Practical and Ethical Considerations for the Use of AI within Healthcare Settings

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Building Hope, Changing Lives, Strengthening Community

We are a non-profit, community-focused mental health and substance use treatment provider serving the West Metro Denver and foothills region of Colorado for 66 years

- Each year 27,000 people move through services in the community, in offices, and through telehealth

- Offering a continuum of behavioral health care and resources to address social needs such as housing benefits and more.

820
Caring Dedicated Employees

25 Offices

52 Schools

35+ Health Clinics

24/7 Crisis Services

32 Nursing Homes

100+ Community Partnerships

Total Annual Revenue $90 million

Agenda

Core Goals

- What is Artificial Intelligence (AI) and what are the current market trends?

- Review minimum criteria for adopting any AI solution

- Review key strategic considerations for use of AI in healthcare

- Review case study: Scribe AI technology

AI could help identify high-risk heart patients

AI's role in helping to prevent skin cancer through behaviour change

New AI cameras to be used to cut deaths on road

OpenAI co-founder's Safe Superintelligence Inc secures $1B

2029: The global AI market is estimated to reach $1.1 trillion

AI Headlines

AI and bots allegedly used to fraudulently boost music streams

Can AI writing tools and human writers coexist?

FBI Warns of Increasing Threat of Cyber Criminals Utilizing Artificial Intelligence

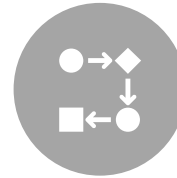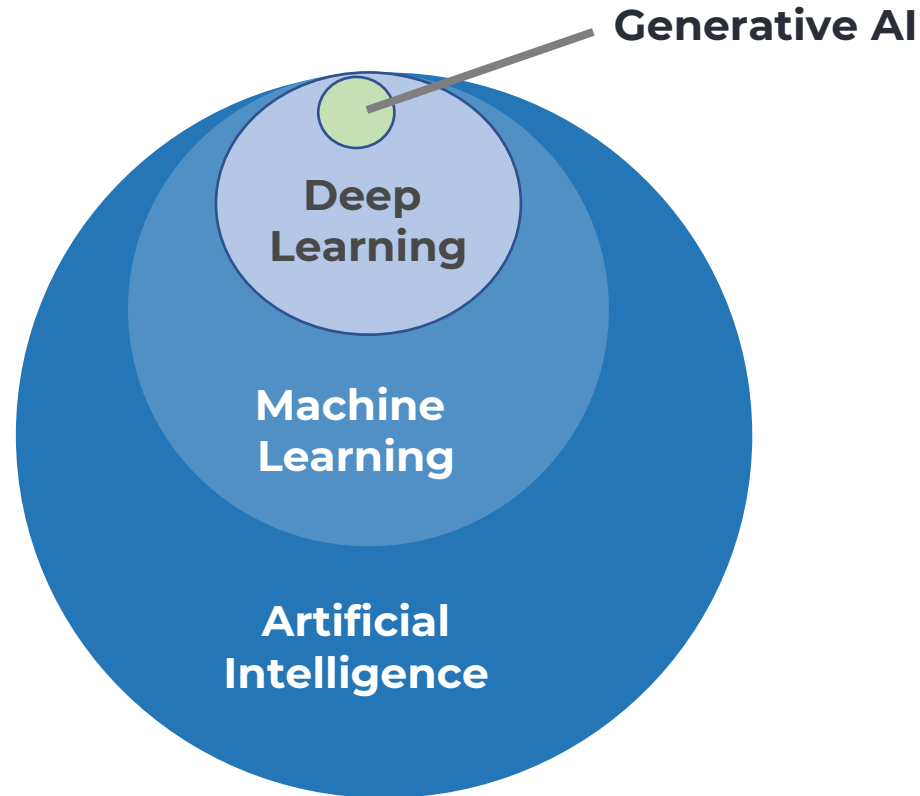UK signs AI safety treaty to protect human rights and democracy

Justice Department Pushes Companies to Consider AI Risks

Microsoft chooses infamous nuclear site for AI power

Big Tech Is Rushing to Find Clean Power to Fuel AI's Insatiable Appetite

NVIDIA's share price nosedives as antitrust clouds gather

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What is Artificial Intelligence (AI)?

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Generative AI

Deep Learning

Machine Learning

Artificial Intelligence

Artificial Intelligence (AI)

A field of computer science that focuses on building systems to imitate human behavior. Not all AI systems have learning behavior – many operate on preset rules, such as customer service chatbots.
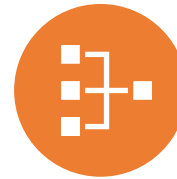
Machine Learning (ML)

The AI system is instructed to search for patterns in a data set and then make predictions based on that set. In this way, the system 'learns' to provide accurate content over time. Requires a supervised intervention if the data is inaccurate. 'Deep learning' is self-supervised and does not require intervention.

Generative AI (Gen AI)

A form of ML where, in response to prompts, a Gen AI platform can generate new outputs based on the data it has been trained on. Depending on its foundational model, a Gen AI platform will provide different modalities and use case applications.

Many vendors have jumped on *Gen AI* as the latest marketing buzzword. When vendors proclaim to offer Gen AI functionality, pin down what exactly is generative about it. The solution must be able to induce new outputs from inputted data via self-supervision – not trained to produce certain outputs based on certain inputs.

AI Table Stakes

Legal

Ethical

Security/ Privacy

Any AI or advanced technology demands minimum standards in these areas AND if you don't do them well it can impact everyone

Keys to Success
AI Portfolio Strategy

A balanced technology investment portfolio starts with defining what you care about and why…

Tips for managing cost, benefit, risk, and all the things!

1. Have an intimate understanding of the problem.

2. Keep it simple (when possible ☺).

3. Understand your culture and values.

Understanding and applying the right strategy for each type of project is essential.

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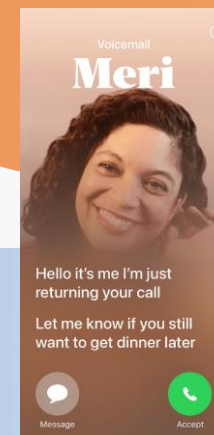— With you in mind —

Portfolio Strategy
Solve the Right Problem

Strategic approach to precision problem-solving

- Nothing is as expensive as *NOT* solving the *WRONG* problem.

- Early identification of the problem minimized change requests, enabling a quick start and rapid problem-solving.

- Different projects may require more exploration and collaboration, involving different timelines and strategies.

- Utilize Human Centered Design whenever possible.

Understanding the problem is the most important step to finding the best solution

Missing the Mark

Live Voicemail

Measurement Based Care – "Send and Hope"

Voicemail

Meri

Hello it's me I'm just returning your call

Let me know if you still want to get dinner later

Message

Accept

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Portfolio Strategy
Keep it Simple

Not a new concept, but an important one

- Every tech vendor must be "AI powered" these days due to funding needs and competition

- Be careful about FOMO – Fear Of Missing Out

- Don't use AI when simpler (less costly tech) will do

- Some AI models have been around for many years and still outperform newer models – and cost way less!

Missing the Mark

ChatGPT power consumption

Project Management Platforms
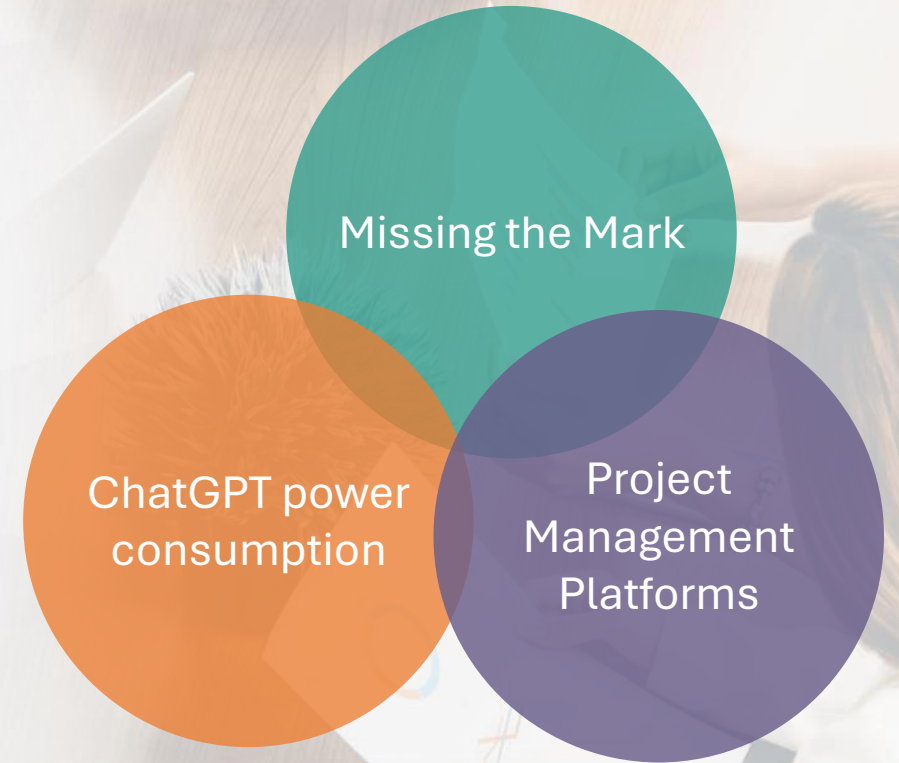
"Your scientists were so preoccupied with whether or not they could, they didn't stop to think if they should."

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Portfolio Strategy
Know Your Culture

Successful implementation of new innovative tech/AI is strongly tied to understanding your organization's culture and choosing compatible initiatives, tech, and implementation styles.

Build with the strengths of your culture

- Changing culture and systems takes time. Be honest about the current system if you want to see gains soon.

- Implementing technology, policies, or clinical practices that oppose key systemic and cultural practices is high risk. Do so with clear intentions.

- For example: Jefferson Center has a very strong culture of trust between supervisor and supervisee. We used that as the key mechanism for change. Understanding this about our culture allowed for this.

Missing the Mark

Barcodes and Chatbots

Incentive Program

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The Problem of Administrative
Documentation

Always a top staff complaint and a key contributor to staff burnout and turnover

Previous Solutions

- Concurrent documentation

- Reducing documentation to bare minimum

- Advocating with state

Combo of these produced small incremental changes to burden, quality, and value of documentation.

Time-consuming documentation

Staff burnout & turnover

Less time with clients

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Keys to Success
Tech Partner

eleos

Finding the right tech partner

- Good culture fit

- Focuses on change management best practices

- Responsive & flexible

- Uses effective tools to measure success

- Integrated with our EHR & telehealth platforms

Less time documenting

Improved staff morale

More time working directly with clients

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Pilot Implementation Details

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PILOT LENGTH
2 months

CHANGE MANAGEMENT STRATEGIES
Multi-modal

BASELINE
8.5 minutes
per note

USERS
50 clinicians

3 outpatient teams

Key Wins Initial
Pilot Metrics

Shorter Average Note Time:

- 15 min. is industry standard

- 8.5 min for pilot cohort

- 24% reduction with non-ambient listening

- 48% minutes with ambient listening

Improved Quality:

- Complete elimination of "copy & paste" notes, pre-Eleos sample was 5-7%

- 43% fewer grammar mistakes

- 11% increase in interventions noted

- 27% increase in progress mentions

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User Implementation
Strategy

Providing as much value to as many people as quickly as possible **vs** a solution to work perfectly, covering all use cases, for everyone

Developed User Profiles

GREEN
High workflow fit
Minimal training
Quick to gain value

YELLOW
Good workflow fit
Some training
Challenge with notes

RED
Low workflow fit
Technology resistant
Not fit for modality

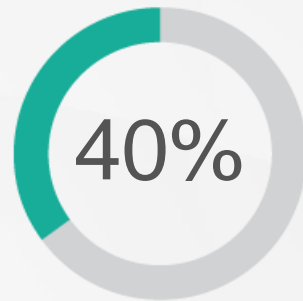Focus on green & yellow users during first 6-9 months

WE WANTED TO MOVE FAST!

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Key Wins
Full Year Metrics

Time Saved
Using ambient listening
Goal was 20%

40%

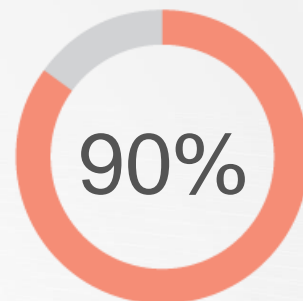### Total Notes Created with Eleos
26,200+ audio
12,200+ non-audio

Total Hours Saved
5,200

Product Utilization
Staff used Eleos content for 90% of their notes.

90%

Clinician Satisfaction Score
Average rating from clinicians who rate Eleos after completing their note.

4.28 out of 5

n=110 clinicians over 1 year

User
Comments

"Loved all the options and how they put the note together using what I provided. Very quick and efficient."

"This was a complicated session with both the client and his mother and father. elios was able to tell who was speaking well and broke the session down into small categories."

"This thing is awesome!"

"So convenient and I love how eloquently the note is written!"

"Liked the way eleos phrased the intervention suggestions (stated the therapeutic technique and orientation being used and its purpose)"

"Excellent summary of complicated suicidality for pt who is rarely verbalizing this."

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Lessons Learned

Pilot Helped

- Verify integrations
- Confirm "table stakes" goals
- Create excitement
- Address concerns
- Create rollout strategy that fits with culture

Compliance

- AI giving treatment recommendations
- Notes are always unique
- Not quite ready for saved recordings product, "Replay"

Limitations

- Good but not great for play therapy
- Not yet available for prescribers
- Not yet available for comprehensive assessment

Next Steps

- Implement existing solution
- Expand to more staff as more features become available
- Provide input for new product solutions

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Questions

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