Developing AI in clinical settings

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Assuta Medical Centers

Israel’s largest and leading chain of private hospitals and medical centers

8 medical facilities nationwide

More than 1.25 Million patients annually
Vision and Values

- People Centered
- Unique Health Experience
- Human Dignity and Privacy
- Pursuit of Quality and Excellence
Comprehensive, Precise Data
100,000+ Surgeries Performed Annually

<table>
<thead>
<tr>
<th>Specialization</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthopedic procedures</td>
<td>17,000</td>
</tr>
<tr>
<td>Otolaryngologic procedures</td>
<td>15,000</td>
</tr>
<tr>
<td>Gynecologic procedures</td>
<td>13,000</td>
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<tr>
<td>Ophthalmologic procedures</td>
<td>9,000</td>
</tr>
<tr>
<td>Urologic procedures</td>
<td>9,000</td>
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<tr>
<td>Bariatric procedures</td>
<td>4,000</td>
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<tr>
<td>Cardiac catheterization and EP</td>
<td>4,000</td>
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<tr>
<td>Cardiac chest surgeries</td>
<td>1,000</td>
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</tbody>
</table>
800,000+ Diagnostic Tests and Procedures Carried Out Each Year

- 200,000 CT scans
- 100,000 MRI scans
- 216,000 pathological tests
- 160,000 colonoscopies
- 150,000 ophthalmology tests
- 290,000 mammographies
- 50,000 DEXA scans
100,000+ Specialized Treatments Completed Yearly

- 21,000 IVF cycles
- 40,000 radiotherapy treatments
- 13,000 oncologic patients
AI is affecting healthcare delivery

- Point of care
- Precision medicine
- Patient role and autonomy
- Physician role
- Source of knowledge - social media etc.
AI solutions are already affecting global healthcare delivery

- AI enabled population health
- Frontline health workers virtual care assistance
- Patients’ virtual care assistance
- Physician clinical decision support tools
Assuta teams with Nvidia on healthcare AI

- Assuta Medical Centers has launched an innovation center in collaboration with Nvidia. The center is intended to enable startups and medical researchers to carry out research and development of artificial intelligence-based solutions.
Clinical collaboration is crucial for success

**Product Design**
- Co-development:
  - Product-market fit
  - Clinical consulting
  - Data sharing
  - Assistance with fund raising

**Clinical Trial**
- Preforming a trial:
  - Clinical validation
  - Regulatory affairs
  - Piloting

**Pilot & 1st Deployment**
- Clinical feedback:
  - 1st clinical use
  - System integration
  - Operational and economical validation

**Growth**
- Sales & connections:
  - Paying costumer
  - Proving scaling capabilities
  - Connections – tech partners, investors, healthcare providers
Establishing a development center for artificial intelligence companies

• "Today, we are working intensively with twenty companies, three of which have already received data using the Nvidia system, while four others will receive data within a few months."

• Dr. Michal Guindy, Head of Ventures and Innovation & Head of Radiology, Director of the Innovation Center
Assuta AI

- **A dedicated sandbox environment for AI developers and researchers**
  - Secure access to deidentified data
  - Strong on premises capabilities – NVIDIA DGX A-100, ...
  - Scalable cloud environments – AWS
  - Multiple tools for developers, such as Clara, + BYO

- **Enables collaboration with Assuta across development phases**
  - Data preparation + Modeling
  - Retrospective analysis
  - Real time inferencing and validation with medical teams
Celebrating our DGX A-100 deployment
What influences success of AI companies?

- Data quality
- Use case
- Business model
- Ethics and privacy
- Regulations
- Ground truth
- Comparing solutions
- Clinical partner 😊
Critical Success factors

- Provider motivation: What motivates providers to invest in AI innovation? Better care, better prediction, reduction of uncertainty, increased efficiency, image and reputation
- Collaboration with clinicians
- Collaboration with industry
- Collaboration with researchers
- Focusing on the practical – significant “value added”
Thank you!

Feel free to contact us:

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