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German Israeli
Health Forum for
Artificial Intelligence

Report "Digital Mental Health"

Addressing Israel's Critical Mental Health Needs Post-October 7

Given the attack by Hamas on Israel on October 7, 2023, and the subsequent war, the European Leadership Network (ELNET) organized a GIHF-AI Digital Health Roundtable focusing on Digital Mental Health.

On December 13, experts from the German and Israeli healthcare sectors discussed the impact on the mental health situation of the Israeli population, presented research findings and practical examples in the field of Digital Mental Health, and explored how bilateral cooperation can support the Israeli health community in dealing with trauma as well as jointly enhance mental healthcare in Israel and Germany.

Prof. Dr. Ran Balicer, Chief Innovation Officer (CIO) at Clalit Health Services, described the impact of the October 7 events on Israel's mental health and high-

lighted challenges in the country's mental healthcare system. Best practices from Germany were presented by Prof. Dr. Maria Böttche, Chairwoman of the DeGPT, in the form of use cases of internet-based treatments, and Prof. Dr. Malek Bajbouj, Managing Senior Physician and Head of Center for Affective Neuroscience CBF at the Charité, who demonstrated international Digital Mental Health collaboration projects.

To enhance the understanding of dealing with mental health issues amongst children and adolescents and to highlight the importance of social work, Dr. Marianne Ledwon-Feuerstein, Chief Physician of the Department for Child and Adolescent Psychiatry at the Luisenlinik Bad Dürkheim, presented her practical experiences when dealing with young people suffering after traumatic events.

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Prof. Dr. Ran Balicer, Chief Innovation Officer (CIO),
Clalit Health Services

Recommendations for Action

Integrated Mental Health System Redesign

Implement a comprehensive **redesign of the mental health system in Israel**, focusing on integrating risk stratification models to categorize and address varying mental health needs effectively. Establish a **tiered system of care** to accommodate different levels of mental health severity. Experiences may also be useful for Germany's mental health system.

Extension of Online Triage System

Extend and enhance the **implementation of online triage systems** to promptly identify and prioritize mental health care needs and reduce strains on hospitals. Develop **user-friendly interfaces** accessible to a broad demographic for efficient and immediate support.

Development of Digital Innovations

Encourage the continuous **development and adoption of digital tools** to modernize mental healthcare. This includes **AI-powered assessments**, secure **electronic health records**, and **evidence-based self-diagnosis and self-care tools** to ensure personalized and efficient care. Implement **DiGA-like structure in Israel** for more trust and secured reimbursement by HMOs.

Interdisciplinary Collaboration Training

Foster collaboration among mental health professionals, social workers, and medical practitioners also on an international level. Initiate **training programs** to equip professionals with skills needed for comprehensive and holistic care, promoting effective **collaboration across disciplines**.

Community-Based Mental Health Support Programs

Establish **community-oriented mental health support** programs to provide ongoing and timely assistance as well as preventive measures. Engage community leaders, educators, and local volunteers to **create supportive networks** for affected individuals.

Data-Driven Decision-Making and Evaluation

Emphasize data collection and evaluation to drive **evidence-based decision-making in mental healthcare**. Continuously assess the effectiveness of interventions and treatments, adjusting strategies based on **real-time data insights**.

Mental Health in Israel Post October 7

Prof. Ran Balicer began his keynote with words of gratitude for the solidarity that Germany has shown **in the aftermath of October 7** and gave an overview of the psychosocial situation in Israel since then. He highlighted the **unique aspects of the event**, such as the **high casualty rate, intense impact due to Israel's small size, the individualized brutality witnessed through shared videos, invasion of personal space, hostages including vulnerable groups, and ongoing rocket launches aimed at the entire country**. Prof. Balicer stressed that the **perceived**

risk was even higher than the actual risk, using the framework of the Risk Perception Theory by Peter Sandman, which led to even greater strains on Israel's mental health status.

Furthermore, Balicer outlined the country's mental healthcare system as of today and future steps needed to improve it, stressing that October 7 hit the system quite hard. He described the **pre-existing challenges in Israel's mental health system**, following the **reform from 2015** which **moved responsibility for mental health to the HMOs**, with significant **underestimation of needs leading to high demand**



and low service yield. There were issues of **shortage of providers, long waiting times, lack of structure and monitoring, as well as one-size-fits-all approaches, ahead of the October 7 events.** The case of the 9/11 attack in the United States showed that 10 to 15 percent of people affected suffered from Post-Traumatic Stress Disorder (PTSD) and 7 percent from depression and anxiety. In the case of the recent attacks on Israel, not only the survivors of the attack but also first responders, people losing their homes, as well as the hostages returning to Israel, were expected to develop significant mental health issues. Existing **data shows that one can reduce the risk of detrimental impact by 30 percent when reacting immediately.** This can only be achieved with a functioning mental healthcare system. Therefore, in **response to the crisis,** there was a **mobilization of volunteers, additional manpower recruitment, pop-up clinics, and dedicated call centers to support the affected population.**

Looking forward, there's a plan to **redesign the mental health system** with a focus on **risk stratification,** implement an **online triage system** to stratify the care given according to the needs of people, create a new **tier of caregivers called resilience supporters** and **introduce digital innovations** to modernize and improve the system. Clalit is looking for ongoing innovations and collaborations globally to address these challenges, for example through a call for innovation open to continuous submissions. The ultimate goal is to **establish a more data- and evidence-driven mental healthcare system, including AI-powered assessment tools, electronic health record (EHR) case summarization, documentation of therapy sessions, as well as evidence-based self-diagnosis and self-care tools.**¹

Digital Mental Health – Best Practices from Germany

Introducing best practices in mental health and Digital Mental Health, **Yael Ophir** outlined the discussion within HealthIL post-October 7. The approach of the **HealthIL community involved a focus on innovation and transformation in Israel's health system, mapping 45 technological solutions by engaging**

around 60 innovation managers. Yael Ophir highlighted the significance of continuous learning and collaboration in healthcare beyond crises. She announced the upcoming HealthIL Week on February 5-8, inviting participation to discuss lessons learned and opportunities for collaboration in healthcare.²

Internet-Based Treatment Services for Trauma-Related Disorders in Different Populations

In her presentation, **Prof. Maria Böttche** provided insights into **internet-based treatments for PTSD,** particularly emphasizing the **efficacy of cognitive-behavioral therapy (CBT)** in internet-based interventions. She highlighted various forms of internet-based interventions, distinguishing between different approaches such as text-based communication, synchronous chats, and video-based interventions. Prof. Böttche elaborated on therapist-guided interventions that employ manuals, written communication, and secured platforms for an approximate 8-week treatment period. She discussed **two distinct internet interventions,** one **aiding war and torture victims in the MENA region in Arabic, called Ilajnafsy,** which was mainly used by highly educated younger female persons who are single or married, and living in a city. Another project Böttche introduced was the **9/11 First Responder project in collaboration with Mount Sinai Hospital in New York,** targeted especially at firefighters and police officers. Most of the participants were middle-aged, 50 percent male and 50 percent female. She highlighted the **effectiveness of these internet-based treatments in reducing PTSD symptoms across these diverse populations.** Böttche also acknowledged the **challenges** such as the **need for secure platforms, trained counselors, and financial resources** to ensure the success of internet-based treatments.

In the subsequent discussion, an inquiry about the effectiveness of internet-based treatments for different age groups took place. Maria Böttche responded that while their studies predominantly attracted a younger, more female audience, their **interventions were also effective for older individuals, even those above 70 years old.** **Dr. Lars Hunze,** Deputy Head of

the Unit at the German Federal Ministry of Health involved in advancing telemedicine and digital health applications, contributed by sharing insights from Germany. The data suggested that the **demographic for Digital Health Applications (DiGA) tends to encompass a middle range between 50 and 65**, but the success could vary depending on the application's design and usability. He discussed ongoing efforts in the German Parliament to approve legislation that will allow the integration of digital health technologies into care delivery, emphasizing the **importance of evidence-driven approaches and blended care models**. He also highlighted the interest in contributing expertise gained from previous experiences and expected advancements in the field once the legislation is approved.³

Digital Mental Health – Experiences from International Settings

In his impulse speech, **Prof. Malek Bajbouj** highlighted the **importance of learning from crises and using them as an opportunity for positive change and innovation in the healthcare system**. He emphasized the need for collaborative efforts and shared experiences from international projects that focused on mental health interventions, particularly in conflict settings. The ultimate goal was to achieve a **resilient health system** (definition according to the World Health Organization) that can **prevent, prepare for, detect, adapt to, respond to, and recover from public health threats**.

He stressed several key points, such as the need for **co-design and co-production**, meaning developing interventions with **meaningful involvement and input from the beneficiaries** rather than just informing or tokenizing them. Prof. Bajbouj also stressed the importance of **implementing stratified and collaborative care models** instead of one-size-fits-all solutions. He also noted the **importance of evidence-based, data-driven practices and ongoing evaluation** of interventions to ensure their **effectiveness in the reduction of stress symptoms** as well as **cost-effectiveness**.

Prof. Bajbouj shared experiences from the **MEHIRA**

project in Germany, a stepped and collaborative care model supporting refugees and asylum seekers in Germany. MEHIRA had a structured approach to **managing stress symptoms based on varying severity levels**. It involved watchful waiting for lower stress levels, non-expert interventions using smartphone-based platforms for mid-level cases, group therapies, and face-to-face psychological or psychiatric interventions for severe cases, showing both **great efficiency as well as cost-effectiveness**. Another use case mentioned was a **collaborative project in the wake of the war in Ukraine supporting 41.000 patients in 26 hospitals called Solomiya**. It included a Chatbot, an app, and a telemedical network. The chatbot is being already translated into Hebrew in the aftermath of October 7.⁴

Integration of Social Workers into Therapeutic Approaches for Mental Health

To add a further perspective to the discussion, Dr. Marianne Ledwon-Feuerstein shared insights into **social work collaborations within mental health care** while working with children and adolescents. She emphasized the **necessity of expert networks**, particularly when addressing severe disturbances and traumatic disorders. Drawing from experiences in Germany, she highlighted the **role of social workers in diverse settings**, including **schools and emergency welfare systems**, to aid traumatized individuals, such as children from war-torn regions. Dr. Ledwon-Feuerstein stressed the importance of **immediate support and basic care** before advanced psychotherapy to **prevent the development of PTSD**. She highlighted the collaboration between mental health professionals and social workers, emphasizing the **need for information flow while respecting patient privacy**. This integration allows for a holistic approach to addressing mental health challenges, bridging gaps between various touchpoints in the healthcare system.⁵

Discussion and Outlook

The subsequent discussion centered on the use of digital tools in mental health care within Israel's system and the question of **how to bridge the data**

flow gap between welfare and social services and the broader mental health care system. Also **in Germany**, the situation appears highly **fragmented**, when dealing with different institutions. An **integrated approach**, involving a combination of psychotherapists, psychiatrists, and social workers collaborating closely, is possible within organizations only. Regarding data protection, there are protocols in place where **patients grant permission for information sharing** among doctors within the center, ensuring a secure and regulated exchange of information. This **lack of integration poses challenges for comprehensive data management** and sharing, potentially impacting the effectiveness of healthcare services. **Israel and Germany could work on a solution together** since both countries face similar challenges regarding smooth data transfer.

Another question raised was aimed at understanding how hospitals could potentially transform or adapt their roles in situations like after October 7, suggesting a need for potential changes or new approaches within hospital-based mental health services. The answer was that hospitals needed to **transition from a primarily treatment-based role to one focused on prevention**, delegating tasks to social workers or counselors, thereby widening their scope to aid more people. **Hospitals** should only be **treating those in severe need** while **developing frameworks for broader interventions**, including preventive measures, such as a **triage system within hospitals** to identify and prioritize

urgent cases among many seeking help. Much of the work done in hospitals for physical health could be effectively managed in general practices and further facilitated through digital tools, preventing over-medicalizing cases.

Furthermore, the difficulties in **sustaining patient engagement over time** were discussed, including the experiences of an Israeli digital solution focused on treating PTSD. More **guidance, human interaction, and continuous evaluation** would **improve patient compliance** and overall effectiveness. Health insurance companies **offering additional services like coaching or expert guidance** may be useful as well as **support by general practitioners**. In Germany, Digital Health Applications (DiGA) follow strong guidelines and are suitable for reimbursement. This may lead to **greater trust and transparency**. Especially in the field of mental health, Germany has been seeing rising numbers of DiGA prescriptions.

The Ministries of Health of Germany and Israel are already collaborating to **advance the use of DiGA-like structures in Israel's healthcare system**, potentially leveraging insights and experiences gained from German companies and their involvement. This development is an important step and may be extended for the sake of both countries. Finally, emphasis was placed on ongoing cooperation and the need for collaboration, along with suggestions to leverage global research for better integration of **advanced tools like AI into healthcare systems**.

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GIHF-AI is an initiative by ELNET-Germany, a think tank and network organization in the context of German-Israeli relations. We work independently and across party lines on the basis of shared democratic interests and values. Bet-

ter mutual understanding is promoted through networking and information exchange. Since its founding in 2007, ELNET has focused its work on the topics of foreign and security policy, antisemitism, and innovation.

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