AI and Human Health: Healthcare Utilization & Patient/Clinical Data

Participants

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Rebecca Garabed	OSU Veterinary Preventative Medicine	garabed.1@osu.edu
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Assets for Healthcare Utilization

- **Samuel Yang**—Assistant Professor, Family Medicine Practice
  - Samuel.Yang@osumc.edu
  - Understands clinical perspective, trained in adult and pediatric medicine
  - Strong software development background
  - Access to resources at both OSU/NCH
  - Interested in healthcare utilization, predictive analytics, data visualization, AI for information retrieval
- **Matt Lewis—** Faculty of Design & AACAD
  - mlewis@accad.osu.edu
  - Data visualization
- **Lang Li—** Chair, SBS Biomedical Informatics
  - Lang.Li@osumc.edu
  - Computational skills: machine learning, active learning, and their applications in natural language processing; but NOT Deep learning
  - Data sources: electronic medical records, and MarketScan data (claims data)
  - Data integration skills: ICD9/10, RxNorm, LONIC, OMOP-CDM, DrugBank
  - Application areas: pharmacogenetics, drug interactions, and comparative effectiveness
- **George El-Ferzli**—Pediatrics
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  - Tobacco research at the VA
  - Machine Learning for smoking cessation

- **Sonia Duffy**—Professor, College of Nursing
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- **Jeneane Jaber**—Lab Tech at NCBP
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  - Biomedical research
  - Diabetes research
  - Early childhood interventions for autism
- **Brendan Fortener**—Vendor Risk & Oversight Specialist at CareSource
  - fortenerb@gmail.com
  - Healthcare delivery and cost-reduction
- **Cynthia Beaulieu** –Associate Professor, Physical Medicine and Rehab
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  - Traumatic brain injury (TBI) practice
  - Comparative effectiveness research in rehabilitation
  - Direct and patient care operations
  - Clinical care decision support systems
  - Clinical data integration and data visualization in EMR platforms
- **Ish Gulati**—Assistant Professor, Pediatrics
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  - Biomedical devices & ICUs
  - Clinical data collection
- **Rebecca Garabed**—Veterinary Preventative Medicine
  - garabed.1@osu.edu
  - Vet tech and epidemiology
- **Lauren McInroy** – College of Social Work
  - mcinroy.1@osu.edu
  - Mental and behavioral health
  - Adolescents & social media utilization for interventions

Link and Leverage Our Big Ideas (Looking for top three)

- **Data integration challenges**
  - Data is needed for machine learning and EMRs are siloed and there is a lack of collaboration between data warehouses.
  - There are no pathways of getting data that are reliable due to data governance. Data must be streamlined.
  - There is too much of an emphases on looking for the data (the "what") but not the "how."
  - Lack of standardization leads to inconsistency → machine learning could help alleviate this and save time spent on reconciliation
  - A data continuum doesn't exist, it might be useful to have an adult range and a child range of data.
- **Gaps in Education and Training**
  - Need support and education to support how to use data. Training is needed
  - Need to train more medical people how to use it data because only the techs know how to and there is a huge gap in education.

    - Computational courses can provide foundational learning, but there needs to be more education and support in place.
    - Transferring data to communication delivery is a huge limitation. Need better collaboration.
    - Need to know what people want and need to know
    - Utilization of scorecards
- **Emphasis on Collaboration**
    - Incentivize patients to keep their data updated (similar to Vitalize for Fitbit)
    - Increase student involvement. This could be done through a certificate training program. Undergrads and grads are very different.
    - Better utilization between AI and social media for interventions and education
        - Digital interventions to help with prescriptive data; must be sustainable
        - Predict who needs support through data analysis of social media use.
    - Explore the idea of updating criteria for grants that have a smaller pool of applicants (many don't want to spend all that time on a smaller grant over a national one)
    - Need to know what people want and need to know
        - AI platform to help you find connections that can help you with your needs (similar to how your needs are matched to a person like on LinkedIn and match.com)
- **Top Three Areas of Opportunity**
    - Comparative Effectiveness Research (CER)
        - Tobacco and chronic diseases
    - Utilize social media to collect dig data on diagnosis and intervention
        - Data can help inform the creation of targeted ads for addition: vaping and opioids
    - AI for "internet of things" to make connections and pool data sources
        - This platform would allow for better communication and integration of data from different data sets

OPPORTUNITY	IMPACT	EASE	TOTAL
1 CER	44	30	74
2 social media addiction	46	31	77
Internet of things for integration & comm.	50	19	69