiker” that have received a state license in Germany by passing an examination on basic medical knowledge and skills at a local public health office has increased from 9000 in 1993 to nearly 20,000 in 2006 (Joos et al., 2006, Beer et al., 2016, Dinges, 2017). The same development can be seen in relation to the increasing number of physicians with additional training in natural medicine and homoeopathy that are registered with the Medical Chamber:

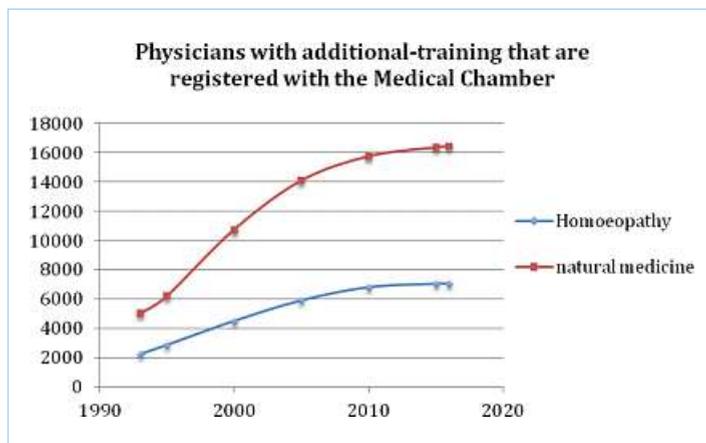


Figure 1: Physicians with additional training that are registered with the Medical Chamber; numbers from Gesundheitsberichtserstattung des Bundes www.gbe-bund.de, 17.10.09

In science literature, media and society various terms exist for those diagnostic and therapeutic disciplines that are not part of classic conventional medicine. The terms are not always equal and vary through different sources. Due to the wide range of disciplines of CAM it is difficult to determine criteria that are common for all. Moreover, the definitions depend on traditions and on historical developments of cultures and therefore vary a lot (Frass et al., 2012, Marstedt and Moebus, 2002, Joos et al., 2006). Furthermore, the ways of prescription of CAM differ between physicians and non-medical persons among countries (Joos et al., 2006). Traditional medicine have existed over many centuries and experiences were passed on from generation to generation providing safety and efficiency of usage. Nevertheless, to be officially recognized, scientific research is necessary to provide additional evidence of its safety and efficacy. However, for lack of adequate or accepted research methodology, the available data are insufficient to fulfill the necessary criteria to support its use worldwide and to be applied as evidence-based medicine (EBM) (Organization, 2000, Porzolt et al., 2010).

Supporters of alternative medicine see advantages in the holistic medical orientation that are aware of other causes of diseases and therapeutic mechanisms of action compared to conventional medicine. Another advantage is the lack of side effects which gives a reason for mistrust in conventional drugs (Marstedt and Moebus, 2002).

Definitions

Conventional medicine:

Mostly defined as treatments and methods that are used and investigated at universities of highly developed western countries and is evidence-based medicine (EBM) (Porzolt et al., 2010, Stefan N. Willich, 2004).

Alternative Medicine:

Alternative/complementary medicine in some countries is often used inter-changeably with traditional medicine. Traditional medicine includes knowledge, skills and practices based on theories, beliefs and experiences native to different cultures and is used to maintain health and also prevents, diagnoses, improves or treats physical and mental illness (Organization, 2000).

Definitions of some of the most common areas of alternative medicine:

Homeopathy:

The German physician Samuel Hahnemann founded this system of medicine at the end of the 18th century. He divided homeopathy in two major principles:

- the principle of similarity which treats like with like
- the most controversial principle is known as potentization, the process of repeated dilution and vigorous succession at each step of dilution (Du and Knopf, 2009, Boltman-Binkowski, 2016)

Traditional Chinese Medicine (TCM):

TCM is an important part of complementary and alternative medicine including herbal medicine and acupuncture and therefore plays an important part in the formation of integrative medicine. TCM was developed two thousand years ago and concentrates on maintaining health and enhancing the resistance to diseases to treat those (Lu et al., 2004).

Herbal Remedies (Phytotherapy):

Herbal medicines involve herbs, herbal materials, herbal preparations and finished herbal products that include the active ingredients of the used plants, other plants materials or combinations (Organization, 2000).

Osteopathy:

The physician and surgeon Andrew Taylor Still created osteopathy in the mid 18th century. He stated that manual contact is necessary for diagnosis and treatment while respecting the relationship of body, mind and spirit in health and disease. Therefore, the focus is on the structural and functional integrity and the intrinsic tendency for self-healing of the body (Organization, 2010).

3. Methods

Questionnaires

First Questionnaire:

We distributed our first questionnaire, containing open questions, at the annual conference and gained first impressions regarding current opinion on the topic.

In general all three basic opinions related to the acceptance of alternative medicine treatments were specified: positive, neutral and negative. For the positive and neutral fraction the most promising techniques were TCM and Phytotherapy. In contrast, the negative fraction often equated alternative medicine and homeopathy. Fur-



Figure 2: Design of the first questionnaire

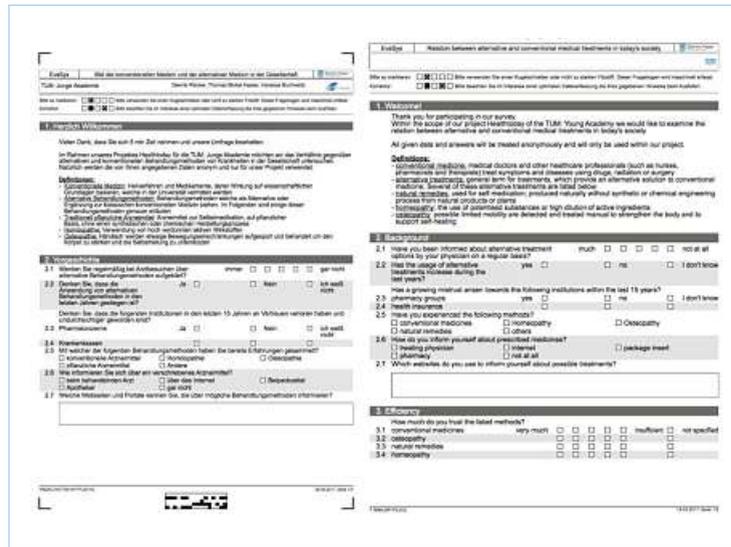


Figure 3: Design of the second questionnaire on EvaSys



Figure 4: sharing our questionnaire in Freising

Furthermore, the majority of respondents had already gained experience with alternative medicine and natural remedies were found to be the most positive ones. Unlike those natural remedies, homeopathy ones were described as less acceptable because of a lack of efficiency.

Moreover, most of the participants were of the opinion that less dangerous diseases could be treated with alternative drugs while life-threatening diseases should be treated with conventional methods or a combination of both.

Second Questionnaire:

In addition to our first questionnaire we designed a revised one on EvaSys with standardized questions that can be evaluated statistically. We shared it both in German and English online and on paper to maximize participation and gain information about experiences and opinions and how these relate to the background of participants. We received 100 completed surveys on paper and 173 online.

Outcome

The outcome of the second questionnaire is presented through the following graphics:

As shown in Figure 5 the majority of the respondents believes that the usage of alternative treatments has increased during the last years and therefore most of the people think that patients search for alternative treatments. Thereby, our study supports the developments of a still increasing use of complementary and alternative medicine in Germany during the last years (Joos et al., 2006).

More than seventy percent stated that they haven't been informed sufficiently about alternative treatments on a regular basis during physician appointments. A possible reason for this lack of information transfer might be the rejection, especially, of homeopathic treatments by medics because of the missing scientific research providing evidence of its safety and efficacy (Dinges, 2017).

As seen in Figure 7 the majority of respondents have used both conventional medicine and natural remedies, a subunit of alternative medicine. More than half of the respondents have applied homeopathy whereas only 22 % have tried osteopathy. The survey from Joos (2006) has stated that natural remedies and homeopathy are very popular in Germany and that the users are more likely to be female and well-educated (Dinges, 2017).

Although fewer people have tried osteopathy compared to homeopathy, they have been far more pleased with the results as shown in Figure 8. Furthermore, homeopathy was the medical treatment with the least satisfaction of the patients compared to conventional medicine, osteopathy and natural remedies.

Since possible side effects are one of the strongest concerns of conventional treatments we wanted to determine if there are social

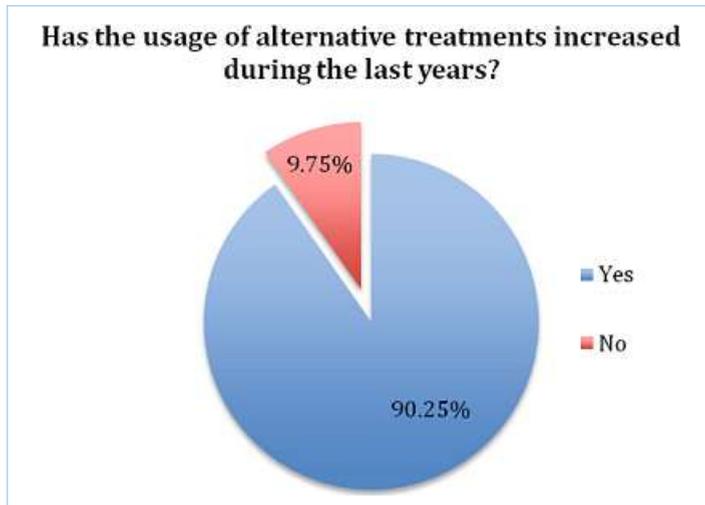


Figure 5: Has the usage of alternative treatments increased during the last years?

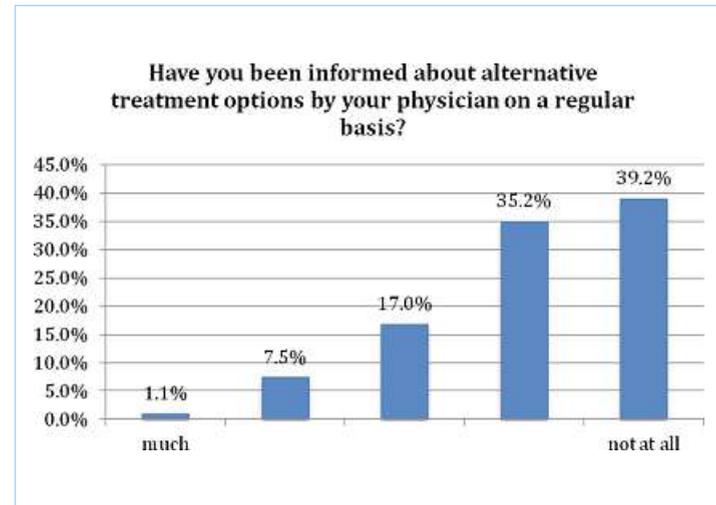


Figure 6: Have you been informed about alternative treatment options by your physician on a regular basis?

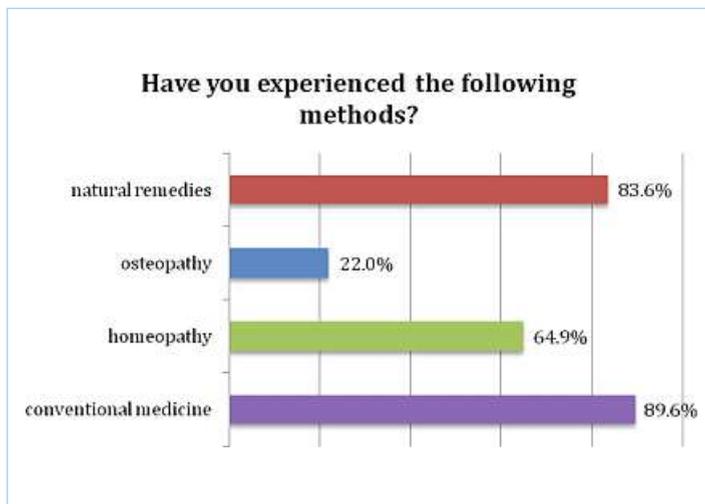


Figure 7: Have you experienced the following methods?

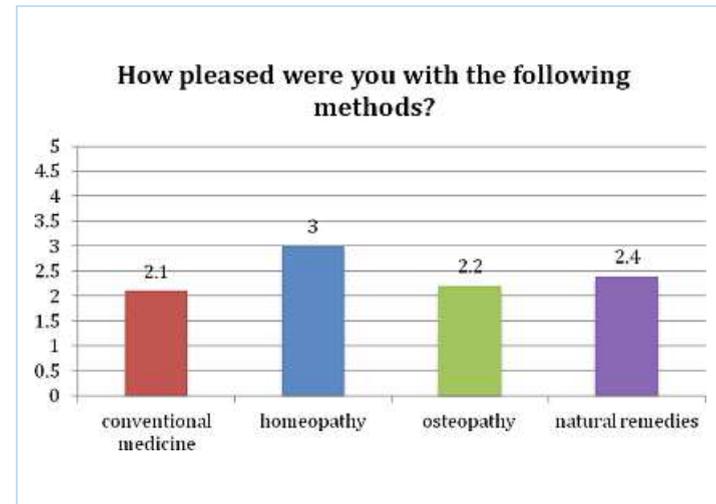


Figure 8: How pleased were you with the following methods on a scale from totally (0) and not at all (5)

For which of the following groups should alternative medicine be favored?

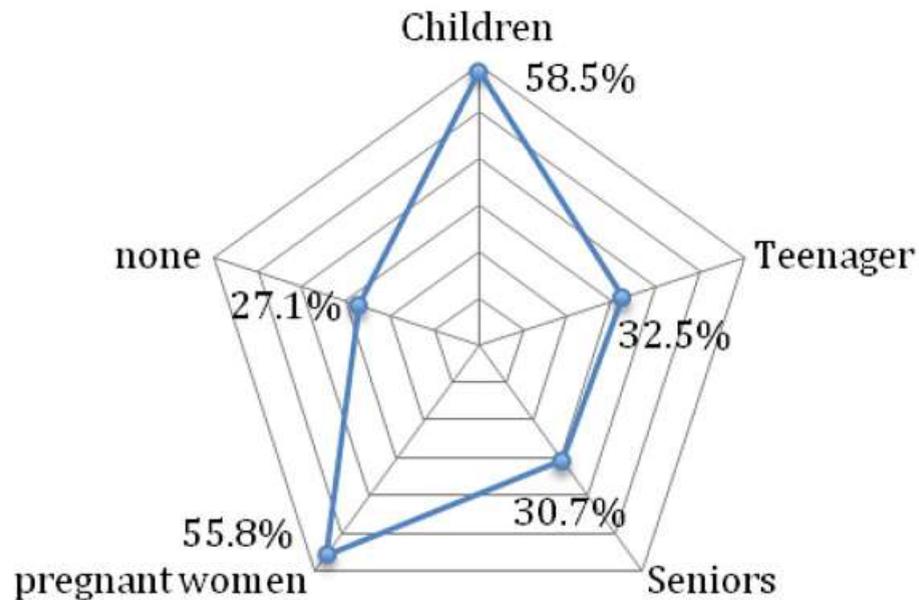


Figure 9: For which of the following groups should alternative medicine be favored?

groups that would be inclined to use alternative medicine instead of conventional. The results are presented in Figure 9:

More than half of the participants thought that the high-risk groups “children” and “pregnant women” should use alternative medicine instead of conventional. This result corresponds with the KIGGs-study which stated that for example homeopathic products like Arnika or Schüssler-Salze are mostly used for children between 3 and 6 years old (Schlack et al., 2008).

Expert Interviews

In addition to our questionnaires we performed three expert interviews to gain an overview of our topic from the point of view of physicians and pharmacists.

Therefore we interviewed the general practitioner Dr. med. Irene Scharpf who has specialized on homoeopathic treatments, the internist Dr. med. Sabine Finger and the pharmacist Josef Müller.

Summary of the interviews:

Dr. med. Irene Scharpf = S
 Dr. med. Sabine Finger = F
 Josef Müller = M

How would you define alternative medicine compared to conventional medicine?

S: Alternative medicine is primarily based on experiences while conventional medicine refers to facts and research studies. There are far fewer studies and statistics regarding CAM.

F: Conventional medicine is scientifically well-founded, whereas alternative medicine isn't scientifically reviewed and is mostly based on a long tradition.

M: Conventional medicine is empirically-based medicine (EBM) and alternative medicine mostly depends on the traditional background and differs among different countries.

What are the advantages of alternative treatments compared to conventional?

S: The main advantage is fewer side effects. Furthermore, the patient is treated holistically, where conventional medicine uses one drug that works at a certain part of the body. The relationship between patient and physician is much more intensive since more information about the patient is gathered. Therefore a huge disadvantage of conventional medicine is the lack of time used for patients.

F: Alternative medicine lays the focus not only on the disease but also on the complete human standing behind it. Moreover, general practitioners have the problem that they don't have enough time to treat the patient with the same amount of work as alternative physicians.

M: Alternative treatments offer fewer side effects compared to conventional ones. In general it is a great alternative for cases where conventional medicine reaches its limits. Furthermore, alternative physicians can spend more time to treat each patient.

Has the number of patients that want alternative treatments increased?

S: Yes I had a lot more patients in the last years. Especially parents and pregnant women choose to try alternative treatments first.

F: Yes I think so. Because it is a current topic and patients prefer a gentle medicine without side effects.

M: Yes. Especially younger ones are more open to alternative treatments.

Does the educational level of patients have an influence on the treatment they choose?

S: Sure. I think I treat mostly patients out of the middle and higher educated levels, although exceptions always exist.

F: Certainly yes. The higher educated ones question health issues more and search for alternatives.

What will the medicine of the future look like?

S: I'm sure there will be a combination of different methods and the focus will be on treatments without side effect. Moreover, patients will want physicians who listen more closely and spend more time with their patient.

F: It would be desirable for physicians to take more time for treatments and diagnosis. Since medicine is getting more and more specialized the family doctor will become more important to coordinate the results of other specialists.

4. Discussion and Outlook

Especially during the expert interviews, one point that stuck out was that there is a huge time problem within conventional medicine. Due to the little amount of time physicians spend with the patient, the latter get the feeling of not being listened to and of being treated hastily.

The great advantage of alternative treatments is that alternative practitioners take a lot more time for each treatment, for example first anamneses take at least 30 to 45 minutes.

Another main motive for choosing alternative treatments are chronic diseases and missing or insufficient achievements of conventional medicine. Furthermore, the possible side effects are a determining factor since alternative medicine is associated with gentle, natural and side effect free modes of action (Joos et al., 2006).

Within the medical profession and its associations and the insurance companies an extensive controversy about both the scientific acknowledge of alternative medicine and its inclusion within the statutory health insurance catalog of services exists (Marstedt and Moebus, 2002). This is reflected in the results of our survey where the majority stated that they haven't been informed about alternative treatments by their treating physicians recently. Of relevance here is that there was a huge discussion earlier this year when the Techniker Krankenkasse added homeopathic treatments to their services as many customers appreciate such alternative treatments (TK, 2017).

A major problem for patients choosing medical treatments is the contradictory information they receive from physicians, the media and the general social environment about the different treatments available. A possible solution might be a better system of information transfer about both conventional and alternative treatments by physicians to avoid misunderstanding and mistrust (Joos et al., 2006).

5. Conclusion

Altogether our research and results indicate that a growing suspicion against conventional medicine exists in the society. Two of the main reasons are the possible side effects of conventional drugs and a dissatisfaction of the results of those drugs and treatments. Moreover, the time problem of conventional practicing physicians seems to increase the suspicion towards the success of conventional treatments. In comparison to other European countries, primary physicians treatments in Germany are the shortest, mostly medically and least patient orientated ones. Due to that, patients want physicians to take more time for treatments and explanations for diseases and medicines (Dierks et al., 2006, Horch et al., 2012). Furthermore, the high specialization of many physicians comes not only with advantages, but also with the main problem that due to those specializations the patients are sent from one physician to another, which often leads to frustration and confusion. During the expert interview, Dr. med. Sabine Finger proposed that a possible solution might be the merger of different specialist in one medical practice, whereby patients are treated in one place and physicians have a better exchange their colleagues.

During the last years the relationship between patients and physicians has changed from a passive one to one where patients question the healthcare system and want to influence the spectrum of health insurance catalogs. Therefore, the Federal Ministry of Health (BMG) has originated a national program (gesundheitsziele.de) to encourage the patients as partners within decision making in healthcare and further projects are planned (Horch et al., 2012, Maschewsky-Schneider, 2017). That brings us to the conclusion that the healthcare system in Germany is currently in a state of change, which leads to a higher influence of patient onto the relationship between physicians and patients and a "shared decision making" (Horch et al., 2011).

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Healthtoday



ABSTRACT
With our project we aim to determine if our thesis: "In society a growing suspicion against conventional medicine and drugs occurs", is actually significant. To examine the correctness we evaluate the current general opinion through an EvaSys based survey and expert interviews.

Timeline/Roadmap

START Decision making in Healthcare:

- Hypotheses:** An influence of social media and shared information through internet, regarding health issues, on processes of decision making about our healthcare and therapy options exists.
=> Change towards our second Hypotheses:
- Hypotheses:** In the society a growing suspicion against conventional medicine and drugs occurs

Different Corners

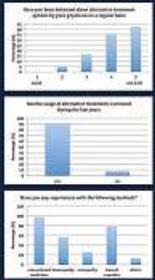
First Chapter
Small survey during the last Jahreskongress:
Conclusions:

- Alternative medicine and homöopathie were frequently equated
- Alternative methods is regarded as addition to conventional medicine by the majority

Second Chapter
Creation of a second survey with EvaSys:
Our survey still continuous and you can participate by scanning the QR Code:


Third Chapter
Expert interview:
Motivation: Gaining an overview of our topics from physicians and pharmacists point of view

Results



END OF THE ROAD & OUTLOOK

- Evaluation of the survey
- Graphic presentation of our results
- More expert interviews

JUNE 2017

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TUTORS Sabine Pircher, Maximilian Biehl
MENTORS Prof. Dr.-Ing. Liqiu Meng, Prof. Dr. med. Reiner Gradinger

inspired by
TUM Junge Akademie



Poster 3: Evaluation Day II

Healthtoday



ABSTRACT The interest of the public for different types of medical treatments becomes obvious from studying public media. Knowledge about the attitude of people towards medical regimes and subsequently acceptance of medical treatment is crucial to maintain public health. With our project Healthtoday we examined the hypothesis that „in the society a growing suspicion towards conventional medicine and drugs occurs“. By means of two surveys and three expert interviews we evaluated the current state of opinion of patients, physicians and pharmacists.

GOALS
In the past decade research studies have reported an increased usage of complementary and alternative medicine (CAM) treatments in the western world. This development can be seen due to the increasing number of physicians with additional training in natural medicine and homöopathie that are registered with the Medical Chamber in Germany (Figure 1).

Our goals were to determine the reasons for the increasing use of alternative medicine and possible solutions, as well as to find out which demographic groups are more open minded towards alternative treatments.

OUTCOME
As shown in (Figure 2) the majority of the respondents believes that the usage of alternative treatments has increased during the last years and therefore most of the people think that patients search for alternative treatments. Thereby, our study supports the developments of a still increasing use of complementary and alternative medicine in Germany (Joos et al., 2008).

More than seventy percent of the asked individuals stated that they haven't been informed sufficiently about alternative treatments on a regular basis during physician's appointments (Figure 3). A possible reason for the lacking information transfer might be the rejection, especially of homöopathische treatments, by many associations of medics due to the missing scientific research providing evidence of its safety and efficacy (Dinges, 2017).

Since possible side effects are one of the strongest concerns of conventional treatments, we wanted to determine, if there are social groups that would be favored to use alternative medicine instead of conventional. The results are presented in (Figure 4).

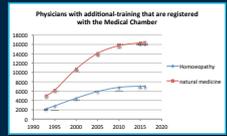
More than half of the participants thought that the high risk groups children and pregnant women should use alternative medicine instead of conventional. This result corresponds with the KIGGS-study, a study about health of children and juveniles in Germany by the Robert Koch Institute. It stated that for example homöopathische products like Arnika or Schüssler-Salze are mostly used for children between 3 and 6 years old (Schlack et al., 2008).

SUMMARY AND FUTURE GOALS
Together, our research and results indicate the existence of a growing suspicion against conventional medicine in society. Two of the main reasons for those results are the possible side effects of conventional drugs and patients dissatisfaction with the results of those drugs and treatments. Moreover, the pressure of time for conventional practicing physicians seems to increase the suspicion towards the success of conventional treatments.

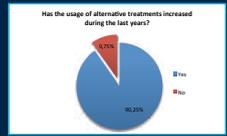
A possible solution might be a better information transfer and a transparent handling about both conventional and alternative treatments by physicians to avoid misunderstanding and mistrust (Joos et al., 2008).

TEAM STRUCTURE AND PROCESS
Sixteen months ago we started as a team of 6 members under the topic: decision-making in healthcare. Now at the final phase of our project Healthtoday, we can look back at exciting months of work. Even as it was busy and three members left our group we had a lot of fun and learned about many complex topics. Moreover, we managed to work as a team, by sharing responsibilities and tasks. Fun and companionship were always present and we don't conclude this project just as team members, but as friends that will certainly remain in contact.

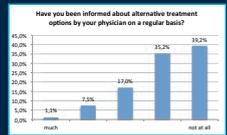
Physicians with additional training that are registered with the Medical Chamber



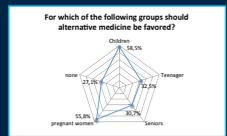
Has the usage of alternative treatments increased during the last years?



Have you been informed about alternative treatment options by your physician on a regular basis?



For which of the following groups should alternative medicine be favored?



JUNE 2017

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