

DEEP  
KNOWLEDGE  
GROUP



LONGEVITY  
INDUSTRY  
ANALYTICS

# Global Health Challenges

Concept Overview, 2024

[www.dkv.global](http://www.dkv.global)

[www.philanthropy.international/tech/ghc](http://www.philanthropy.international/tech/ghc)

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## Executive Summary

In the complex arena of Global Health Challenges, conventional methods and the pharmaceutical and technological industry have confronted inherent limitations. Recognizing these obstacles, the Global Health Challenges Concept emerges as a trailblazing force. Within this dynamic landscape, Deep Knowledge Group assumes a leadership role, actively investigating and amassing cutting-edge solutions.

Positioned at the forefront of innovation, DKG is unwavering in its commitment to navigating the intricate tapestry of global health challenges. By providing advanced interventions, DKG strives to meet the diverse and evolving needs of populations worldwide, transcending the boundaries of traditional healthcare approaches.

Strategic partnerships, continuous innovation, and a shared commitment are essential for realizing this vision. The Global Health Challenges Concept is poised to lead the way in overcoming the multifaceted health challenges of the 21st century.

# Global Health Challenges

## Concept Formation

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# Introduction

Step into a realm where innovation meets humanity – the **Global Health Challenges Concept by Deep Knowledge Group**. In this transformative space, we are not just confronting health challenges; we are redefining the very approach to global well-being. **DKG Concept is a sintosis of strategic vision, cutting-edge research, and collaborative determination.**

As we delve into the intricacies of **Lyme Pandemia, Autism, Alzheimer's, Diabetes, Bad Bugs, Forever Toxins, Fertility Issues, Kids' Health, Future Shock & PTSD** our focus is clear. We seek not just advanced solutions, but a paradigm shift in how we perceive, approach, and overcome global health challenges.

Join us on this visionary journey, where each challenge is a canvas for innovation, and each breakthrough is a testament to our shared commitment to a healthier world. **This Concept transforms challenges into opportunities and envisions a global landscape of robust health for generations to come.** The Global Health Challenges Concept – where strategic innovation paves the way for a healthier and more resilient world.

## Global Health Challenges 2024



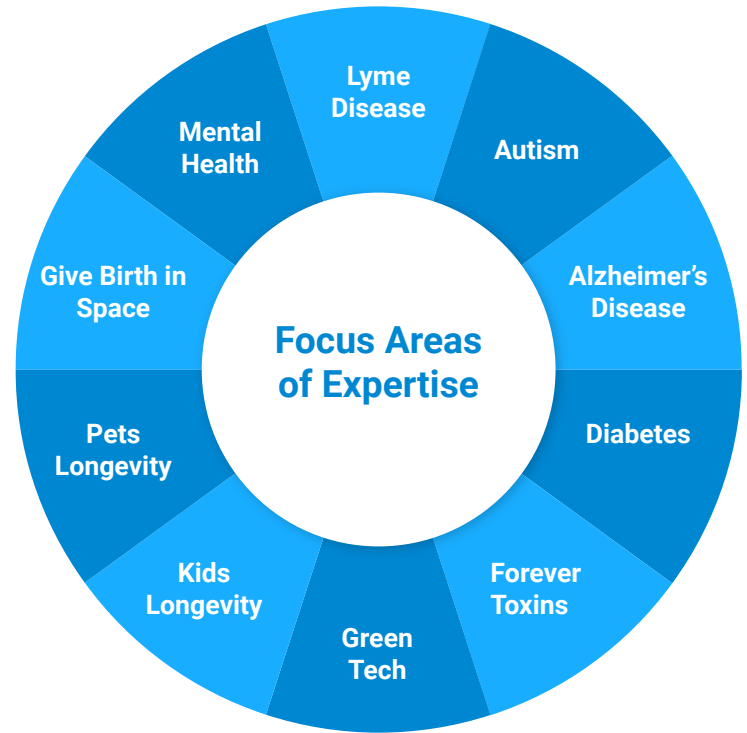


# About Global Health Challenges

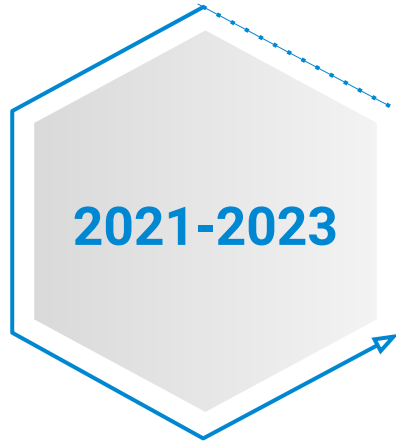
**Global Health Challenges** is an initiative of PhilanthropyInternational, a subsidiary of Deep Knowledge Group. The ultimate goal of this proprietary group is **monitoring, analysing, profiling different techniques, recommendations, and their validation in practice to prologue healthy years.** Functional, Rehabilitation and Longevity Medicine serve as the primary source of such technologies.

This **project is essential for our Founder and General Partner of Deep Knowledge Group, Dmitry Kaminskiy, who allocates all possible resources for its successful implementation.** Currently, the Global Health Challenges initiative consists of about 500+ members from different countries, including life sciences experts, analysts, scientists, doctors ('practitioners'), and even biohackers.

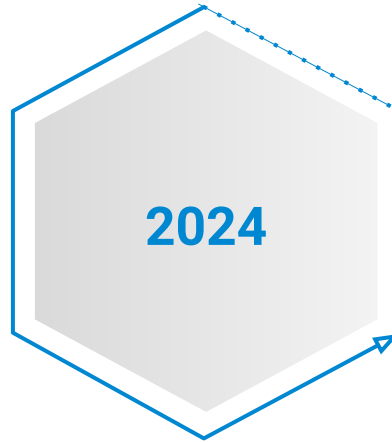
The Global Health Challenges project **has collect the most advanced diagnostic and treatment algorithms and schemes that will be implemented to create a truly unique digital platform providing access to the best medical practitioners and clinics for healthy life extension.**



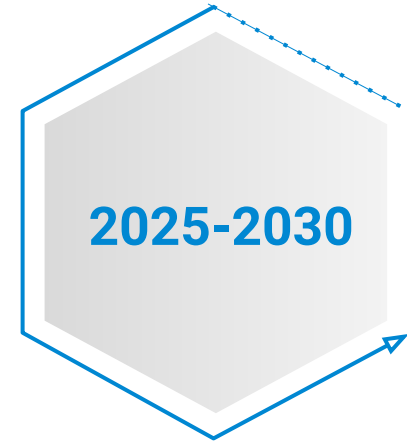
# Global Health Challenges Ventures Roadmap



**GHC initiative formation.** In this phase, the focus is on building strategic partnerships, conducting in-depth research, and laying the groundwork for targeted investments in key areas such as Lyme disease, Autism, Alzheimer's, and more. Our goal is to initiate impactful projects and set the stage for collaborative efforts to address global health challenges.



**Innovation Acceleration and Pilot Programs.** DKG accelerates innovation by implementing pilot programs based on the insights gained during the foundational phase. Collaborative projects and partnerships with leading researchers and healthcare innovators come to fruition, driving tangible advancements in diagnostics, treatments, and preventive strategies.



**Scaling Impact and Global Transformation.** As we enter the latter part of the decade, our focus shifts to scaling successful interventions, leveraging data-driven insights, and influencing global health policy. The aim is to create a lasting impact on a global scale, transforming the landscape of healthcare and contributing to a healthier, more resilient world for all.

# Mission and Vision of Global Health Challenges

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## MISSION

At the core of our Global Health Challenges Concept is a resolute mission – to pioneer advanced treatments and diagnostic approaches addressing the Health Challenges that impact communities worldwide. Our mission is to ensure that the most promising approaches are extensively tested and applied in practice, to forge a future where not only Health Challenges are largely alleviated or solved, but also aging, the main Health Challenge, is also solved, and the well-being of every individual is safeguarded.

## VISION

Envision with us a world where health is not a privilege but a universal right. Our vision is to be architects of a global landscape where pioneering research, strategic partnerships, and cutting-edge innovations converge to create sustainable, equitable, and resilient health solutions. We strive for a future where the concept of global health challenges becomes a narrative of triumph over adversity, and where each breakthrough is a beacon illuminating the path toward a healthier, more interconnected world.

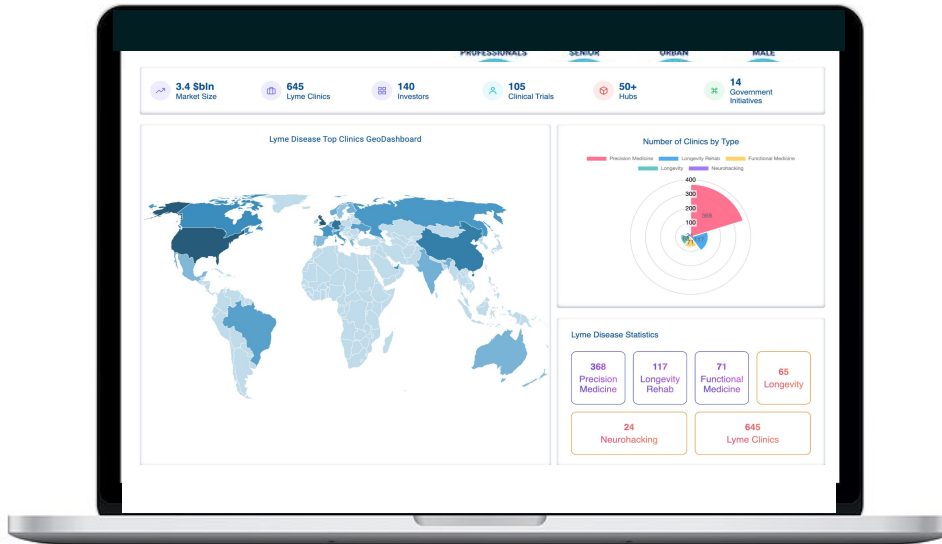
# Global Health Challenges

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# Global Health Challenges GeoDashboards

The **Global Health Challenges GeoDashboards** include 4 individual component dashboards. The dashboards visualise top clinics distribution over the countries and by types. Dashboards also include general information about the industry of the Global Health Challenges.



Lyme GeoDashboard presents a snapshot of the global fight against Lyme Disease, a field that commands a market size of \$3.4 billion. Globally, we defined 645 Lyme clinics at the forefront of this battle, supported by 140+ investors and bolstered by 105 clinical trials. Over 50 research hubs and 14 government initiatives are further evidence of the coordinated response to this health challenge.

The map on the dashboard highlights the global spread of top Lyme clinics, with a radial bar chart indicating the majority are specialized in Precision Medicine. Other clinic types include Longevity Rehab, Functional Medicine, and more, totaling 645 clinics dedicated to Lyme Disease care and research.

This GeoDashboard underscores the collaborative and multi-faceted approach being taken worldwide to combat Lyme Disease, offering a clear view of the resources and efforts being invested in this area.

# Link between Lyme, Autism and Alzheimer

## Understanding Age-Specific and Groups Impact

### Adults

Neurological Implications, Inflammatory Response

### Kids

Maternal Transmission, Inflammatory Impact

### Seniors

Age-Related Vulnerabilities, Inflammatory Response

### Animals

Neurological Concerns, Inflammatory Response

Lyme is a chronic health condition that manifests unique neurological implications across age groups, with notable associations to **Autism in children** and **Alzheimer's in seniors**. Scientific endeavors aim to unravel the molecular pathways connecting Lyme disease to the development of Autism in children and Alzheimer's in seniors. Research delves into the complexities of how Lyme-induced factors may influence neurodevelopment in children and contribute to neurodegeneration in seniors.

Case studies provide insights into the intricacies of the link, offering **valuable perspectives on diagnosis, prevention, and potential interventions**. As we navigate through this report, we will explore the age-specific nuances of the link between Lyme disease and neurological conditions, shedding light on the complexities and implications for different age groups.

# Advanced Treatments for Global Health Challenges

## IHHT



## Stem Cells Treatment



**Intermittent hypoxic-hyperoxic treatment** is emerging as potential adjunct therapies. These treatments, known for their benefits in chronic diseases and aging, exhibit promise in enhancing immunity and improving overall health. In later stages, intravenous antibiotics may be necessary. In some cases, people with persistent symptoms after treatment, a condition called post-treatment Lyme, Autism, Alzheimer, Diabetes diseases, may require additional therapy or supportive care. Pain relievers and anti-inflammatory drugs may also be used to manage symptoms.

**Lyme, Autism, Alzheimer, Diabetes diseases management**, should be placing a focal point on comprehensive treatments and weaving a comprehensive and evolving narrative. Moving beyond conventional antibiotics, the treatment need to encompass diverse modalities, including herbal remedies, mind-body interventions, **stem cell therapy**, **hypoxia therapy**, and **hyperbaric chambers** and so on. **This holistic lens emphasizes** the intricate interconnectedness of mental and physical well-being, recognizing the nuanced nature of Lyme disease care.

# Advanced Treatments for Global Health Challenges

## Hyperbaric Chamber



Presently, the predominant approach in managing Lyme Disease, Alzheimer's Disease, and Diabetes involves behavioral therapies and early interventions, highly effective in the initial stages of the conditions. Alongside these interventions, **intermittent hypoxic-hyperoxic treatment** and **hyperbaric chambers** are emerging as potential adjunct therapies. These treatments, known for their benefits in chronic diseases and aging, exhibit promise in enhancing immunity and improving overall health.

## Brain Imaging



Intensive interventions like **applied behavior analysis** or speech-language therapy may become necessary. Individuals who experience persistent challenges post-treatment, termed post-treatment Lyme/Alzheimer's/Diabetes syndrome, might need customized therapies or additional support. To address specific symptoms or behavioral issues, certain cases may benefit from medication, such as mood stabilizers or antipsychotics.



# Advanced Treatments for Global Health Challenges

## Plasmapheresis



**Plasmapheresis** a medical procedure involving the removal, treatment, and return of blood plasma, is being explored for its potential impact on treating Lyme, Autism, Alzheimer, Diabetes diseases. This intervention aims to address the complexities by targeting the removal of specific antibodies and immune factors. The procedure involves separating blood, extracting and treating plasma, and reintroducing it. Research suggests potential benefits in reducing disease-related symptoms, particularly in cases where standard treatments prove less effective or involve persistent symptoms post-treatment.

## Keto and Carnivore Diets



**Keto and Carnivore Diets** play a pivotal role in influencing mitochondrial health and are gaining attention for their potential therapeutic impact on Lyme, Autism, Alzheimer, Diabetes diseases. This dietary approach holds promise in addressing the persistent symptoms and complications associated with the tick-borne illness. Emerging evidence suggests that adopting these nutritional strategies may positively affect mitochondrial function, leading to enhanced energy metabolism and immune response.

# Lyme Disease Global Pandemia

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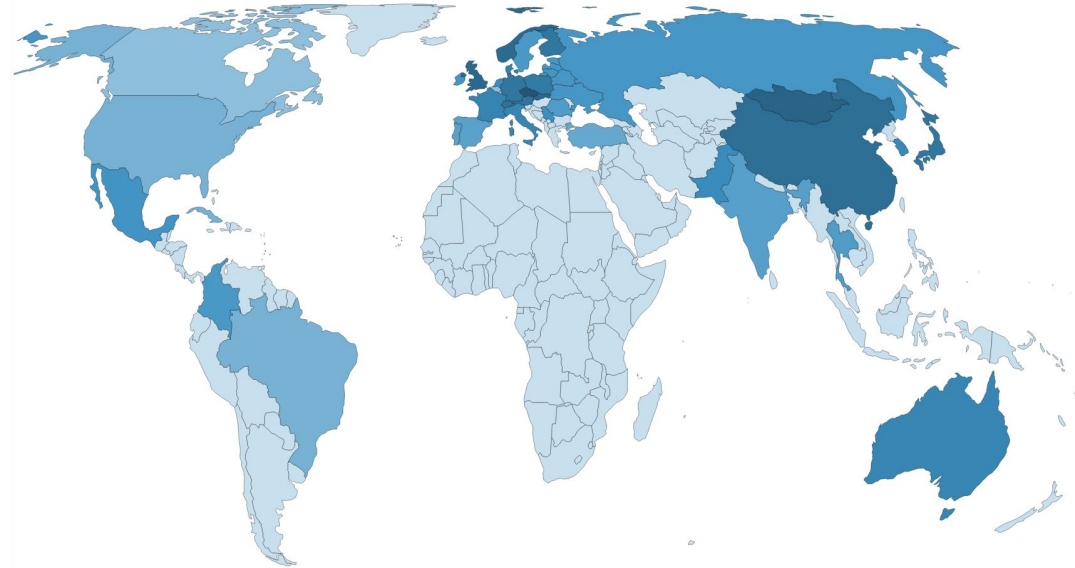


# Lyme Disease

Lyme disease, or Lyme, is a persistent condition marked by elevated **Borrelia burgdorferi bacteria** levels in the bloodstream, resulting in prolonged symptoms. Global shifts in outdoor activities, urbanization, and climate changes have transformed patterns of Lyme disease transmission. Traditional outdoor lifestyles have given way to modern routines, increasing exposure to ticks carrying Lyme-causing bacteria.

Tick-borne Lyme disease is becoming more common, and a study suggests that **more than 1 in 7 people worldwide** are currently infected or have previously had this illness. Understanding factors influencing Lyme prevalence is crucial for effective prevention, diagnosis, and management. Ongoing research, public awareness, and collaboration play pivotal roles in mitigating Lyme disease Global Health Impact.

## Prevalence of Lyme Disease



# Key Global Funding



**More than 14%**  
Population are living  
with Lyme



**Every 7th person  
with Lyme**  
But almost 2/3 cases  
are not diagnosed



**Healthcare burden**  
Lyme provokes  
multiple  
health issues



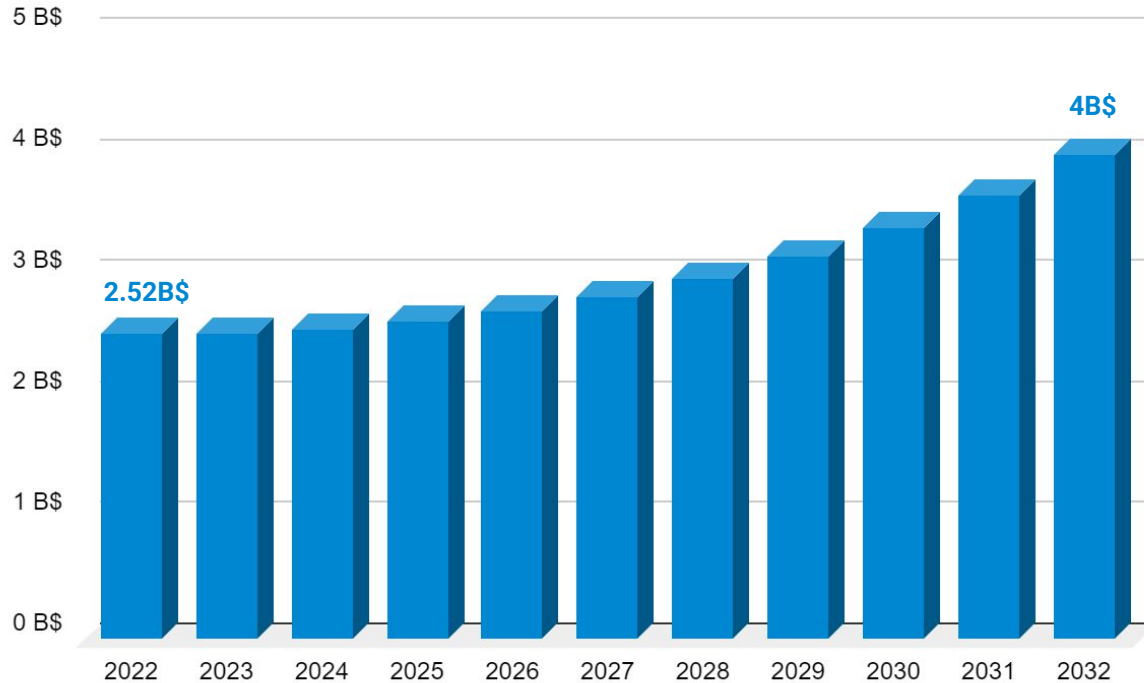
**> 1.1 billion  
people**  
Global impact on all  
age groups



**> US\$ 1.3 billion**  
of healthcare  
expenditure for  
Lyme treatment

As of 2024, **the global population is 8.14 billion**, with an **estimated 14%** (1.14 billion people) affected by Lyme disease. Unofficial sources suggest the actual number could be three times higher, highlighting its global pandemic status. Despite **over \$1.3 billion spent on healthcare for Lyme treatment**, its impact remains pervasive, affecting approximately one in every seven individuals.

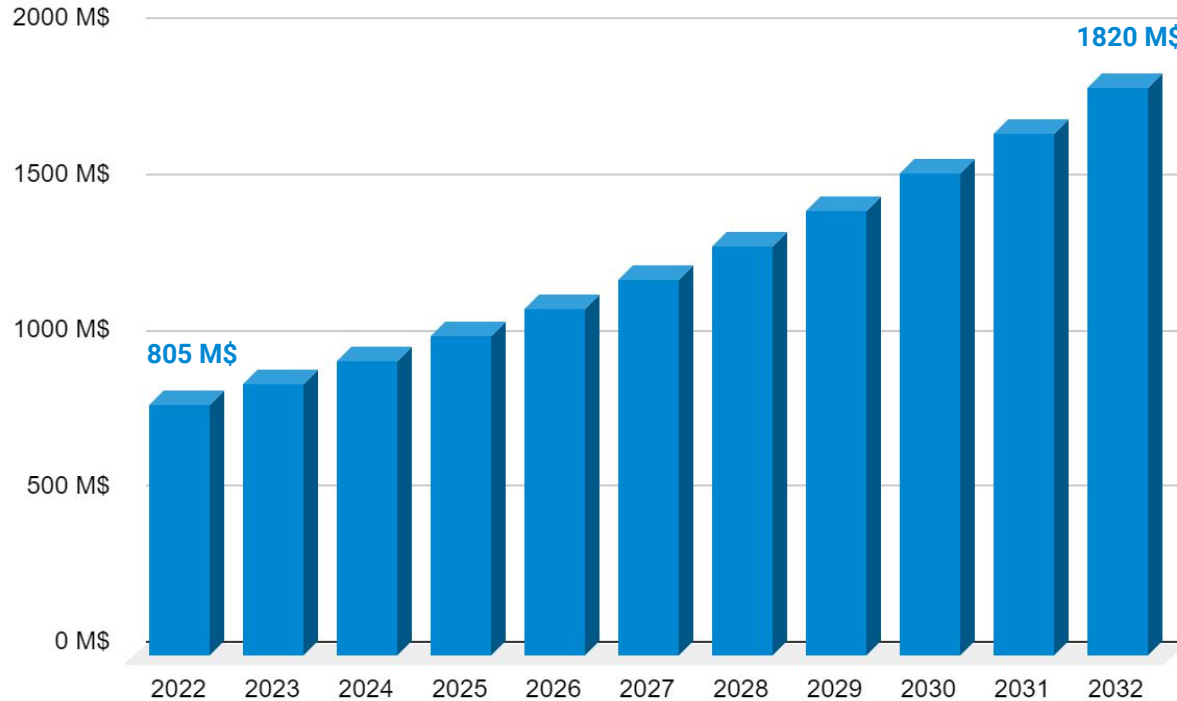
# Global Health Challenges Diagnostic Market Size



The Compound Annual Growth Rate (CAGR) for this period is **6.5%**. This growth is attributed to various factors such as increased awareness and reporting of Lyme cases, advancements in diagnostic technologies, and continuous investment in research and development for more accurate and efficient diagnostic tools for Lyme Disease, Autism, Alzheimer, Diabetes Diseases detection.

The market is projected to expand steadily **from USD 2.52 Billion in 2022 to USD 4 Billion in 2032**, highlighting the increasing demand for advanced diagnostic tools in detecting Lyme disease, which would lead to earlier diagnosis and better management of the condition.

# Global Health Challenges Treatment Market Size



The Global Lyme Diseases treatment market is expected to witness substantial growth, climbing from **USD 805.00 Million in 2022 to USD 1,820.09 Million in 2032**, representing a robust Compound Annual Growth Rate (CAGR) of approximately **8.5%**. This growth is driven by rising reported cases of Lyme disease, increased investments in healthcare by major companies, advancements in healthcare facilities, and the development of more accurate diagnostic methods like Spectroscopic testing, particularly Raman spectroscopy testing. These factors collectively contribute to the steady expansion of the market, indicating a growing demand for enhanced treatment and diagnostics for these diseases.

# Lyme Global Challenge Ecosystem Dashboard 2.0

The **Lyme Disease Global Pandemia** Dashboard 2.0, developed by DKG Group, is a powerful visualization tool designed to provide a comprehensive overview of the global impact of Lyme disease. The dashboard aggregates data from multiple sources, presenting it through intuitive and interactive charts and graphs that outline key statistics and trends in Lyme disease prevalence, diagnosis, and treatment markets.

It features a clinical trials chart by country, a year-by-year line graph of Lyme cases, and a world map highlighting the percentage of populations affected. The dashboard also includes a projected market size chart for Lyme disease treatments, showcasing potential growth. This advanced platform is backed by **640+ Top Clinics** and **8000+ data points**, reflecting DKG Group's commitment to employing innovative data visualization to illuminate trends and inform investment decisions in the healthcare sector.

[www.philanthropy.international/lyme](http://www.philanthropy.international/lyme)



640+

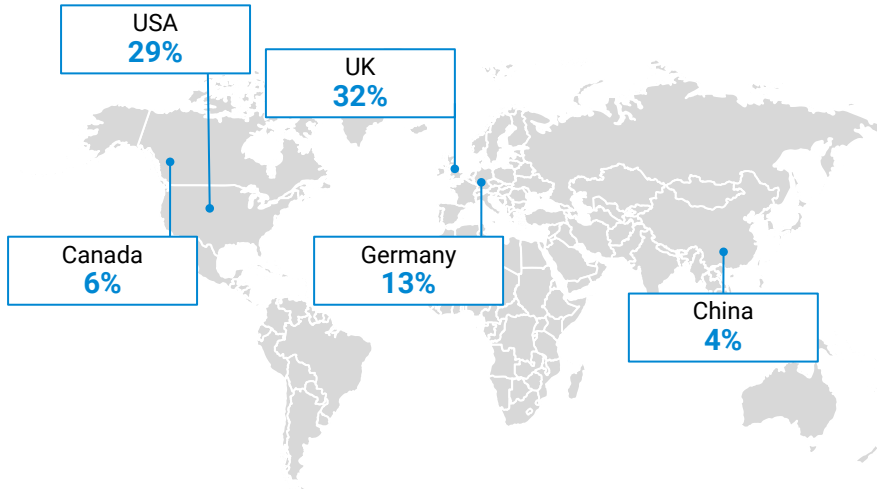
Top clinics

8,000+

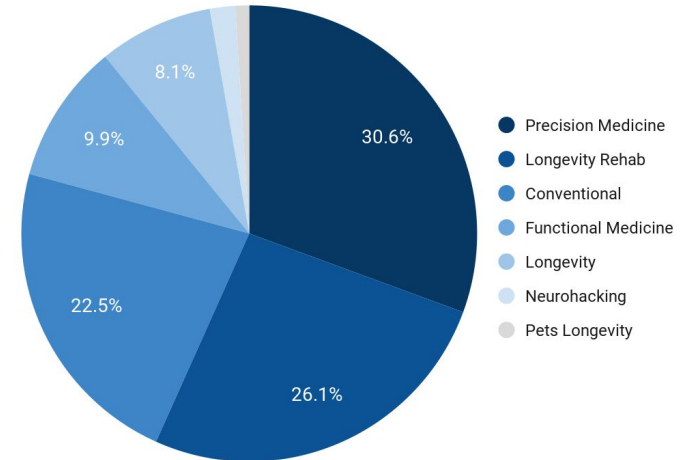
Data points

# Market at a Glance: Lyme Clinics

Distribution of Clinics by Country, %



Distribution of Lyme Disease Clinics by Type, %



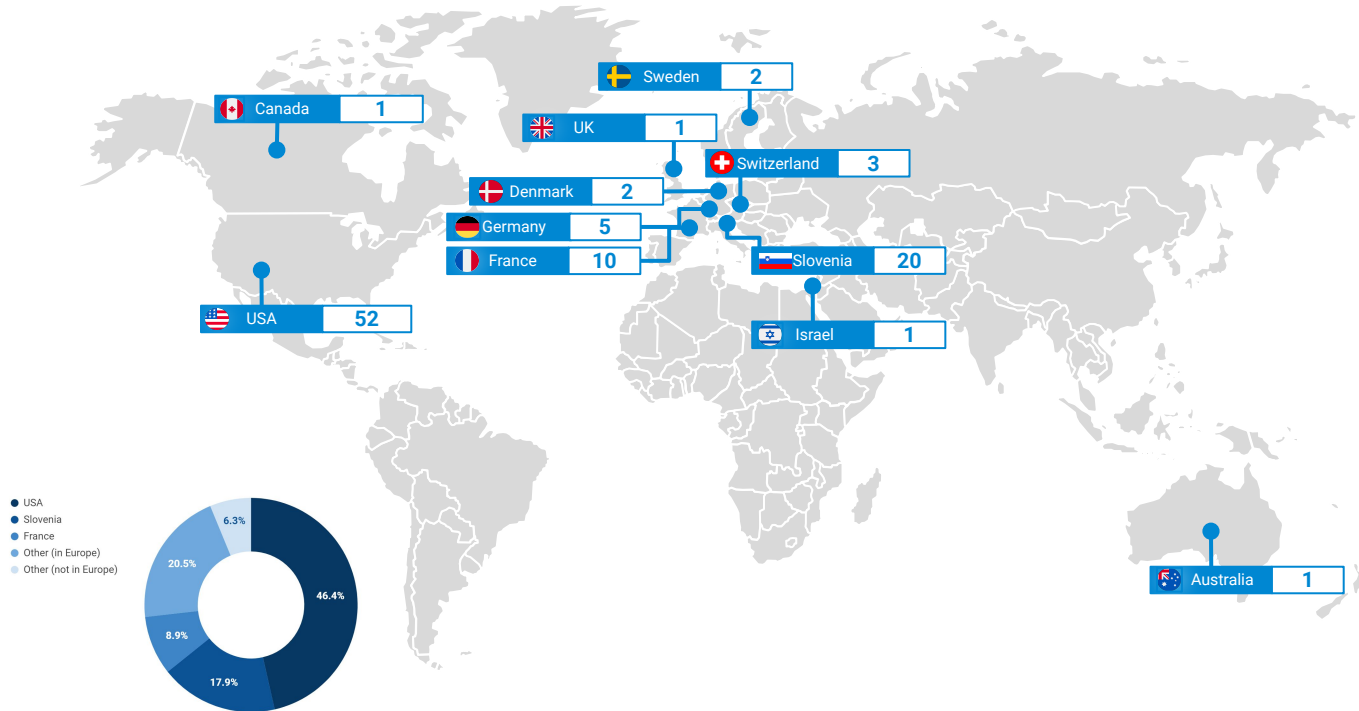
The Global Lyme Disease Diagnostic, Treatment, and Prevention Market is segmented here based on countries and categories.

The **majority** of the best clinics that offer services against Lyme are located in the **UK** and the **USA**, the home of **32%** and **29%** of the whole range of companies analysed in the report. The USA is distantly followed by the Germany with **13%**, Canada with **6%**, and other countries, which together host remaining **20%** of the world's Lyme Disease clinics.



# Geography of Clinical Trials, 2023

## Countries by Number of Clinical Trials for Lyme Disease



**105** clinical trials were conducted on Lyme Disease in the world.

USA is the biggest research hub for Lyme Disease research, containing more than **46%** of clinical trials.

More than **17%** of clinical trials are launched in Slovenia. About **9%** are launched in France. Together, European countries make more than **47%** of clinical trials.

Other world regions together account for less than **7%** of clinical trials.

# Lyme Clinical Trials, 1996-2023

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**28**

*Ongoing Lyme Disease clinical trials in the world*

**105**

*Clinical trials for Lyme Disease*

**26%**

*of the trials involve the investigation  
of new types of interventions*

**19%**

*of clinical trials are sponsored by  
pharmaceutical companies*

**22**

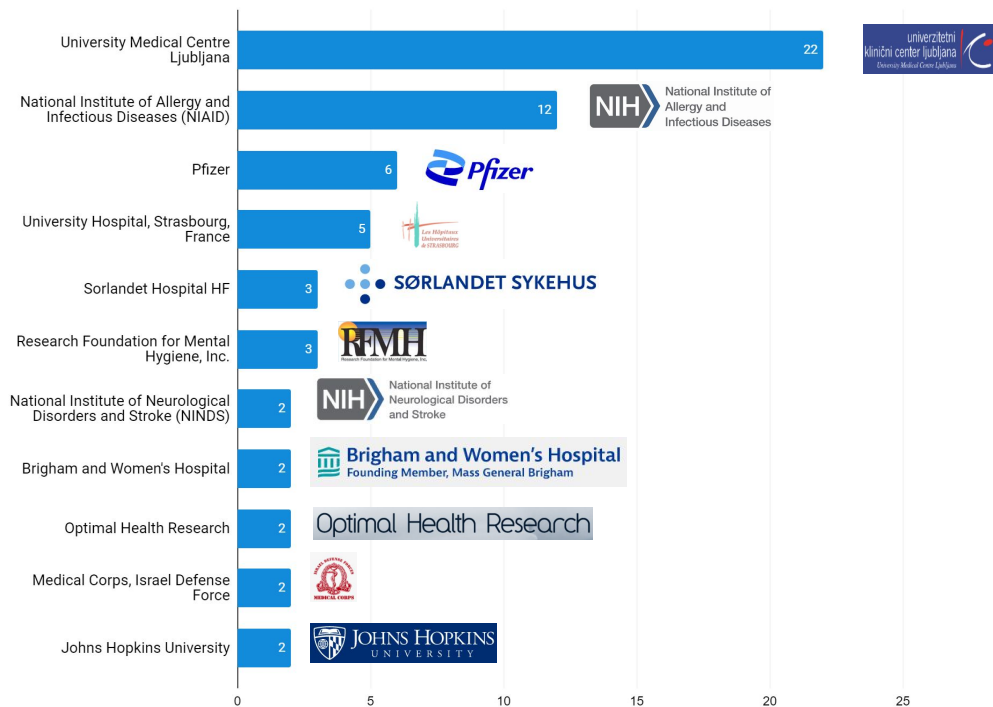
*Clinical trials for new diagnostic approaches*

**4**

*Ongoing clinical trials in Phases 3-4*

# Top Sponsors Providing Clinical Trials, 2023

## Companies by Number of Clinical Trials



Lyme Disease is an emerging popular area for clinical research. The most significant players in the market are **University Medical Centre Ljubljana** (Slovenia), **National Institute of Allergy and Infectious Diseases (NIAID)** (USA), **Pfizer** (USA), **University Hospital, Strasbourg** (France), **Sorlandet Hospital HF** (Norway), and **Research Foundation for Mental Hygiene, Inc.** (USA).

Five companies have been sponsors for two clinical trials on Lyme Disease: **National Institute of Neurological Disorders and Stroke (NINDS)** (USA), **Brigham and Women's Hospital** (USA), **Optimal Health Research** (USA), **Medical Corps Israel Defense Force** (Israel), **Johns Hopkins University** (USA).

Most leading sponsors are thus from USA, but the most proficient sponsor is from Slovenia as they sponsored more clinical trials than 2nd and 3rd place combined.

# Autism Global Challenge Ecosystem

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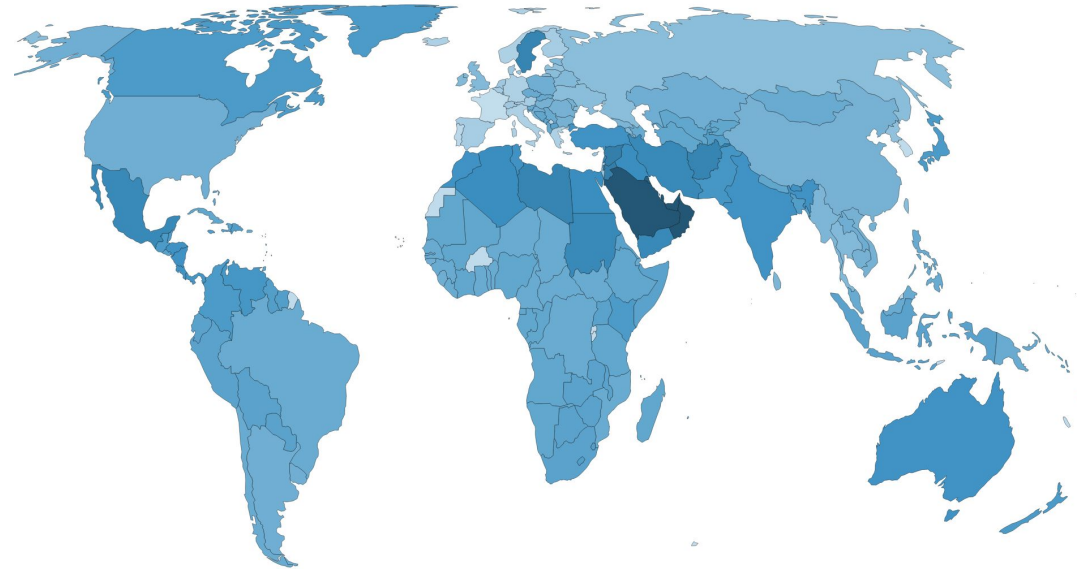


# Autism Disease

**Autism** is a multifaceted neurodevelopmental condition characterized by challenges in social communication and interaction, alongside restricted and repetitive behaviors. Its prevalence stems from various factors, including genetic susceptibilities and environmental influences. Changes in societal behaviors, environmental shifts, and lifestyle alterations have significantly impacted Autism's occurrence globally.

The estimated prevalence of Autism spectrum disorder varies based on different sources of statistics and used definitions from around **1 in 54 to 1 in 100 children globally**. Understanding the intricate factors influencing Autism's prevalence is crucial in formulating effective strategies for prevention, diagnosis, and management. One notable hypothesis links a substantial part of the increase in Autism prevalence to the **ongoing global Lyme Disease Pandemic**.

## Prevalence of Autism Disease



# Autism Global Challenge Ecosystem Dashboard 2.0

The **Autism Global Challenge Ecosystem Dashboard 2.0**, developed by DKG Group, is an advanced visualization platform that provides a comprehensive snapshot of the global autism landscape. This dashboard compiles critical data into an integrated suite of analytics, offering insights into clinical trials by country, prevalence rates, and the growth of the autism treatment and diagnostic markets. With interactive maps, charts, and a detailed SWOT analysis of autism clinics, the platform synthesizes information from **270+ top clinics** and **3500+ indicators**, underscoring DKG Group's commitment to enhancing investor understanding through efficient and innovative data visualization techniques in the healthcare sector. Designed to streamline complex data into intuitive visuals, the **Autism Global Challenge Ecosystem Dashboard 2.0** stands at the forefront of analytical innovation, facilitating stakeholders to quickly identify trends, evaluate market potentials, and make informed decisions.

<https://www.philanthropy.international/autism>



270+

Top clinics

3,500+

Data points

# Key Global Funding



**1-2%**

Children are diagnosed with Autism Spectrum Disorder



**Lyme Disease**

can be responsible for a significant part of Autism prevalence



**Healthcare burden**

A range of physical and mental-health conditions frequently accompany Autism



**>75 million people**  
have Autism Spectrum Disorder



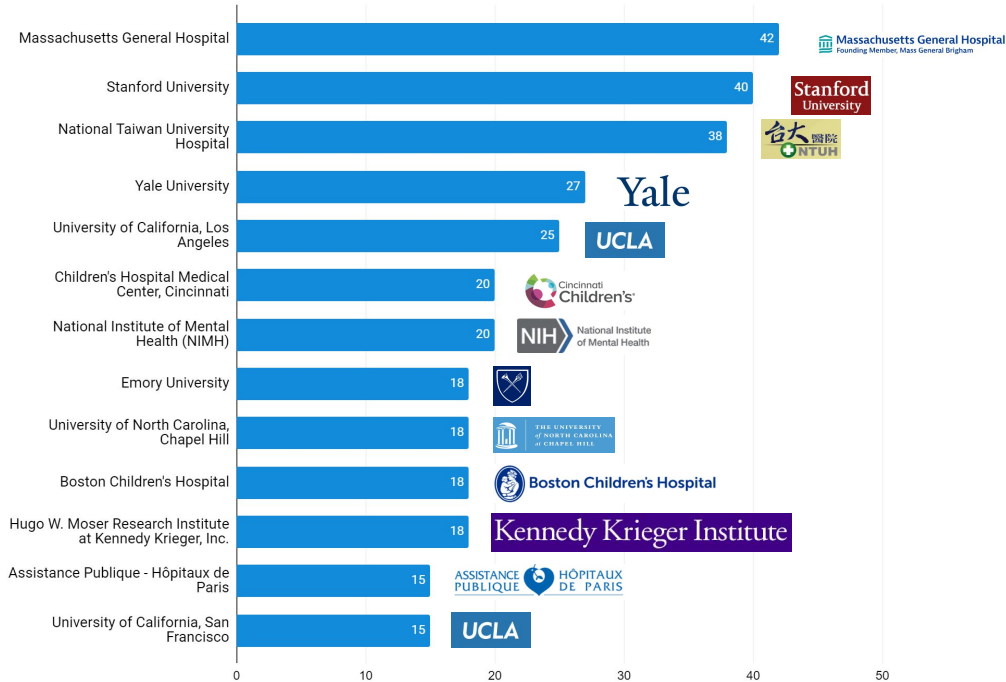
**> US\$ 400 billion**

ASD-related medical, nonmedical and productivity losses in US alone

By 2024, **the global population has surpassed 8.14 billion**. It's estimated that between **1-2%** of this populace—**over 75 million individuals**—are affected by Autism Spectrum Disorder, with figures varying based on precise clinical definitions. The economic impact in the US alone is substantial, **surpassing US\$400 billion due to ASD-related medical, nonmedical, and productivity losses**.

# Top Sponsors Providing Clinical Trials, 2023

## Companies by Number of Clinical Trials



ASD research is an established and popular area for clinical research. The most significant players in the market are **Massachusetts General Hospital (USA)**, **Stanford University (USA)**, **National Taiwan University Hospital (Taiwan)**, **Yale University (USA)**, **University of California, Los Angeles (USA)**, **Children's Hospital Medical Center, Cincinnati (USA)**, **National Institute of Mental Health (USA)**.

Six companies have been sponsors for 15-19 clinical trials on ASD: **Emory University (USA)**, **University of North Carolina, Chapel Hill (USA)**, **Boston Children's Hospital (USA)**, **Hugo W. Moser Research Institute at Kennedy Krieger, Inc. (USA)**, **Assistance Publique - Hôpitaux de Paris (France)**, **University of California, San Francisco (USA)**.

Most leading sponsors are thus from USA, but some significant sponsors are from Taiwan and France.



# Alzheimer's Global Challenge Ecosystem

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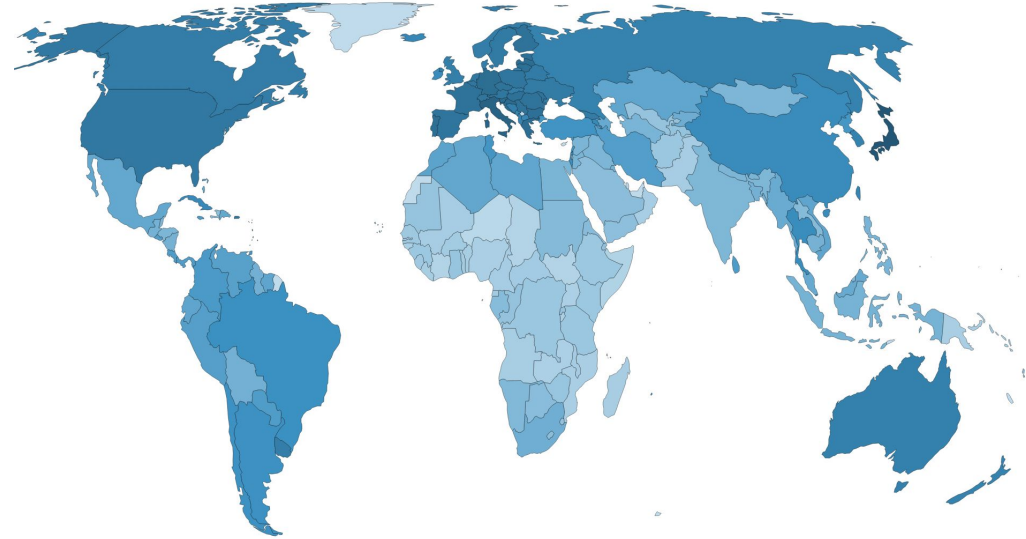


# Alzheimer Disease

**Alzheimer's** stands as the predominant form of dementia, characterized by a progressive trajectory commencing with subtle memory lapses and potentially evolving into an incapacity to engage in conversations and respond to the surroundings. **This neurodegenerative condition affects regions of the brain governing thought, memory, and language**, significantly impacting an individual's capacity to perform routine daily activities.

While Alzheimer's disease can affect younger individuals, it is relatively less prevalent. **The incidence of the disease doubles every five years beyond the age of 65, with projections indicating a nearly threefold increase to 14 million people by the year 2060.** Initial symptoms may manifest after the age of 60, and the likelihood of developing the disease escalates with advancing age. Understanding the intricate factors influencing Alzheimer's prevalence is crucial in formulating effective strategies for prevention, diagnosis, and management. One notable hypothesis links a substantial part of the increase in Alzheimer's prevalence to the **ongoing Lyme Disease Global Pandemic.**

## Prevalence of Alzheimer's Disease



# Alzheimer's Global Challenge Ecosystem Dashboard 2.0

The **Alzheimer's Global Challenge Ecosystem Dashboard 2.0** by DKG Group is a specialized visualization platform designed to offer comprehensive insights into Alzheimer's disease analytics. This dashboard centralizes data from **400+ top clinics** and encompasses 5600+ indicators, painting a detailed picture of the disease's global footprint. It provides a nuanced overview of clinical trials by country, prevalence mapping, diagnostic and treatment market sizes, and a SWOT analysis of leading clinics. Through innovative data visualization, the dashboard empowers investors with a deep understanding of the Alzheimer's landscape, highlighting key areas for investment and potential growth within the healthcare sector. The dashboard's intuitive interface presents a global prevalence map and a forward-looking projection of market trends, enabling stakeholders to track the evolution of Alzheimer's impact and the healthcare industry's response.

[www.philanthropy.international/alzheimers](http://www.philanthropy.international/alzheimers)



400+

Top clinics

5,600+

Data points

# Key Global Funding



**1 of 9**

Adults beyond age 65 is diagnosed with Alzheimer's



**Lyme Disease**

can be responsible for a significant part of Alzheimer's



**Healthcare burden**

A range of physical and mental-health conditions frequently accompany Alzheimer's



**>60 million people**

In 2023 have Alzheimer's



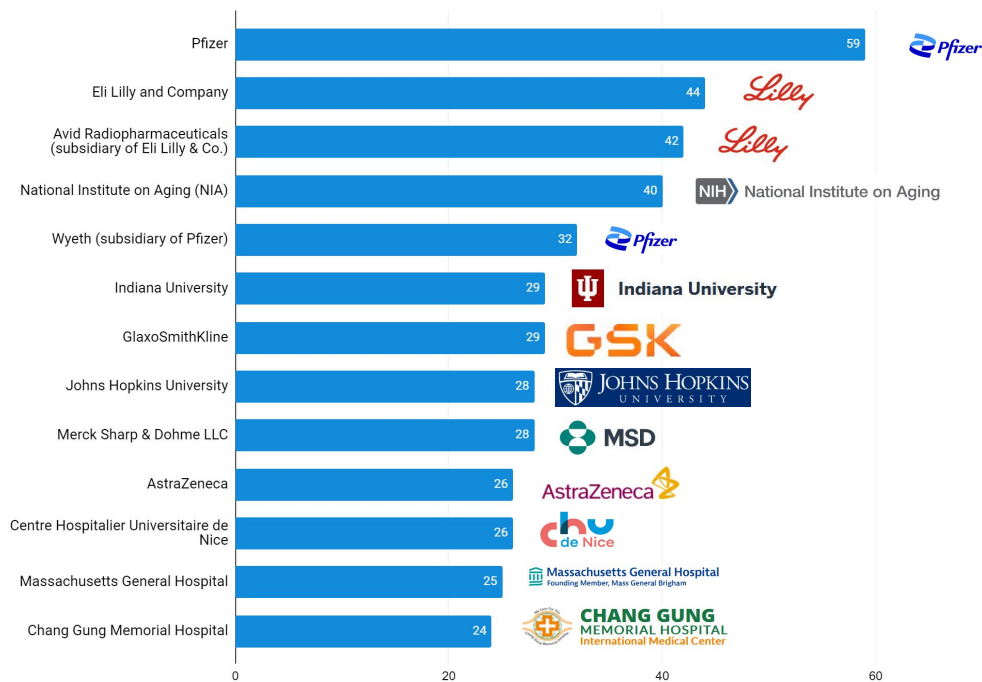
**> US\$ 340 billion**

Alzheimer's medical, nonmedical and productivity losses only for US

By 2024, **the global population has surpassed 8.14 billion**. It's estimated that between **1,5 %** of this populace—**over 60 million individuals—are affected by Alzheimer's Disease**, with figures varying based on precise clinical definitions. The economic impact in the US alone is substantial, surpassing **US\$ 430 billion** due to Alzheimer's medical, nonmedical, and productivity losses.

# Top Sponsors Providing Clinical Trials, 2023

## Companies by Number of Clinical Trials



Alzheimer's research is an established and popular area for clinical research. The most significant players in the market are **Pfizer** (USA) with its subsidiary **Wyeth**, having started 91 clinical trials together, **Eli Lilly and Company** (USA) with its subsidiary **Avid Radiopharmaceuticals** (USA), with 86 clinical trials together, and **National Institute of Aging** (USA) with 40 clinical trials.

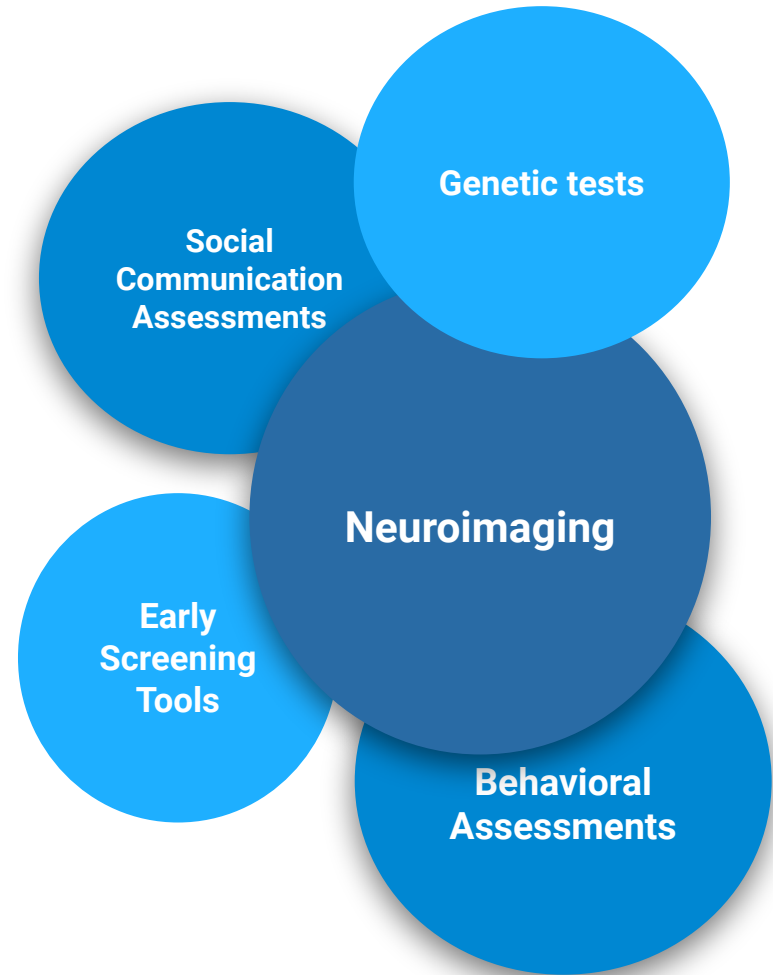
Seven companies have been sponsors for 25-30 clinical trials on ASD: **Indiana University** (USA), **GlaxoSmithKline** (UK), **John Hopkins University** (USA), **Merck Sharp & Dohme LLC** (USA), **AstraZeneca** (UK), **Centre Hospitalier Universitaire de Nice** (France), **Massachusetts General Hospital** (USA).

Most leading sponsors are thus from USA, but some significant sponsors are from UK and France.

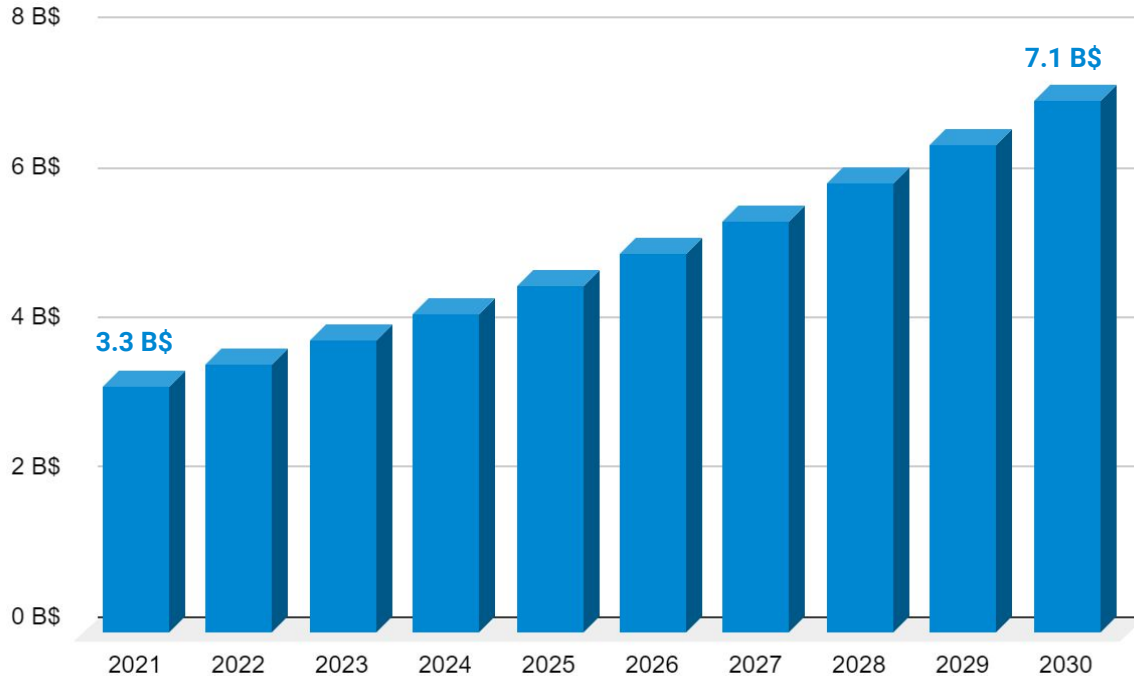
# Alzheimer Diagnostic Methods

Diagnostics for Alzheimer's encompass various pivotal methods crucial for precise identification. Behavioral assessments involve observing and analyzing an individual's cognitive functions, memory patterns, and behavior, aiding in early detection but might not capture subtler signs in some cases. Psychological evaluations aim to assess cognitive functions and developmental milestones, providing valuable insights into a person's strengths and challenges. Genetic tests explore specific genetic markers associated with Alzheimer's, offering more targeted insights. Additionally, brain imaging techniques, such as functional MRI, provide a window into brain activity and connectivity, enhancing our understanding of Alzheimer's neurological underpinnings.

Alzheimer's Disease embodies a spectrum that captures a wide array of cognitive and behavioral changes. At one end, individuals may exhibit slight variations that fall within the range of typical aging, though anti-aging interventions can help to handle that to certain extent as well. Moving through the spectrum, there's a diversity of presentations, encompassing varying degrees of challenges in memory, cognitive function, and daily activities. Towards the other end, Alzheimer's manifests more prominently, with more pronounced difficulties that significantly impact daily functioning.



# Alzheimer Diagnostic Market Size



The Compound Annual Growth Rate (CAGR) for this period is **~8.9%**. The growth in this sector is driven by various factors, such as increased awareness and reporting of Alzheimer's Disease cases, advancements in diagnostic technologies, and continuous investment in research and development to create more accurate and efficient tools for detecting Alzheimer's.

The market is projected to expand steadily **from USD 3.3 Billion in 2021 to USD 7.1 Billion in 2030**, emphasizing the increasing demand for advanced diagnostic instruments for the early detection and enhanced management of Alzheimer's Disease.

# Diabetes Global Health Challenge

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# Diabetes Global Challenge Ecosystem Dashboard 2.0

The **Diabetes Global Challenge Ecosystem Dashboard 2.0**, created by DKG Group, is an innovative analytics tool designed to present a holistic view of the diabetes healthcare landscape. This dashboard integrates data from **1100+ top clinics** and **16000+ indicators** to deliver a multi-faceted analysis of the diabetes challenge worldwide. It features detailed visualizations such as a clinical trials chart by country, global prevalence mapping, and projected market sizes for diagnostics and treatments.

Additionally, it offers a comprehensive SWOT analysis of diabetes clinics, providing stakeholders with actionable insights into the current state and future directions of diabetes care. This platform exemplifies DKG Group's commitment to leveraging advanced visualization techniques to simplify complex data, making it accessible and informative for investors.

[www.philanthropy.international/diabetes](http://www.philanthropy.international/diabetes)



1,100+

Top clinics

16,000+

Data points

# Key Global Funding



**537 million**  
adults are living  
with diabetes



**3 in 4 adults  
with diabetes**  
live in low- and  
middle-income  
countries



**>7 million deaths**  
in 2024 were the result  
of diabetes



**> 540 million  
adults**  
have impaired glucose  
tolerance (IGT) related  
to Type 2 diabetes

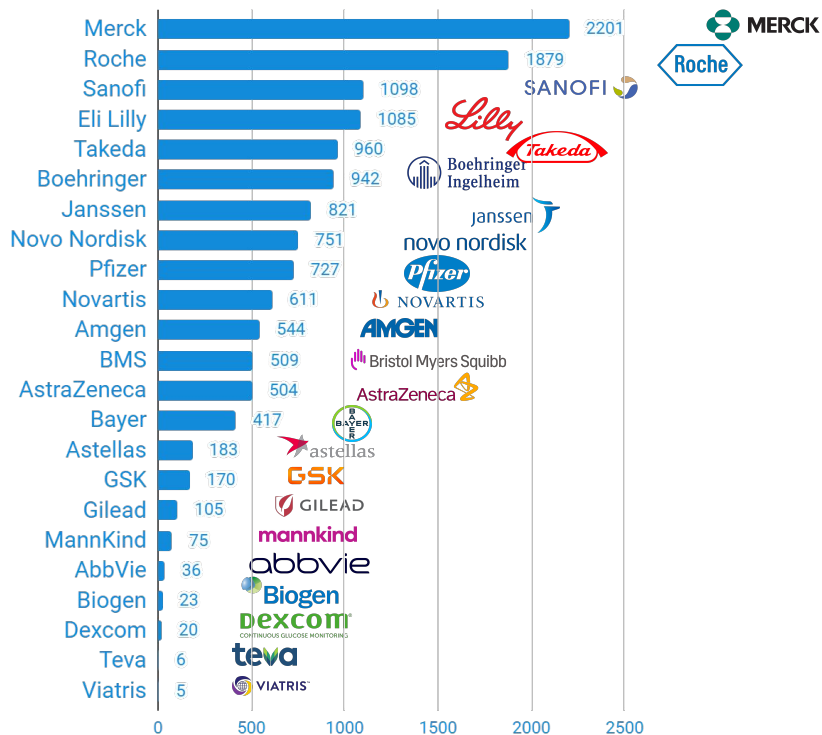


**> US\$ 970 billion**  
of healthcare  
expenditure for  
diabetes treatment

**537 million adults globally are living with diabetes**, and 3 in 4 of them live in low- and middle-income countries. More than 540 million adult people in the world have impaired glucose tolerance, related to Type 2 diabetes. Furthermore, in 2024, **> 7 million deaths around the globe were the result of diabetes**. All of these despite the fact, that there is **more than \$970B of healthcare expenditure** for diabetes treatment.

# Big Pharma's Intellectual Property for Diabetes

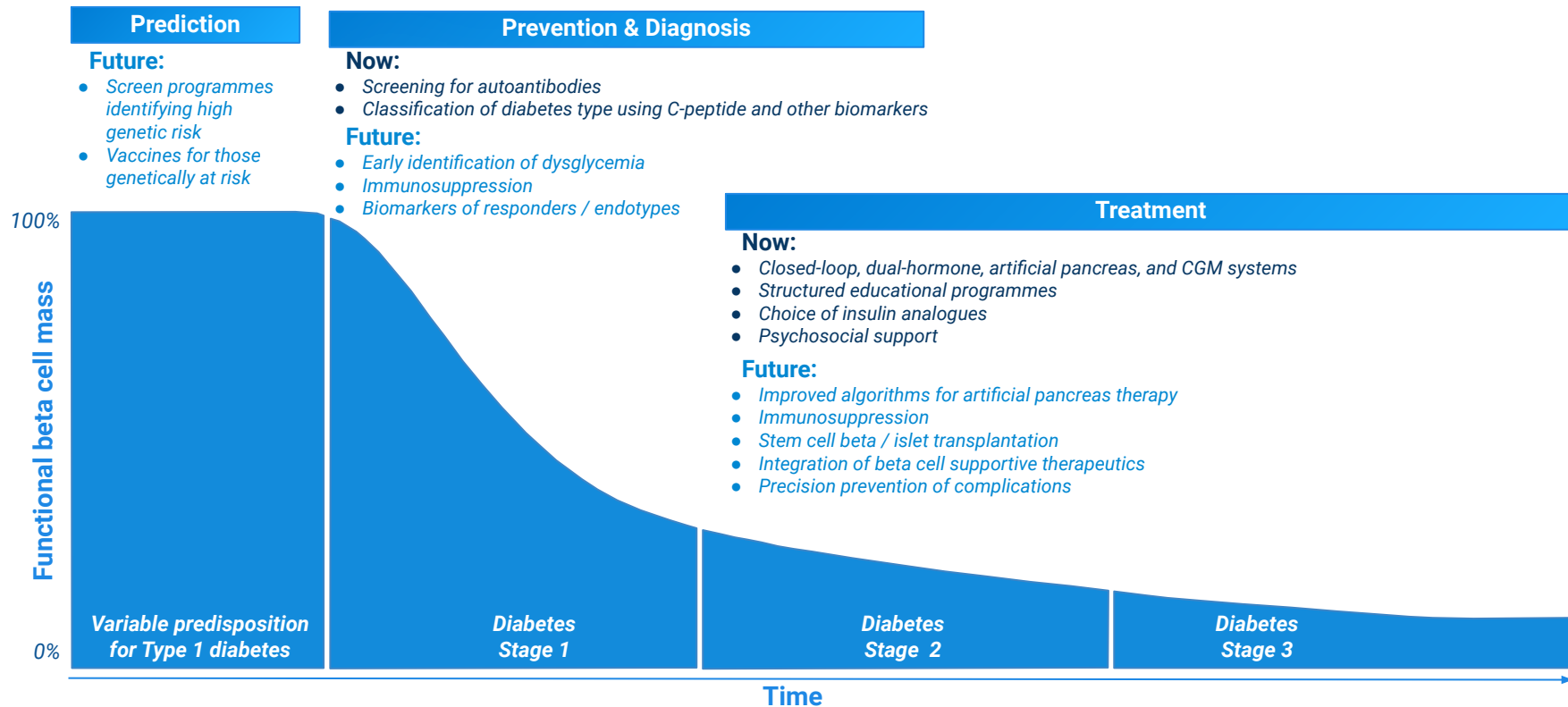
## Big Pharma Companies by Number of Patented Inventions



The big pharmaceutical companies are conducting a huge investigation into new antidiabetic approaches. The leaders in the number of patented technologies are **Merck, Roche, Sanofi, and Eli Lilly** (more than 1,000 patents), although there are no real breakthrough approaches. High-throughput screening allows big corporations to test a large number of new molecules, although most of these patented compounds never reach the practical application stage. This is the only strategy to protect intellectual property and maintain competitiveness in the market.

Another common risk management technique is to enter into a strategic partnership with other firms. Partnerships and joint ventures allow for corporations and even nonprofits to share in the upside of a potential finding while limiting their overall investment. Currently, **Pfizer and Biogen** are two of many companies involved in partnerships with **the Juvenile Diabetes Research Fund (JDRF)**, a nonprofit charity. **The JDRF** is currently involved in more than 20 projects that have the potential to be big winners in treating and eventually curing Type 1 Diabetes.

# Application of Innovative Approaches for Diabetes Management



# Bad Bugs Global Challenge

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# Bad Bugs Global Challenge Overview

The Bad Bugs Global Challenge addresses a pressing worldwide concern—the relentless and evolving threat posed by infectious microorganisms. This initiative confronts the complex issues surrounding antimicrobial resistance, infectious diseases, and the global impact on public health.

As we delve into the Bad Bugs Global Challenge, we navigate the intricate landscape of microbial threats, seeking innovative solutions, and fostering international collaboration to safeguard the well-being of communities worldwide. This overview provides a glimpse into the multifaceted nature of the challenge, inviting stakeholders from diverse fields to join forces in addressing this critical global health issue.

## Prevalence of Bad Bugs Diseases



# Forever Toxins Global Challenge

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# Forever Toxins Global Challenge Overview

The Forever Toxins Global Challenge grapples with the enduring impact of persistent organic pollutants on our environment and health. These pollutants, coined as forever toxins, pose a pressing challenge as traditional industry practices struggle to effectively mitigate their consequences.

Resolving this global challenge necessitates a transformative shift, urging the integration of advanced technologies, particularly nanorobots. In this overview, we emphasize the urgency of addressing Forever Toxins, highlighting the imperative for innovative solutions and collaborative efforts among industries, scientists, and technologists. Together, we strive to usher in a cleaner, healthier future and confront the challenges posed by these persistent environmental threats.

## Prevalence of Forever Toxins





# Proprietary Analytics

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# Key Partnerships: Building a Global Network for Impact

In our unwavering commitment to tackle Global Health Challenges, the Key Partnerships initiative stands as the cornerstone of our strategy. By forging dynamic collaborations with esteemed researchers and innovators, we propel ourselves into a realm of unparalleled innovation, research excellence, and global impact.

## Why Key Partnerships?

- **Accelerate Innovation:** Our collaborations serve as accelerators for groundbreaking innovation, pushing the boundaries of what's possible in healthcare solutions.
- **Amplify Research Impact:** Building a global network empowers us to conduct research that transcends borders, leaving a lasting impact on diverse communities worldwide.
- **Enhance Global Impact:** Together with our partners, we create a powerful synergy, amplifying the reach and effectiveness of our interventions on a global scale.

## What to Expect

- **Thoughtful Collaborations:** Our partnerships are carefully curated, ensuring a thoughtful alignment of expertise, resources, and a shared commitment to transformative change.
- **Shared Vision:** With researchers and innovators as our allies, we collectively envision and work towards a world where health disparities are minimized, and innovative solutions thrive.

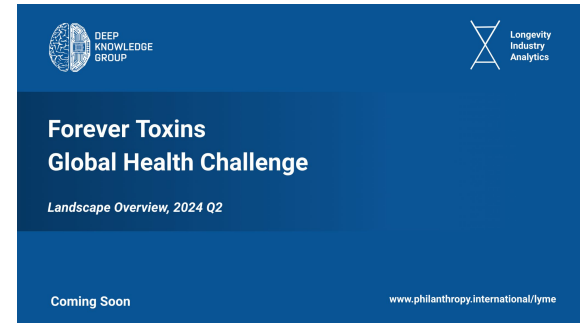
# Joint Analytical Case Studies

Longevity Club Division of Aging Analytics, as part of Deep Knowledge Group's consortium, **creates different proprietary reports on emerging topics of Global Health Challenges**. For example, **'Lyme Disease Global Pandemia 2024 Q1'**, **'Autism Global Health Challenge 2024 Q1'**, and **'Alzheimer Global Health Challenge, 2024 Q1'** were produced this year. All of these reports can be found on the Proprietary Section on Global Health Challenges websites.



# Joint Analytical Case Studies

Also we represent reports related Global Health Challenges, such as **'Diabetes Disease Global Pandemia 2024 Q2'**, and **commins soon reports as 'Bad Bugs Global Health Challenge 2024 Q2'**, and **'Forever Toxins, 2024 Q2'** that will be produced this year. All of these reports can be found on the Proprietary Section on Global Health Challenges websites.



# Navigating the Landscape of Global Health Challenges

In the complex tapestry of Global Health Challenges, our approach is two-fold – acknowledging the barriers that impede progress and recognizing the boundless opportunities for innovation and growth. The "Challenges and Opportunities" initiative is our compass, guiding us through the intricacies of this transformative journey.

## Identifying Barriers

**Understanding Complexity:** Global health challenges often arise from multifaceted issues, demanding a nuanced understanding of the complex interplay of factors hindering progress.

**Localized Obstacles:** Barriers can vary across regions and communities, necessitating a localized approach to identify and address unique challenges specific to each context.

**Resource Constraints:** Limited resources, both financial and infrastructural, can pose significant barriers. Identifying these constraints is crucial for devising sustainable solutions.

## Opportunities for Innovation and Growth

**Interdisciplinary Collaboration:** The intersection of various disciplines creates opportunities for innovative solutions. Collaborations between healthcare, technology, and other sectors can yield transformative results.

**Technological Advancements:** Embracing emerging technologies provides a gateway for innovation. From telemedicine to data analytics, technology offers solutions that transcend traditional boundaries.

**Community Engagement:** Opportunities lie in fostering community engagement. Empowering communities and leveraging local knowledge can be a catalyst for sustainable growth.

## Strategic Approach

**Holistic Assessment:** Our approach is rooted in a holistic assessment, where challenges are not viewed in isolation but as interconnected elements of a larger system.

**Innovation Ecosystem:** We cultivate an innovation ecosystem that encourages out-of-the-box thinking, collaboration, and experimentation to unlock new pathways for growth.

# Future Outlook: Emerging Trends in Global Health

As we stand at the precipice of tomorrow, the "Future Outlook" initiative propels us forward, exploring the horizon of emerging trends in global health and envisioning our anticipated developments and contributions to shape a healthier world.

## Emerging Trends in Global Health

### Precision Medicine

The future of healthcare lies in precision. Personalized treatments, diagnostics, and interventions tailored to individual genetic makeup will revolutionize how we approach health challenges.

### Digital Health Transformation

The integration of digital technologies, from telehealth to wearable devices, will redefine patient care, providing real-time data for more informed and proactive health management.

### Global Collaborations

Increasingly interconnected global health efforts will foster collaborations across borders, sharing knowledge and resources to address challenges collectively.

## Anticipated Developments

### Breakthrough Therapies

The ongoing advancements in biotechnology and pharmaceuticals will lead to groundbreaking therapies, addressing conditions at their molecular level and pushing the boundaries of what's medically possible.

### AI in Healthcare

Artificial Intelligence (AI) will play a pivotal role in diagnostics, treatment planning, and data analysis, enhancing efficiency and precision in healthcare delivery.

### Preventive Health Focus

A shift towards preventive rather than reactive healthcare strategies will become prominent, emphasizing wellness, early detection, and lifestyle interventions.

# Future Outlook: Emerging Trends in Global Health

As we stand at the precipice of tomorrow, the "Future Outlook" initiative propels us forward, exploring the horizon of emerging trends in global health and envisioning our anticipated developments and contributions to shape a healthier world.

## Our Contributions

### Advocacy for Health Equity

Our commitment extends to advocating for health equity on a global scale, ensuring that innovative healthcare solutions are accessible to all, regardless of geographical or socioeconomic factors.

### Innovation Hub

We aspire to be a hub for innovation, driving research and development in collaboration with global partners to contribute groundbreaking solutions to pressing health challenges.

### Educational Initiatives

Contributing to the future of global health involves knowledge dissemination. We envision educational initiatives to empower individuals and communities with the tools for proactive health management.

## Strategic Approach

### Foresight and Adaptability

Our strategic approach involves staying ahead of the curve, anticipating trends, and being adaptable to the dynamic landscape of global health.

### Collaborative Vision

We foster a collaborative vision where our anticipated developments align with the broader global health community, ensuring a collective and impactful contribution to the future of healthcare.

**UDMs**

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# Ultimate Decision Makers Analysis




The **Global Health Ultimate Decision Makers Analysis** adopts a comprehensive approach to empower decision-makers in addressing the intricacies of the global health sphere. Commencing with **meticulous data collection and aggregation**, the process delves deep into various sources to glean valuable insights. Subsequently, **interest profiling ensues**, strategically aligning these insights with the overarching objectives of decision-makers.


Through this holistic approach, decision-makers are not merely observers but active participants in shaping the future of global health. By leveraging the power of data, strategic alignment, and informed decision-making, they are poised to address pressing challenges, seize opportunities, and ultimately contribute to the betterment of global health on a profound scale.

# Key Takeaways


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-  **Holistic Approach:** Our approach is holistic, recognizing the interconnected nature of health challenges and addressing them as integral components of a larger system.


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-  **Innovation as Catalyst:** Innovation stands as the catalyst for transformative change. From precision medicine to digital health, our commitment to embracing emerging trends fuels our pursuit of groundbreaking solutions.

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-  **Collaboration as Imperative:** Collaboration is not just encouraged; it's imperative. The challenges we face transcend boundaries, and our partnerships, both local and global, are instrumental in overcoming them.

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-  **Accountability in Impact:** The concept underscores the importance of measurable impact. Metrics for success are not just metrics; they are the yardsticks by which we hold ourselves accountable to our stakeholders and the communities we serve.

# Conclusions

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The Global Health Challenges Concept presents a comprehensive and innovative approach to addressing the intricate landscape of health challenges on a global scale. This Concept not only recognizes the diversity and complexity of health issues but also underscores the need for a holistic and collaborative response.

The incorporation of cutting-edge technologies, interdisciplinary collaboration this concept apart as a forward-thinking initiative. The emphasis on community engagement and inclusivity further strengthens its potential for meaningful impact.

As we navigate the landscape of global health challenges, it is clear that a multifaceted approach is essential. The Global Health Challenges Concept provides a blueprint for leveraging innovation, technology, and collective efforts to pave the way toward a healthier, more resilient global community.

The Concept of this deck is designed only for selected counterparties, friends, and partners of Deep Knowledge Group.

Our group is a data science-driven financial corporation focusing on knowledge aggregation and considering the Longevity Industry as a major priority. This project is essential for our Founder and General Partner of Deep Knowledge Group, Dmitry Kaminskiy, who allocates all possible resources for its successful implementation.

For our friends and partners, we will deliver access to our proprietary materials and other services developed by the Deep Knowledge Group.

**We are open to mutually beneficial cooperation!**

# About Deep Knowledge Group

**Deep Knowledge Group (DKG)** is a consortium of commercial and non-profit organizations active on many fronts in the realm of DeepTech and Frontier Technologies (AI, Longevity, FinTech, GovTech, InvestTech), ranging from scientific research to investment, entrepreneurship, analytics, media, philanthropy and more. Deep Knowledge Group values **knowledge above profit** - a fact that is embedded in its very brand.

## Best DeepTech Analytics

Deep Knowledge Group's **analytical subsidiaries** are world leaders in analytics for DeepTech industries



## Advanced Financial Solutions

Deep Knowledge Group runs several data-driven **investments vehicles**



## Social Impact Projects

Deep Knowledge Group Venture Philanthropy pioneers several infrastructural **social impact projects**



# Life Sciences Analytical Subsidiaries of Deep Knowledge Group

Deep Knowledge Group (DKG) considers its analytical subsidiaries among its most precious assets, as it allows it to carry out qualitative analysis of a broader range of markets without loss of in-depth-class expertise. Moreover, DKG is the **first and primary holder of information from its subsidiaries, gaining early access to their sophisticated market intelligence**, receiving a unique synergy perspective on the market, and generating exceptional, one-of-a-kind insights and solutions. For now, 6 analytical agencies of DKG, are focus on analyzing life science field. Among them, **Longevity Industry Analytics** holds a special position, the company was established in 2013, and is **the world's premier provider of industry analytics on the topics of Longevity**.

**Aging Analytics  
Agency**

**Deep Pharma  
Intelligence**

**NeuroTech  
Analytics**

**COVID-19  
Analytics**

**FemTech  
Analytics**

**SpaceTech  
Analytics**



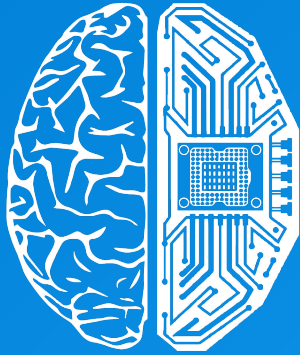
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