



LEBANESE GERMAN FORUM 2022

HEALTH INNOVATIONS & ARTIFICIAL INTELLIGENCE

SUMMARY REPORT

INTERCONTINENTAL PHOENICIA BEIRUT - LEBANON
November 25, 2022



GHA



LEBANESE GERMAN FORUM 2022

November 25,2022

Prepared by:

Mr. Elie MOARBES
Dr. Jad AYOUB



LEBANESE GERMAN FORUM 2022

HEALTH INNOVATIONS AND ARTIFICIAL INTELLIGENCE

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"**Health Innovations and Artificial Intelligence**" was the theme of the inaugural first **Lebanese German Forum 2022** which took place on November 25, 2022, at the Intercontinental Phoenicia Hotel in Beirut .In the presence of the Ministry of Public Health, represented by **H.E. the Minister of Health Dr. Firass Abiad** and under the patronage of the **German Ambassador, H.E. Mr. Andreas Kindl**, the **Lebanese-German Business Council** with the support of the **German Health Alliance (GHA)** offered a unique opportunity to collaborate with leading thinkers and innovators in this field. European Ambassadors, official Lebanese and international institutions, Presidents of Lebanese medical Orders and Syndicates, International Banks and NGO's, Heads of Universities and Hospitals, Directors of medical companies, insurances, TPA, and other important healthcare sector executives were all present.

The following five activities took place during this event:

1. **A medical exhibition** that brought together private and public hospitals, international pharmaceutical and medical devices companies, syndicates, orders, and universities.
2. **A scientific conference** bringing together ten international and Lebanese experts in artificial intelligence and health innovations.
3. **A roundtable discussion** with healthcare executives.
4. **A startup competition** for Lebanese Universities Students
5. **A gala dinner** to commemorate the 25th anniversary of the Lebanese German Business Council.

The conference issued recommendations in the field of health, innovation and German-Lebanese cooperation, which will be forwarded to the appropriate authorities for follow-up implementation.

EXHIBITION

The first Lebanese German Forum 2022 - Health Innovation and Artificial Intelligence would like to thank the exhibitors for their trust and support for the first version of the event the event.

In our inaugural year, we received a record-breaking 400 healthcare executives, professionals, and representatives who attended the event and added value and knowledge to all the planned activities.

Our community benefited greatly from the health forum, and we appreciate your willingness to take part in similar events in the future.



CONFERENCES



DIGITAL HEALTHCARE EDUCATION
Dr. CLAUS W. BIERMAN MD MPH



MEDICAL INSURANCE INNOVATIONS
Mr. MOUNIR KHARMA



AUGMENTED REALITY AND TELEHEALTH
Dr. NADINE HACHACH



ERBE+ ACCADEMY IN LEBANON
ENG. HAISSAM YOUNES



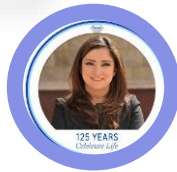
E-HEALTH INNOVATIONS
Dr. ADNAN EL BAKRI



MEDICAL IMAGING INNOVATIONS
Dr. MARWAN HADDAD



TOWARDS A NATIONAL PHARMACEUTICAL STRATEGY
Dr. JOE SALLOUM - Dr. CAROLE HASSOUN



TOWARDS A NATIONAL PHARMACEUTICAL STRATEGY
Dr. JOE SALLOUM - Dr. CAROLE HASSOUN



TRANSFORMING HEALTHCARE THROUGH INNOVATION
Dr. IONUT TARANU



MEDICAL DEVICES INNOVATIONS
Prof. JOSEPH COSTANTINE



ARTIFICIAL INTELLIGENCE AS A PROGNOSTIC AND DIAGNOSTIC TOOL FOR DIABETES-ASSOCIATED COMPLICATIONS
Dr. ASSAAD A. EID

STARTUP COMPETITION



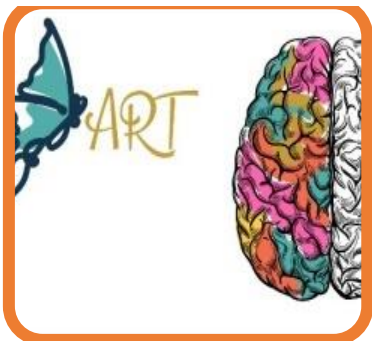
LEBANESE GERMAN
FORUM 2022



PRESENTS

STARTUPHEALTH competition

To find the best healthcare
Innovators in AI, Analytics, Devices
And Apps.



NOUR
MAATOUK

DIAGNOSTIC
KIT

1ST



SARA
EL KOUSSA

CANCER COM

2ND



YASMINE
DARWICHE

DONALEB

3RD

STARTUP COMPETITION



GALA DINNER



The Lebanese German Business Council
has the pleasure to welcome you
FOR ITS

25TH ANNIVERSARY
Gala
DINNER

FRIDAY
November
25 2022

starting 8:30 pm at the INTERCONTINENTAL PHOENICIA BEIRUT

Black Tie & Evening Gown Attire

Please present this card at the entrance



ROUNDTABLE DISCUSSION

The first Lebanese German Forum 2022 - Health Innovation and Artificial Intelligence would like to thank the participants at the roundtable discussion. who added a lot of value and depth to the conversation. This report concludes with a discussion summary and post-forum suggestions summarizing the roundtable discussion.





LEBANESE – GERMAN AND EUROPEAN COOPERATION IN HEALTHCARE AND EDUCATION

Private Executive Roundtable

**LEBANESE GERMAN FORUM 2022
November 25,2022**

Report prepared by:

**Dr. Jad AYOUB
Prof. Fadi JARDALI**



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Preamble

The private executive roundtable was convened on November 25, 2022, under the patronage of the German Embassy represented by H.E ambassador Mr. Andreas Kindl, and in the presence of the Dutch Ambassador in Lebanon H.E. Mr. Hans Peter van der Woude, to address the Lebanese-German and European cooperation in Healthcare Innovation. It was organized by the Lebanese German Business Council and the German Health Alliance and moderated by GHA &K2P.

Mr. Jad Ayoub, GHA Representative MENA, kicked off the discussion, which was then moderated by Dr. Fadi El- Jardali, Director K2P. Prior to the discussion, a video was shown presenting the potential areas of the Lebanese - German healthcare and education cooperation and interventions.

To ensure the richness of the discussion, the round table brought together diverse stakeholders from various sectors and disciplines and included the following representatives:

- Parliamentarians
- Military Healthcare Services
- Orders of Physicians and Pharmacists
- Lebanese Pharmaceutical Importers Association
- Syndicate of Medical Supplies Importers
- Syndicate of Hospitals
- University Hospitals
- Governmental and Private Hospitals
- Universities
- International Banks
- Private insurance companies and Third-Party Administrators
- NGO's

1. The Healthcare Situation in Lebanon

The unprecedented economic crisis in Lebanon have exacerbated and uncovered the weakness of the healthcare sector. Currently the healthcare sector faces challenges at the governance level, financial level, and delivery level. The COVID-19 have added a new sense of urgency to strengthen health sector and establish a universal healthcare system.

Globally there has been a shift towards a more digitalized health care system to improve health care delivery whereby patient experience is at the forefront of all health interventions. Efforts have been made in Lebanon to follow the global trend, yet reforms and innovation at the health system, digitalization and e-health and education levels are still required.

2. At the Healthcare System Level

2.1 Problems and Priorities

Participants addressed the **problem at the governance level whereby they highlighted the weak governance of the healthcare system. The participants suggested that the government and other doners are not addressing some key healthcare issues in Lebanon, including the high cost of hospitalization.** Participants agreed that many of **the actions implemented in Lebanon don't acknowledge that the country is in crisis situation, which is leading to a failure of most of the interventions.** Moreover, participants deliberated about the many strategies, policies and plans put by the government, which have resulted with no action or implementation. In addition, participants communicated that Lebanon has the highest per capita expenditure on health. **A range of potential solutions were proposed to improve the governance of the healthcare system, including the need to restructure the system and to strengthen primary care and prevention strategies. Focusing on primary care would help decrease the cost of care and in turn reduce detrimental health outcomes. The engagement and pooling of the different sectors including the private sector, the academia, syndicates,**

pharmaceutical companies and hospitals were proposed as a solution for better governance. **Participants proposed the need to establish a national committee from private and public representative to bring the holistic approach in restructuring the healthcare sector.** This was complemented by a deliberation about **the need to establish a public-private sector partnership** for the healthcare sector.

Moreover, it was suggested that an independent private public national health institute separate from MOPH may be established with priorities and field of actions. In fact, in the 1960s, a law number 8377 was issued to create a national superior council for health; however, it was not activated due to the absence of a political will to have such as body in Lebanon.

Given the current context, **participants suggested the need to rationalize and efficiently distribute the available resources, and to reduce the duplications between the private and the public healthcare sector.** Participants discussed the case of Germany and Holland whereby the public healthcare sector is dominating. In comparison, in Lebanon the healthcare sector is dominated by the private sector. Therefore, participants acknowledge the need to reorient our healthcare system into a public dominating system. Participants suggested that we can learn from the failures and success of Germany and Holland in that matter. Moreover, in order to improve the quality of services provided, it is important to ensure the availability of KPIs across the healthcare system. The need for alternative mechanisms has also been proposed to provide reproductive and sexual health services during the crisis.

Participants highlighted that health in Lebanon is addressed as a “commodity” and that it is time to reorient our thinking and to deal with health as a “human right”. People need to be able to access care based on need rather than on their ability to pay. **There was a general agreement on the importance to tackle the different social determinants of health (e.g., education, economy, environment, food safety) on the road towards universal health coverage (UHC) in Lebanon.**



The current healthcare system in Lebanon is more focused on secondary and tertiary care, while minimal attention is given to primary health care and prevention. Participants stressed on the importance to restructure our system and to move from treating the disease to preventing the disease. Genetic mapping has been proposed to be in the market in the short-term and should be taken advantage of. Moreover, participants addressed the lack of data on diseases and health outcome indicators in Lebanon (e.g., incidence of cancer, child mortality rates, etc....) which is a major barrier to the development of health policies in Lebanon. It was proposed that a study need to be conducted at the country level to identify diseases prevalence's in different regions to allocate the budget based on the need of the population. **The allocation of budget needs to be based on evidence. Participants proposed the need to improve research generation and to reorient it towards public healthcare policies, all while focusing on global health approaches.**

At the operational Level, Lebanon suffers from a shortage of human health workers including health practitioners and family physicians. **Participants suggested that it is essential to promote the practice of the family physician in Lebanon and to encourage people to study primary care specialties.** Moreover, due to the financial crisis, the health premises do not have proper maintenance of their infrastructure and equipment.

In terms of financing, participants agreed that the current financial arrangements and allocated funds to the healthcare sector in Lebanon are not sufficient and cannot cover half of the populations need. **Participants suggested the need to increase the funds allocated to the healthcare system, especially towards the primary healthcare sector in the short term. On the long term, participants agreed that it is important to work on reforms to create sustainable funds for the healthcare system.**

It was proposed that the law should be amended to allow for pooling of fund and sin-taxation on the medium-long term. Moreover, participants highlighted that the social security fund's input to the healthcare sector in Lebanon is minimal.



Therefore, the need to increase contribution of the health security fund and to ensure it is paying the real cost of the service provided. Increasing domestic funding towards the healthcare system and introducing innovation in revenue generation was also suggested as a solution.

In addition, participants proposed other reforms including the introduction of value-based purchasing which is suggested to improve the efficiency of the healthcare system. Participants emphasized on the importance of having national protocols to control the spending on pharmaceuticals in Lebanon. Currently, there is a shortage of medication in Lebanon and a high out-of-pocket expenditure on pharmaceuticals. Moreover, the introduction of innovative medicine is very slow due to the currency devaluation. Financial support to pharmaceuticals would improve the access of citizens to medication and would enhance medical tourism in Lebanon.

The social security fund is not working properly. The gaps were increasing and with the current financial crisis they are increasing even more. Moreover, the social security is considered “not social” by the participants as it only covers the private sector. This situation is putting a strain on the private sector. Hospitals are increasing their prices which is forcing insurance companies to raise their premiums. The privatization of the insurance sector was proposed as a solution in Lebanon (e.g., establishment of an insurance company by the government in Abu Dhabi and privatization of the insurance sector in Saudi Arabia) whereby the private sector should be allowed to insure the public sector under the regulation of the government (e.g., Ministry of Public Health). This should be done to harness on the health insurance to support the government rather than to replace the government.

Improving digitalization in healthcare may improve the availability of data. A new law was passed in 2021 for Health technology assessment (HTA), which resulted in the creation of the Lebanese Drug Agency. This law is suggested to be promising and a great step towards UHC in Lebanon.



2.2 The Role of Germany in Advancing Progress in the Healthcare Sector

A wide range of potential collaborative efforts between Germany and Lebanon have been proposed by the participants to advance progress in the healthcare sector.

Firstly, given the successful orientation of the healthcare sector in Germany and Holland towards primary care and prevention, these countries **may support Lebanon in strengthening its public healthcare system**. Germany may support Lebanon in **changing the current governance arrangement to reorient the system towards a public health system focusing on primary care and prevention**.

Given the low availability of data in Lebanon, **Germany may support the country in data collection and in the integration of artificial intelligence for data collection**.

Moreover, in terms of financing, **Germany may support Lebanon through funding the development of innovative medicine in the country to improve access to medication and improve medical tourism**.

Germany may also provide funding to support the maintenance of the infrastructure and technologies in the public health sector.

At the operational level, Germany may contribute in supporting Lebanon to retain its human resources for health (e.g., nurse, doctors).

Moreover, the German intervention can provide quality services that can address key performance indicators for the healthcare sector and assess them regularly.

1. At the Digitalization and E-health Level

3.1 Problems and Priorities

When it comes to digitalization and E health in Lebanon, the stakeholders agreed on the need to start from a national strategy to digitalize the health care sector supported with laws and policies for a successful implementation. This strategy could be based on the national strategy launched in 2018 and never implemented. Stakeholders agreed that one of the challenges in digitalizing the health care sector lies in data governance. Lebanon lacks clear policies and regulations when it comes to data governance in terms of data collection, data storage and data usage.

Stakeholders deliberated the lack of data whether quick data around any disease, demographic statistics or national health account data. This problem was highlighted during the COVID-19 pandemic where hospitals struggled to have visibility to patients' files and availability of beds in different healthcare facilities. According to stakeholders to be able to collect accurate data, **there is a need to have a unique identifier for every citizen**. This identifier will allow to accumulate all related health information in one record. This number will help in excess of data and in avoiding duplication of services. After, stakeholders deliberated the need to have an infrastructure with a user-friendly information system that is interlinked across the different actors of the healthcare sector for easier data sharing. Also, this system should be capable of analyzing the collected data to create health information that can be shared with decision makers to inform health policies in the country. **Stakeholders highlighted that having this accurate data is crucial for the private sector initiatives to drive digitalization of the healthcare sector**. However, having an E-government was a crucial prerequisite specified by the stakeholders to have a digitalized health sector.

3.2 The Role of Germany in Advancing digitalization and E-health

Stakeholders deliberated the areas of collaboration between Lebanon and Germany in moving towards a digitalized healthcare sector in Lebanon. They stressed on the **importance of the German experience in the electronic transformation of the public sector into E-governments.**

Another area of collaboration could be in **advancing laws and policies to fight corruption**, even one suggestion was to create a quality arm for the German interventions with key performance indicators that would be regularly monitored and evaluated with alternative actions in place.

Germany can help Lebanon in linking the public and private system to support the government in providing for the underprivileged segment of the Lebanese population since their healthcare system is based on public-private partnership.

According to stakeholders, lobbying for private sector interventions and investments in health care was another dimension for future collaboration.

1. At the Health Education Level

4.1 Problems and Priorities

Stakeholders deliberated on the inadequacy of the medical curricula in Lebanon for its failure to retain physicians who are highly skilled and well-trained. These physicians lack incentives to stay in the country and prefer taking on European and American Board exams instead. **They agreed on the need to develop two different pathways for physicians, one for those who wish to specialize and move abroad, and another one that promotes and incentivizes general physicians to keep their practice in Lebanon.** Additionally, participants involved in research highlighted the need to support local research as the majority of the papers getting published are not focused on the local context, leaving a research gap.



A national research council should be responsible of supporting publishable research and data that targets the country's' priorities.

Stakeholders also discussed the high number of graduating physicians each year (approximately 800 physicians) who are not adequately oriented towards priority specializations. **For this matter, it is necessary to agree upon with medical schools in the country on a threshold for each specialty, based on the health sector needs in the country.**

At the level of practice, stakeholders suggested the need for collaboration between primary healthcare physicians and healthcare specialists through the help of the Lebanese Order of Physicians. This partnership can shed light on the importance of primary health practice in the country and the need to further strengthen this sector.

Moreover, one stakeholder discussed how the privatization of the health insurance scheme in Lebanon can help achieve a more sustainable and powerful governance system. This can be done through subcontracting with TPA's as staff in the private sector as sometimes more educated and experienced than those in the public sector. Such collaboration can help run the public health sector with the support of the private sector.

At the level of funding, one issue raised and agreed by the majority of stakeholders is that international financing organizations have no interest in supporting projects conducted in Lebanon in light of the crisis and ongoing corruption, especially while no reforms are being made. Speeding up the implementation of the International Monetary Fund (IMF) reforms is the only way by which, financing institutions such as the European Bank for Reconstruction and Development (EBRD) can fund health projects and educational programs.



4.2 The Role of Germany in Advancing Progress in Health Education

Dialogue participants deliberated on the crucial role that Germany plays in advancing progress in Healthcare Education in Lebanon.

Stakeholders mentioned that many physicians receive their education in Lebanon and plan to train abroad in Europe, more often never returning to their practice in Lebanon.

Germany can support in providing training for physicians with an emphasis on primary healthcare with a condition of coming back to practice and joining the health system in Lebanon.

Dialogue participants also discussed the need to facilitating the process for acceptance into training in Germany while creating a pathway for Lebanese physicians to go into their respective specialization training. This can be achieved through reducing the burden of acceptance exams and introducing the English Language as part of the curriculum for international students.

In terms of research, participants agreed on the need for Germany to invest in the **National Center for Scientific Research in Lebanon**, as well as provide support for empowering institutions that work on public health, while focusing on prevention and promotion in addition to curative approaches.

Summary and recommendations

Lebanese Healthcare System

A range of potential solutions were proposed to improve the governance of the healthcare system:

- Restructure the Healthcare System from treating the disease to preventing the disease
- Strengthen primary care
- Design and implement prevention strategies
- Decrease the cost of care and reduce detrimental health outcomes
- Engage the private sector, the academia, syndicates, pharmaceutical companies and hospitals
- Rationalize and efficiently distribute the available resources
- Reduce the duplications between the private and the public healthcare sector
- Tackle the different social determinants of health (e.g., education, economy, environment, food safety) on the road towards universal health coverage (UHC)
- Increase the funds allocated to the healthcare system, especially towards the primary healthcare sector in the short term.
- Work on reforms to create sustainable funds for the healthcare system on the long term
- Digitalize the healthcare sector using the 2018 national strategy & implementation laws
- Work on creating clear policies and regulations for data governance (data collection, data storage and data usage)
- Establish public-private sector partnerships

Participants urged for the need to establish a national committee from private and public representatives to bring the holistic approach in restructuring the healthcare sector.

A. Lebanese-German Healthcare cooperation possibilities:

A wide range of potential collaborative efforts between Germany and Lebanon have been proposed by the participants to advance progress in the healthcare sector:

- Use the German experience in the electronic transformation of the public sector into E-government.
- Helping in advancing laws and policies to fight corruption
- Create a quality arm for the German interventions with key performance indicators that would be regularly monitored and evaluated with alternative actions in place.
- support Lebanon in strengthening its public healthcare system.
- Given the low availability of data in Lebanon, Germany may support the country in data collection and in the integration of artificial intelligence for data collection.
- in terms of financing, Germany may support Lebanon through funding the development of innovative medicine in the country to improve access to medication and improve medical tourism.
- Germany may also provide funding to support the maintenance of the infrastructure and technologies in the public health sector.
- At the operational level, Germany may contribute in supporting Lebanon to retain its human resources for health (e.g., nurse, doctors).
- German intervention can provide quality services that can address key performance indicators for the healthcare sector and assess them regularly.
- Germany can help Lebanon in linking the public and private system to support the government in providing for the underprivileged segment of the Lebanese population since their healthcare system is based on public-private partnership.
- Lobbying for private sector interventions and investments in health care was another dimension for future collaboration.

A. Lebanese healthcare education system:

Stakeholders deliberated on the inadequacy of the medical curricula in Lebanon for its failure to retain physicians who are highly skilled and well-trained. These physicians lack incentives to stay in the country and prefer taking on European and American Board exams instead. They agreed on the need to develop two different pathways for physicians, one for those who wish to specialize and move abroad, and another one that promotes and incentivizes general physicians to keep their practice in Lebanon. Additionally, participants involved in research highlighted the need to support local research as the majority of the papers getting published are not focused on the local context, leaving a research gap. A national research council should be responsible of supporting publishable research and data that targets the country's' priorities.

B. Lebanese German Healthcare cooperation possibilities:

Germany can support in providing training for physicians with an emphasis on primary healthcare with a condition of coming back to practice and joining the health system in Lebanon.

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LEBANESE GERMAN FORUM

2023



SAVE THE DATE

HEALTH INNOVATIONS AND ARTIFICIAL INTELLIGENCE

NOVEMBER 23rd, 2023 | BEIRUT, LEBANON

INTERCONTINENTAL PHOENICIA BEIRUT