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Proactively identifying adolescents at risk for mental health disorders

A dream big™ health product

Industry Leaders & Innovators

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Holly Varnell
Founder & CEO

AI-Driven Diagnostics, Health Informatics & Advanced EHR Solutions

Darron Segall
Co-Founder & CSO

Reimbursement, Health Economics, & Payer Access for Novel Medical Technologies

Jeff Branagh
Strategic Advisor to DREAM BIG™ for Adolescents

Expertise: Behavioral Health, AI Integration, Patient-centered Solutions

Cameron Breze
Engineering Lead for DREAM BIG ™ for Adolescents

Clinical Decision Support, EHR Integration, Product Management, & Data Science

Merav Segall, LMFT
Clinical Advisor to DREAM BIG ™ for Adolescents

Licensed Marriage Family Therapist, Child & Adolescent Psychotherapy

Alarming Suicide Rates Among Children

The need for early identification & intervention

The urgency of addressing youth mental health

Suicide is the 2nd leading cause of death in children ages 10-14[1]

Suicide is the 8th leading cause of death in children ages 5–11[1]

1. https://www.cdc.gov/suicide/facts/index.html#:~:text=Suicide%20affects%20people%20of%20all,%2D14%20and%2020%2D34.

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Escalating Mental Health Issues During the Pandemic

A snapshot of mental health in high school students

37% reported experiencing poor mental health[1]

44% reported they persistently felt sad or hopeless during the past year[1]

4.5 times more likely to experience depression than other age groups[2]

46% reported having less motivation to do activities they usually enjoyed[3]

55% experienced emotional abuse by an adult in the home[4]

1. https://www.cdc.gov/media/releases/2022/p0331-youth-mental-health-covid-19.html
2. https://aspe.hhs.gov/sites/default/files/documents/0bcc372f4755cca29ebc80a47cfe300e/child-adolescent-mh-covid.pdf
3. https://www.unicef.org/lac/en/impact-covid-19-mental-health-adolescents-and-youth#:~:text=The%20general%20situation%20in%20the,motivated%20to%20do%20regular%20chores.
4. https://healthier.stanfordchildrens.org/en/data-shows-emotional-abuse-increased-among-teens-during-pandemic/#:~:text=New%20data%20from%20the%20Centers,other%20adult%20in%20the%20home.

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The health care system in the U.S. was designed for adults, & when it doesn't work for young people, we call them non-compliant & hard to reach. But it’s actually the system that’s hard to reach.

Angela Diaz, M.D., Ph.D., M.P.H.
Director of the Mount Sinai Adolescent Health Center

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Real World Example of the System Missing Signs & Symptoms Leading To Self-harm

Case report: 32706 - Female, 18 years old

- Frequent wellness checkups & occasional clinic visits
- No warning signals identified

Symptoms presented: Significant physical functional impairment

Outpatient Therapy Diagnosis: Disordered Eating

Case report: 32806 - Male, 17 years old

- Emergency department visit for symptoms
- Discharged with no ensuing follow-up or specialist referral

Symptoms presented: Over 50 lacerations from exacto knife

Outpatient Therapy Diagnosis: Suicidal Tendencies

*Images portrayed are not representative the actual patients, LMFT Case Studies License # MFC48272

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Navigating Healthcare Complexities

Addressing key obstacles to implementing solutions

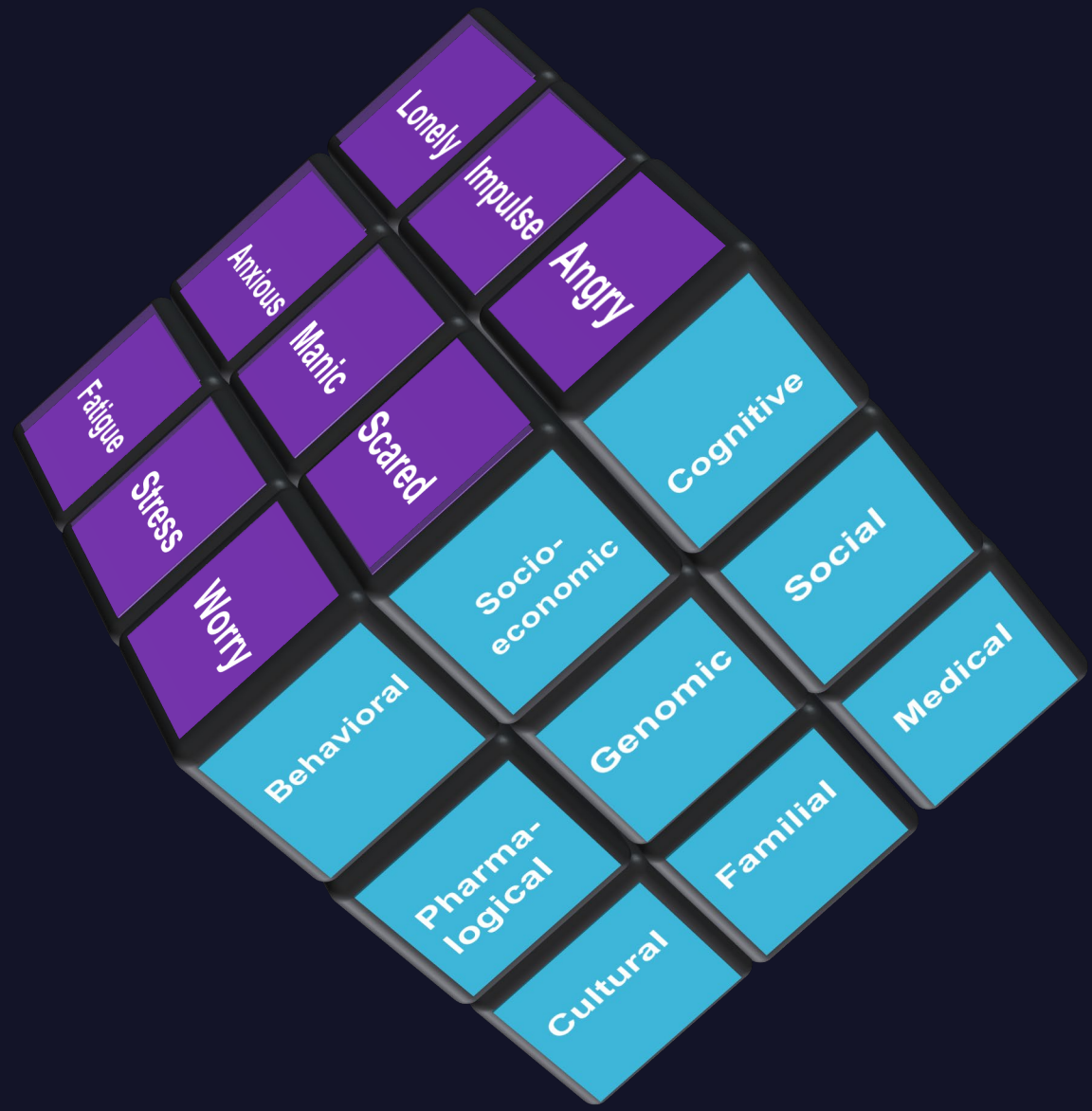
- Multi-point integrations across several variations of EHRs per system
- Meeting consumer-driven healthcare expectations
- High costs & administrative burden with paper forms
- Shortage of nurses & providers
- Inability to measure screening accuracy

Leveraging digital phenotyping & evidence-based practices

- EHR-agnostic platform
- Consolidated patient experience across health systems
- Automated, collaborative, evidence-based guidance
- Measurement-driven framework with endorsed adolescent mental health metrics

Digital Phenotyping for Earlier Disease Detection & Intervention

- AI-powered deep dive into EHR meta data for proactive patient profiling
- Advanced predictive technology using symptomology to enhance traditional screening methodology
  - Backed by evidence built on > 80 billion unique patient data points
  - Seamless integration with streamlined care coordination
  - Automated deployment of resources for adolescents & their caregivers



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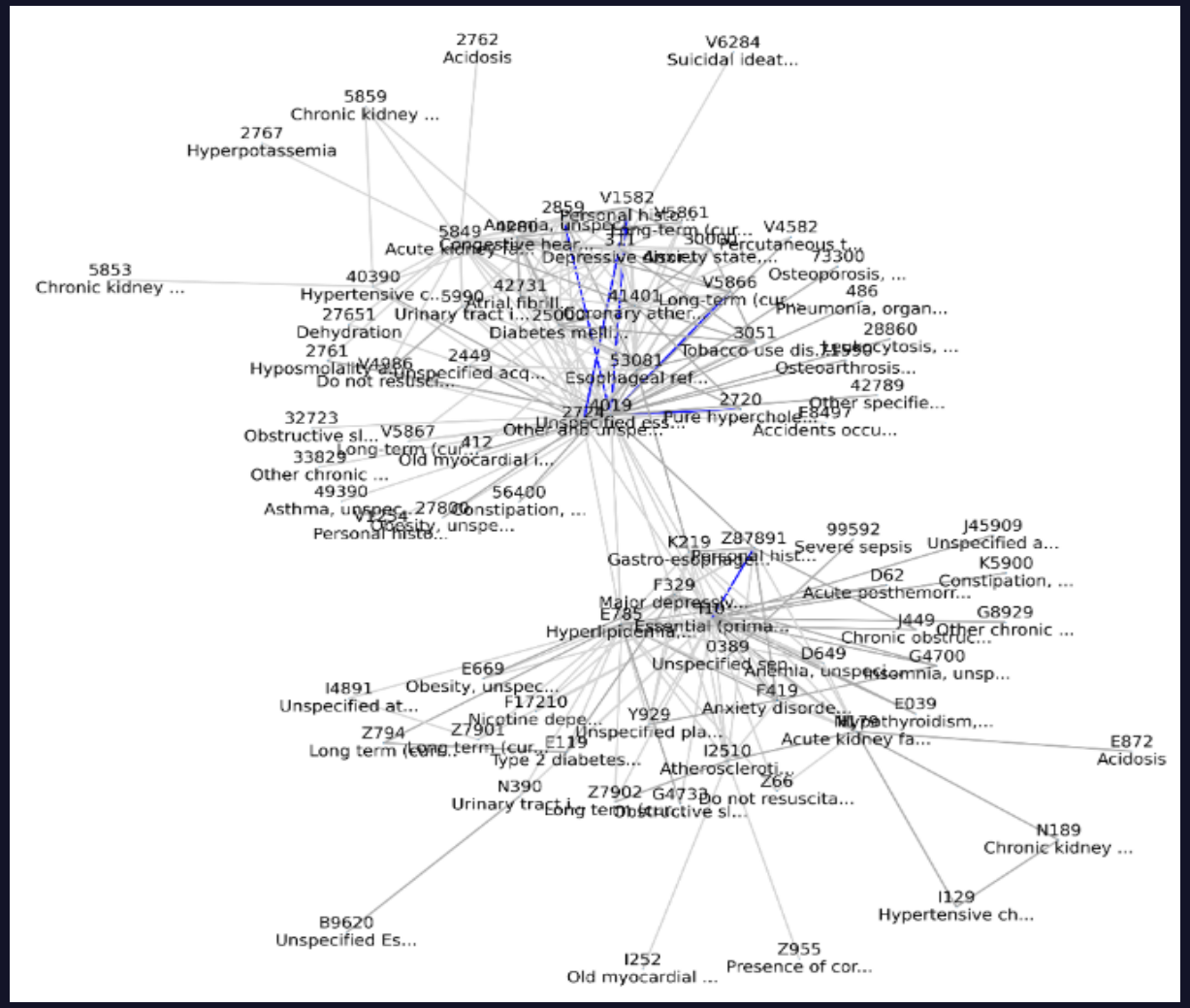
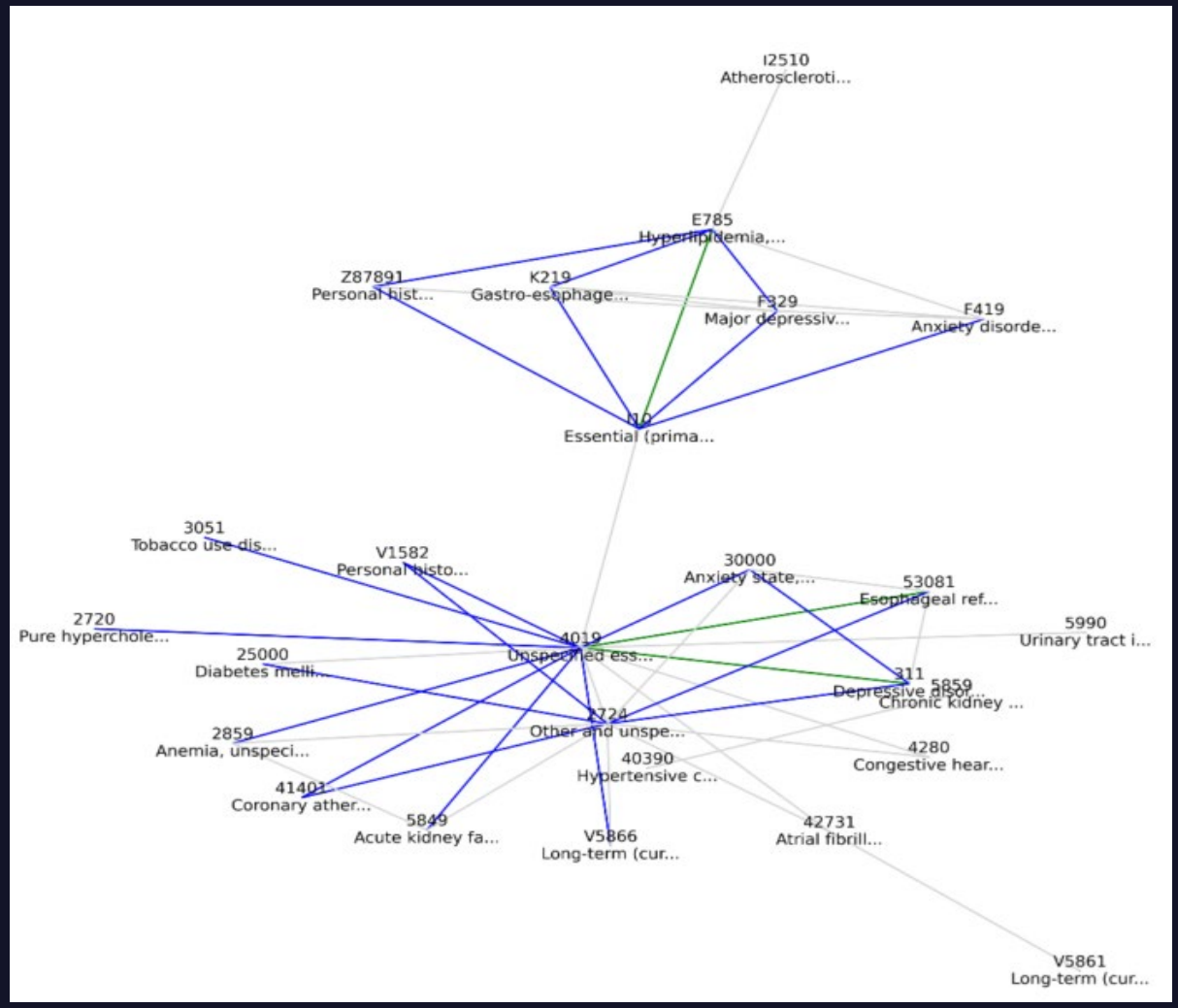
Decoding Comorbidity Connectivity in Mental Health Disorders

Harnessing big data for deciphering connectivity patterns

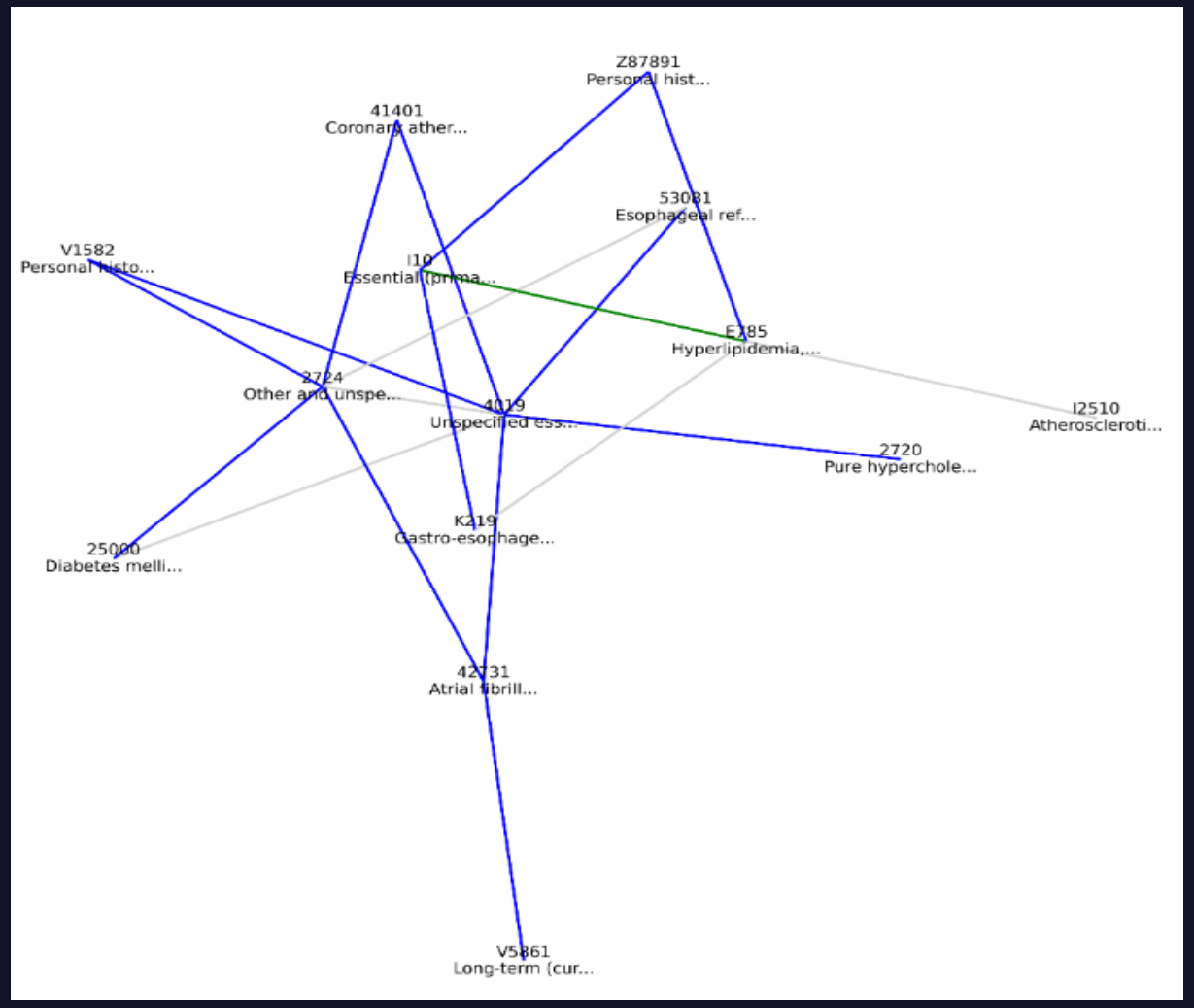


Microscopic dive into pivotal links

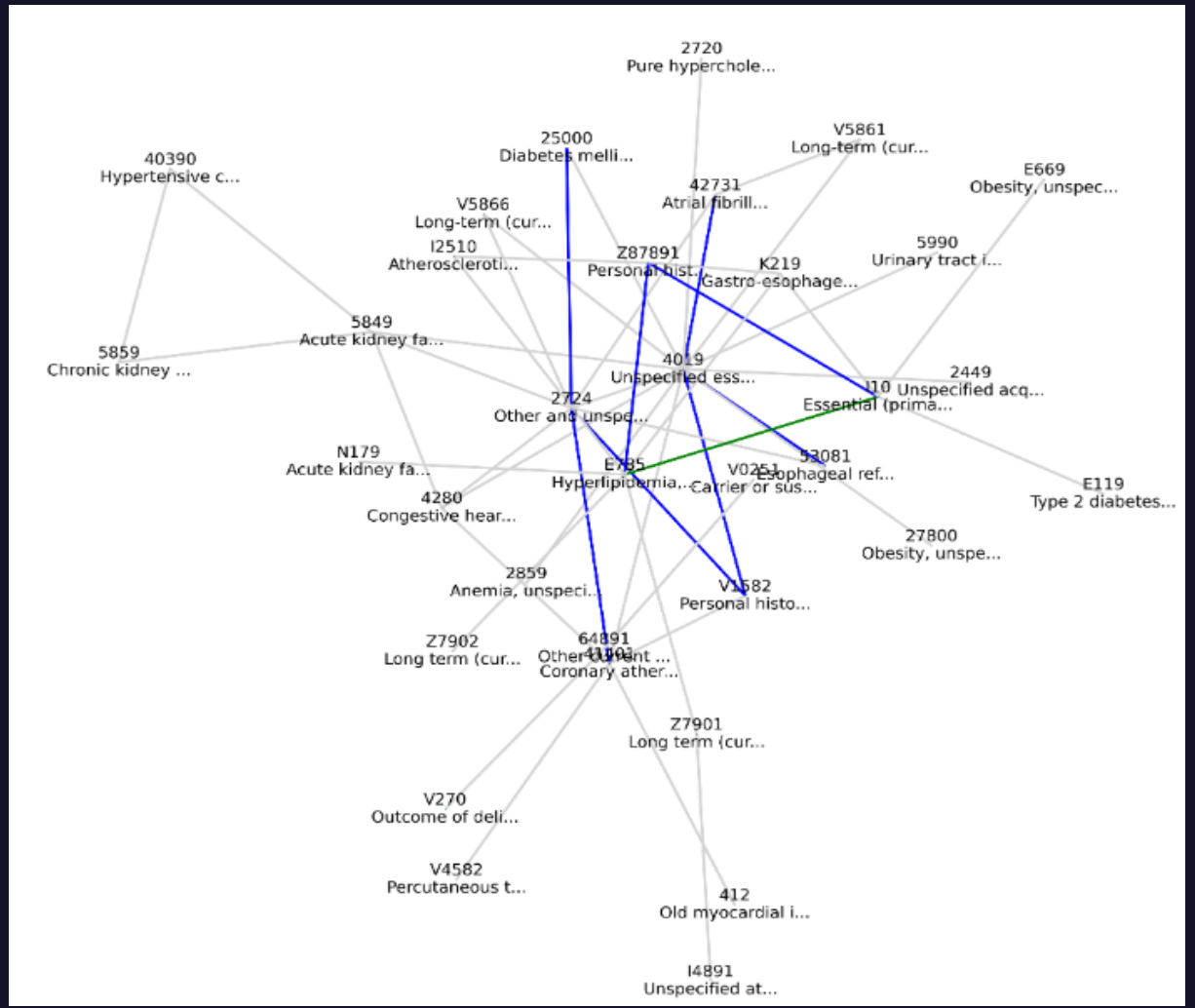


Comorbidity Connections In Patients Without Mental Illness

Mapping limited comorbidity interactions

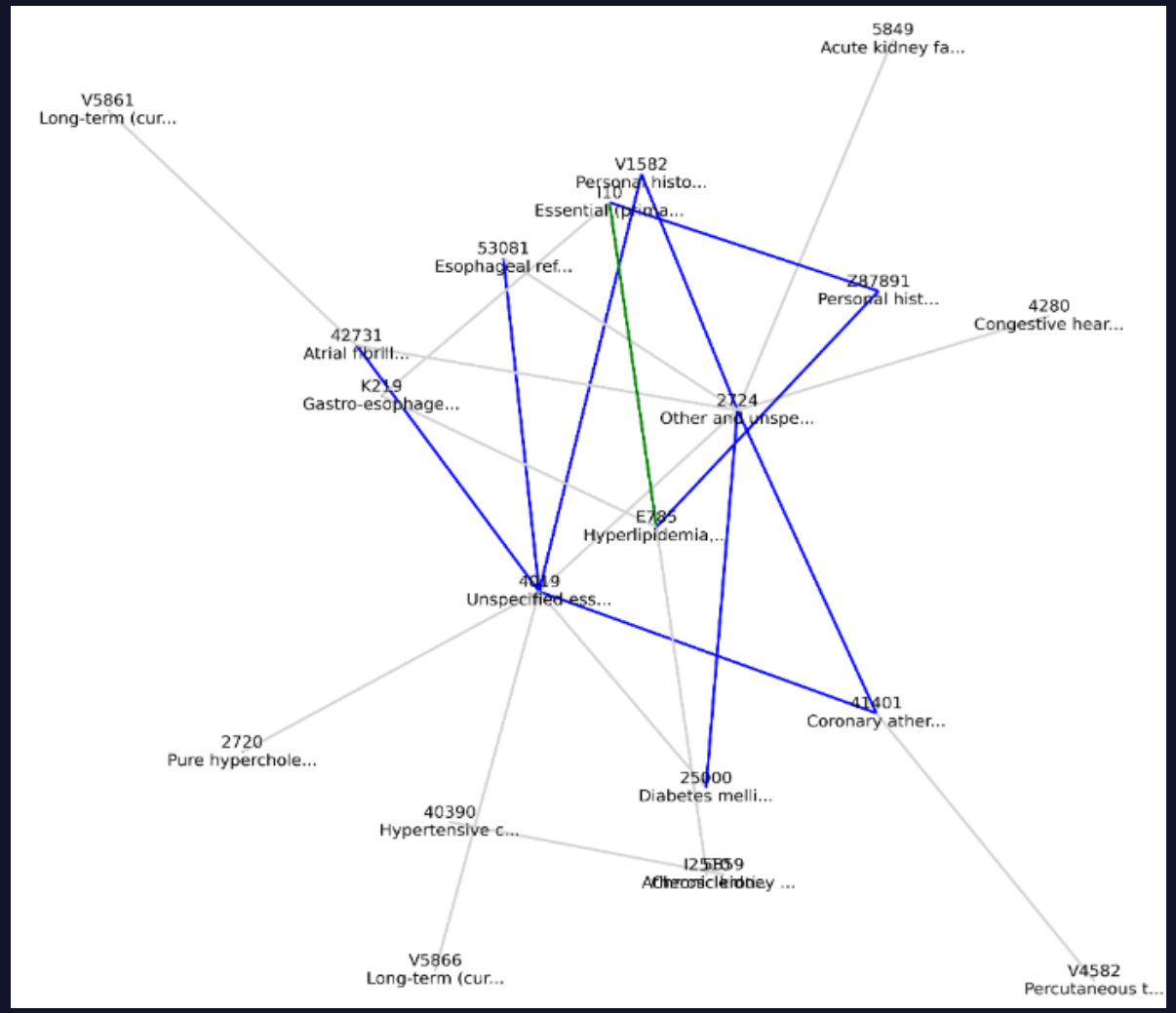


Examining the few but vital comorbidity connections

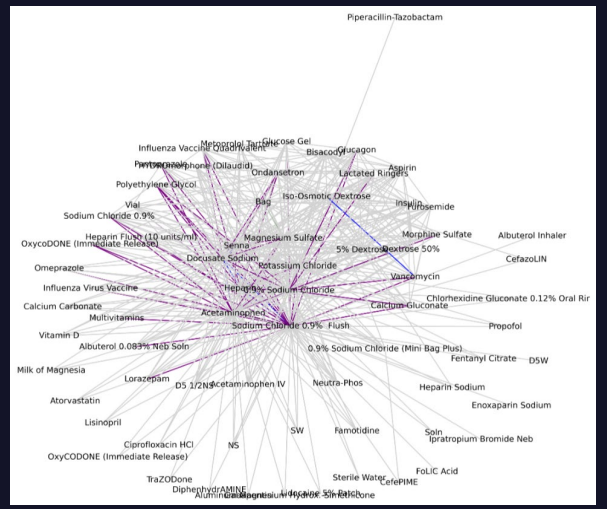


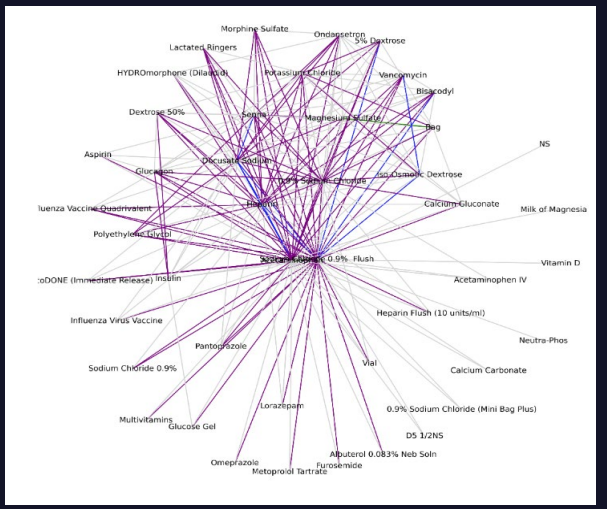
Deciphering Hidden Patterns in Asymptomatic Patients

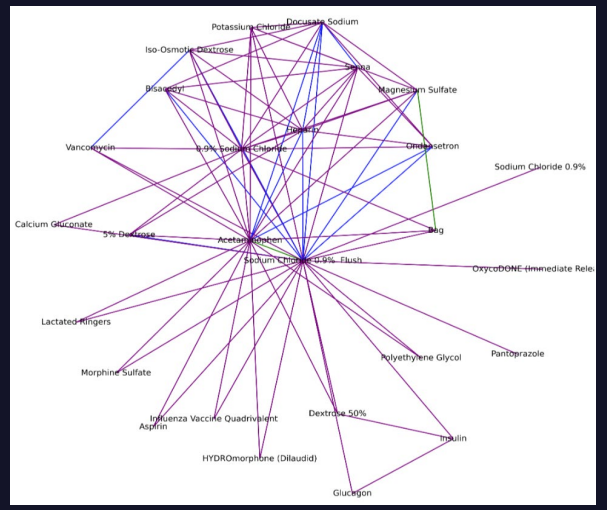
Comorbidities in patients with suicidal ideation

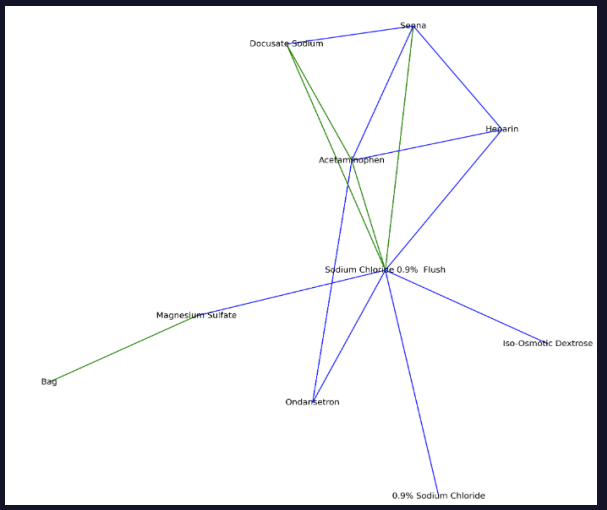


Integrated medication networks in patients with mental illness







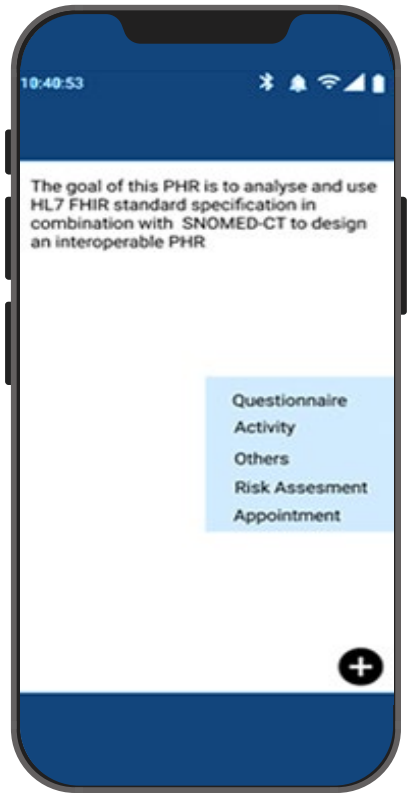


Transforming Both Provider & Patient Experiences

Enhancing the current clinical workflow

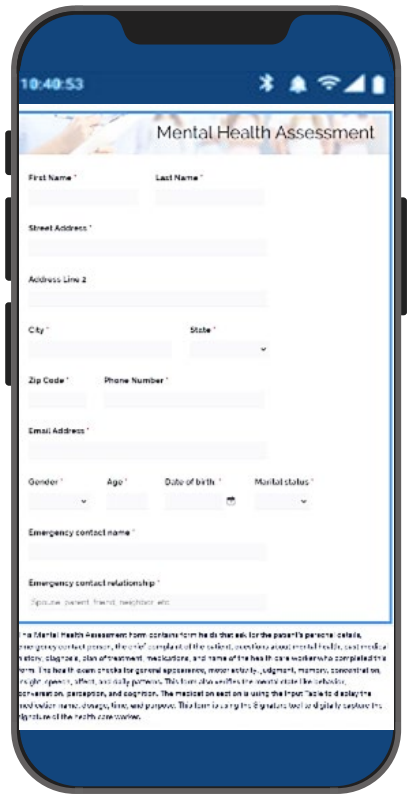
Provider features:

- Integrated patient questionnaires
- Clinical decision support alerts
- Secure messaging to patients & coordinated providers
- Patient monitoring



Patient features:

- Self-assessment
- Standardized patient/parent reported outcomes
- Clinical resources with patient/parent education
- Automated in-network provider care coordination



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Leveraging Advanced AI To Transform Clinical Outcomes

Impact on Modern Healthcare Systems

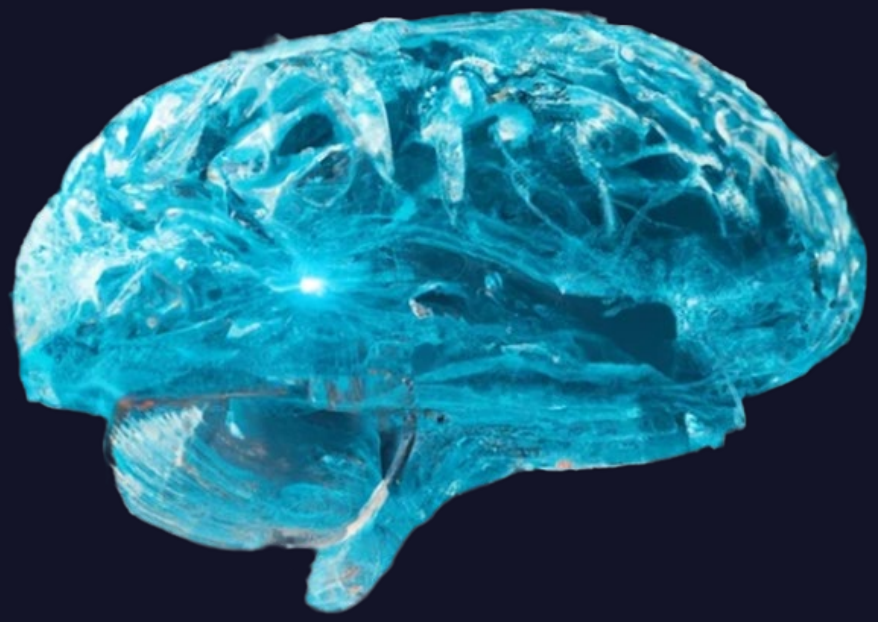
- Streamlined disease monitoring & management
- Informed decision making based on empirical evidence
- Rapid assimilation of technological innovation

Enhanced Data Retrieval & Insight Generation

- Cutting-edge data analytics platform
- Multi-sourced data incorporation
- Continuous refinement of algorithm

AI with Integrity

- Active measures to offset algorithmic bias
- Interventions informed by socioeconomic factors
- Cross-referenced data validation



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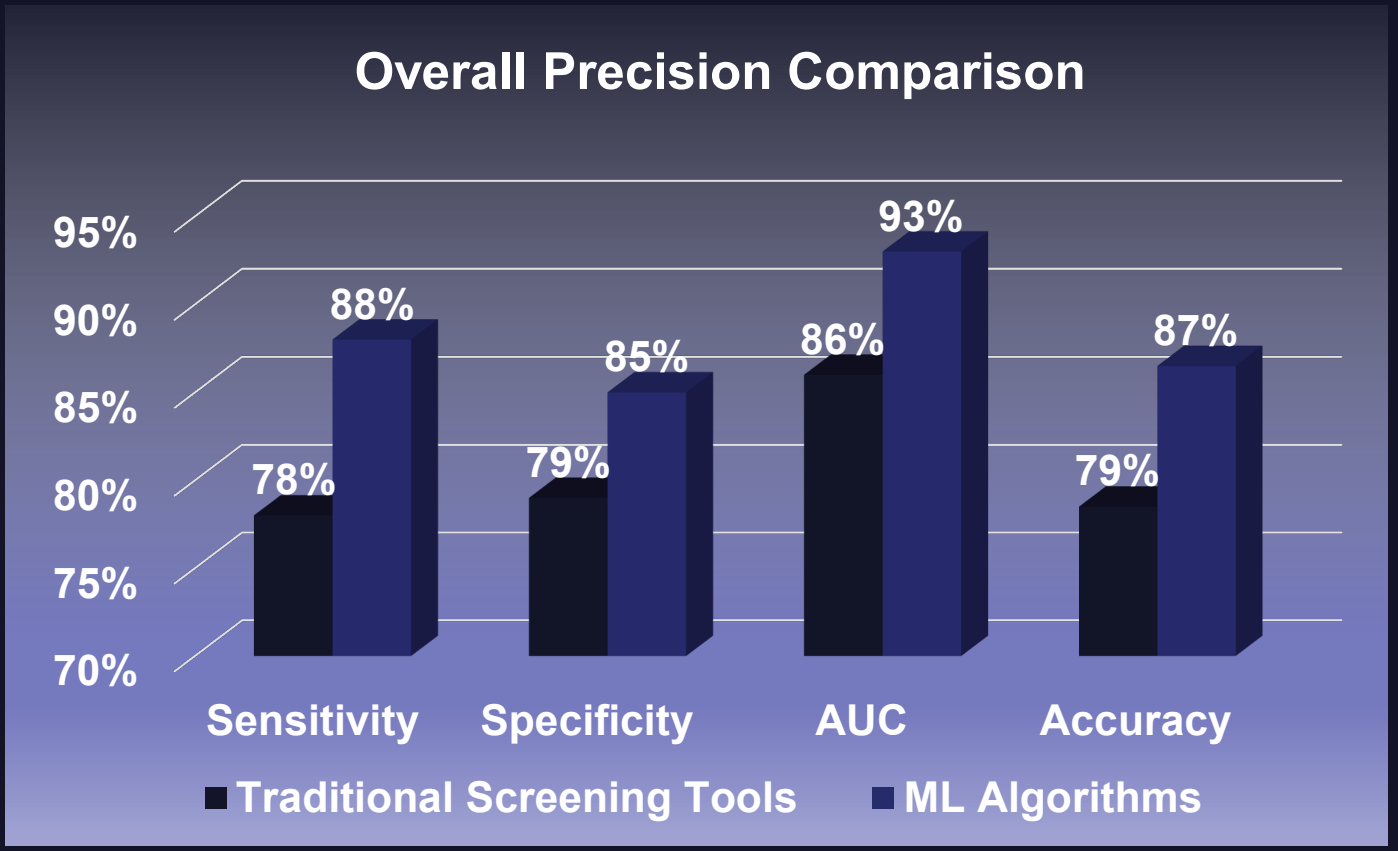
A Comparative Analysis Against Conventional Screening Tools

Establishing clinical validity of machine learning algorithms for mental health screening



Studies have shown traditional screening methods are:

- **10%** more likely to miss detection
- **8%** less accurate
- **6%** more likely to yield a false positive result

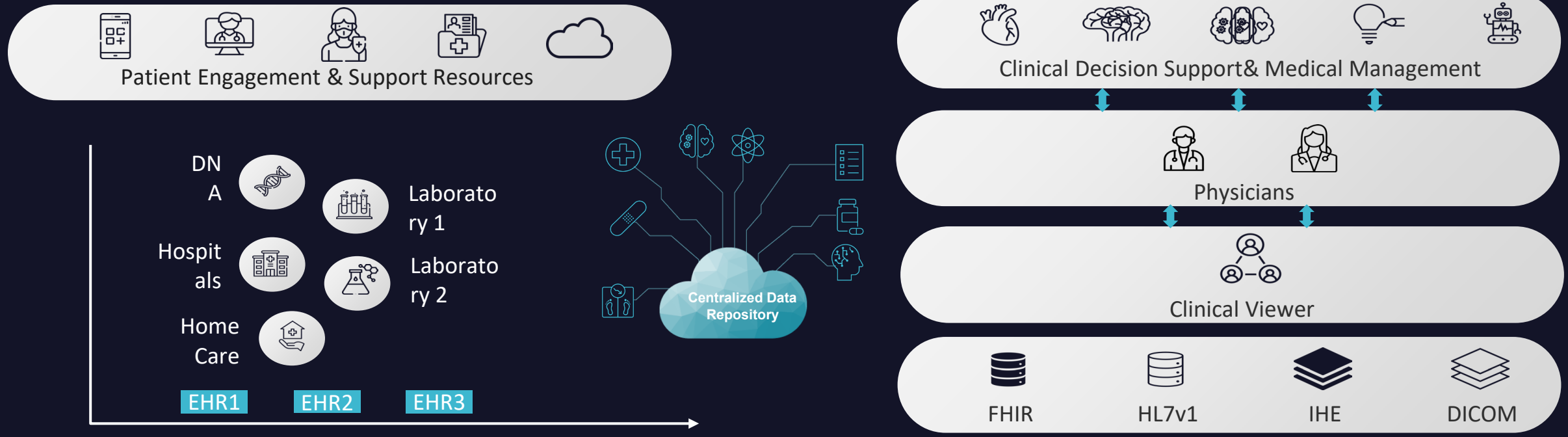
Multifaceted Data Integration for Enhanced Clinical Decision Support & Patient Care

Leveraging multiple data sources for informed decision making

Integration with ONC standards (FHIR, HL7v1, IHE, DICOM)

Mitigating algorithmic bias

Federated learning for risk stratification



Learning new indications in new disease states & patient populations while building evidence for existing technology

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Join the Dream Big™ health team & be a part of revolutionizing healthcare through the transformative power of AI-driven solutions.

Thank you!

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