University of Iowa Health Care

PRESENTATION TO THE BOARD OF REGENTS, STATE OF IOWA
September 14, 2022
Agenda

• Opening Remarks
• Operating and Financial Performance
• Faculty Presentation: High dose, intravenous vitamin C for the treatment of cancer
Operating and Financial Performance

Presentation to The Board of Regents, State of Iowa | September 2022

Kimberly Hunter, DNP, MBA, RN, NEABC
Interim Associate Vice President, UI Health Care & CEO, UI Hospitals & Clinics

Mark Henrichs, CPA, MHA
Associate Vice President & Chief Financial Officer, UI Health Care
Specialty Care, Close to Home

UIHC is committed to our mission of serving all Iowans, regardless of their ability to pay.

As the only academic medical center in Iowa, UIHC provides unique specialty services, so Iowans don’t have to leave the state to receive care.

We continue to partner with providers across the state to support care close to home and in local communities.
UIHC Clinical Outreach Service Locations

- **112**
  - Adult and pediatric primary and specialty care clinics

- **13**
  - Child Health Specialty Clinics across Iowa
UIHC Strives to Serve Iowans Closer to Home

Clinical Outreach, Telemedicine Outreach, Child Health Specialty Clinic Visits by Calendar Year

- 2017: 19,542 Visits
- 2018: 18,718 Visits
- 2019: 16,322 Visits
- 2020: 13,040 Visits
- 2021: 17,270 Visits

Outreach | Telemedicine Outreach | Child Health Specialty Clinics
UIHC Clinical Outreach CY 2021

Clinical Outreach includes:
- In-person outreach visits
- Telemedicine outreach visits
- Child Health Specialty Clinic visits

Total Clinical Outreach = 25,701
Out of State = 1,329
UIHC Serves Iowans Closer to Home Virtually

Telemedicine Visits by Calendar Year

- 2017: 2,060
- 2018: 3,461
- 2019: 4,964
- 2020: 184,601
- 2021: 102,284
UIHC Telemedicine Visits CY 2021

Total Telemedicine = 102,284
Out of State = 3,675
Telehealth Positively Impacts Patient Experience

93% of patients using telehealth services reported a positive experience in CY21.

- MyChart
- Virtual Visits
- Virtual Hospitalist
- Patient Home Monitoring
- MyChart Messaging
- eConsults

35 Adult Specialties
27 Pediatric Specialties
1,600+ Providers capable of performing telehealth visits
Telehealth Helps Patient Meet with Care Team Without Leaving Home

"Just to know they can still see her, and they can still talk to her, is wonderful. We can communicate all the problems or questions we have and it's just like an in-person visit."

—Trisha Moore, Autumn’s mother

"I feel like the capabilities with telehealth have allowed me to be much more responsive in a way that is actually parallel to the patient’s concerns because I can address concerns with the child and parent face-to-face in a virtual environment."

—Lyndsay Harshman, MD, medical director of the pediatric kidney transplant program
What is Extracorporeal Membrane Oxygenation?

- Extracorporeal membrane oxygenation, or ECMO, is a process where blood is pumped from outside the body to a heart-lung machine that removes carbon dioxide, supplies oxygen, and sends oxygen-filled blood back into the body.

- People who need ECMO have a severe and life-threatening illness that prevents their heart or lungs from working properly.

- ECMO can be used as a bridge option to further treatment, or to help patients recover from heart failure, lung failure, or heart surgery.

- The process is also referred to as ECLS, or extracorporeal life support. It’s typically considered a last-resort form of life support for patients who are critically ill.
Who Needs ECMO?

At University of Iowa Hospitals & Clinics, our teams provide ECMO for tiny infants, children, and adult patients who have severe and life-threatening illness that stops their heart or lungs from working properly.

- Heart Failure
- Pulmonary Hypertension
- Pneumonia
- Acute Respiratory Distress Syndrome
- Sepsis
ECMO: A Multidisciplinary Team Approach

ECMO is a resource-intensive and potentially life-saving process, and patient success is heavily dependent on a highly skilled team.

Multidisciplinary Specialty ECMO Team at UIHC

- Cardiothoracic Surgeons
- Pediatric General Surgeons
- Intensive Care Physicians
- Nephrology Physicians
- Specially Trained ICU Nurses
- Trained ECMO Specialists
- Perfusionists*
- Physical Therapists
- Occupational Therapists
- Respiratory Therapists

*Perfusionists work with specialized equipment, such as heart-lung machines, which help keep patients alive when their heart and lungs cannot support life on their own.
ECMO Volumes at UIHC

![ECMO Patient Volume Chart]

- FY18: ECMO Cases for Adults, Pediatrics, and Neonates.
- FY19: Slight increase in ECMO Cases across all categories.
- FY20: Slight decrease in ECMO Cases across all categories.
- FY21: Significant increase in ECMO Cases for Adults and Neonates, with a decrease in Pediatrics.
- FY22: ECMO Cases decrease for Adults and Neonates, with a slight increase in Pediatrics.

**Run Days**:
- FY18: 80
- FY19: 80
- FY20: 60
- FY21: 1200
- FY22: 80

**ECMO Volumes at UIHC**

- Adults
- Pediatrics
- Neonates

**Fiscal Year**
- FY18
- FY19
- FY20
- FY21
- FY22

**ECMO Patient Volume**

- ECMO Cases
- ECMO Run Days
ECMO helps patient recover from COVID-19

• Jamie Humes: COVID and ECMO Story
UIHC: An International Expert in ECMO

The UI Heart and Vascular Center is internationally known for ECMO expertise. Our experts train medical professionals from all over the world in how to use ECMO.

Other hospitals in our region may transfer patients to UIHC specifically for ECMO. The UIHC ECMO team will travel to referring hospital, place patient on a portable ECMO machine, and safely transport patient to UI Hospitals & Clinics.

UIHC has provided ECMO services to help patients from infants to adults for more than 20 years. UIHC has repeatedly been named a Center of Excellence by the Extracorporeal Life Support Organization.
UI Heart and Vascular Center was redesignated by the Extracorporeal Life Support Organization (ELSO) as:

Iowa’s only ECMO Center of Excellence

UI Hospitals & Clinics Among Only 34 Designations Worldwide (23 in the United States)

Center of Excellence: Platinum Level

Center of Excellence: Gold Level

Pathway to Excellence: Silver Level

“The ELSO Award for Excellence in Life Support signifies to patients and families a commitment to exceptional patient care. It demonstrates to the health care community an assurance of high-quality standards, specialized equipment and supplies, defined patient protocols, and advanced education of all staff members.”

Source: www.elso.org
Iowa’s Only Nationally Ranked Hospital


- #23 Pediatric Diabetes and Endocrinology
- #26 Neonatology
- #27 Pediatric Nephrology
- #36 Pediatric Orthopedics
- #38 Pediatric Neurology & Neurosurgery
- #38 Pediatric Cancer
- #50 Pediatric Pulmonology

**US News & World Report: “Best Hospitals”**

- #7 Ophthalmology
- #31 Ear, Nose, and Throat

**High-Performing**
Indicates specialty is in the top 10% of programs in the nation

- Cancer
- Gastroenterology and GI Surgery
- Geriatrics
- Orthopedics
- Pulmonary and Lung Surgery
- Urology
Volume and Financial Highlights – FY22

Key Volumes
• Inpatient Discharges: -7.0% vs budget | +1.1% vs prior year
• Acute Patient Days: -0.5% vs budget | +3.1% vs prior year
• Surgeries: -1.1% vs budget | -0.6% vs prior year
• Clinic Visits: +13.7% vs budget | -2.6% vs prior year (w/ ILI)

Acuity
• Case Mix Index 2.42

Length of Stay Index
• Adult at 1.01
• Pediatrics at 1.02

Gross Patient Revenue
• 1.0% above budget year-to-date
  • IP -2.1% vs budget | OP +3.4% vs budget

Payer Mix
• Medicare below historical average since pandemic
  • FY20: 38.0% | FY21: 37.2% | FY22: 37.2%

Accounts Receivable
• Days in Net AR – 45.8days

Salary Expenses
• 1.7% above budget

Non-Salary Expenses
• 1.9% above budget due to medical supplies and drugs

Operating Margin
• Actual 17.0% vs goal of 4.0%

Government Pandemic Support
• $29.2M received FYTD

THROUGH JUNE 2022
## Comparative Financial Results

**FISCAL YEAR TO DATE: PRELIMINARY JUNE 2022**

<table>
<thead>
<tr>
<th>Operating Revenues</th>
<th>Actual</th>
<th>Budget</th>
<th>Prior Year</th>
<th>Variance to Budget</th>
<th>% Variance to Budget</th>
<th>Variance to Prior Year</th>
<th>% Variance to Prior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Patient Revenue</td>
<td>2,267.4</td>
<td>2,203.7</td>
<td>2,111.2</td>
<td>63.7</td>
<td>2.9%</td>
<td>156.2</td>
<td>7.4%</td>
</tr>
<tr>
<td>Directed Payment Revenue *</td>
<td>304.7</td>
<td>0.0</td>
<td>0.0</td>
<td>304.7</td>
<td>-</td>
<td>304.7</td>
<td>-</td>
</tr>
<tr>
<td>Other Operating Revenue</td>
<td>83.1</td>
<td>48.8</td>
<td>83.2</td>
<td>34.3</td>
<td>70.3%</td>
<td>(0.1)</td>
<td>-0.1%</td>
</tr>
<tr>
<td><strong>Net Operating Revenue</strong></td>
<td><strong>2,655.2</strong></td>
<td><strong>2,252.5</strong></td>
<td><strong>2,194.3</strong></td>
<td><strong>402.7</strong></td>
<td><strong>17.9%</strong></td>
<td><strong>460.9</strong></td>
<td><strong>21.0%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating Expenses</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries &amp; Wages</td>
<td>935.9</td>
<td>920.6</td>
<td>887.5</td>
<td>15.3</td>
<td>1.7%</td>
<td>48.4</td>
<td>5.5%</td>
</tr>
<tr>
<td>General Expenses</td>
<td>1,146.6</td>
<td>1,118.9</td>
<td>1,077.9</td>
<td>77.7</td>
<td>2.5%</td>
<td>68.6</td>
<td>6.4%</td>
</tr>
<tr>
<td>Depreciation &amp; Amortization</td>
<td>120.8</td>
<td>122.9</td>
<td>106.5</td>
<td>(2.0)</td>
<td>-1.7%</td>
<td>14.4</td>
<td>13.5%</td>
</tr>
<tr>
<td><strong>Total Operating Expenses</strong></td>
<td><strong>2,203.3</strong></td>
<td><strong>2,162.4</strong></td>
<td><strong>2,071.9</strong></td>
<td><strong>40.9</strong></td>
<td><strong>1.9%</strong></td>
<td><strong>131.4</strong></td>
<td><strong>6.3%</strong></td>
</tr>
</tbody>
</table>

| Operating Income            | 451.9   | 90.1    | 122.4      | 361.8              | 401.6%                | 329.5                  | 269.1%                   |
| Operating Margin %          | 17.0%   | 4.0%    | 5.6%       | 13.0%              | 11.4%                 |                        |                          |

| Operating Income w/o Dir Pmts| 147.2   | 90.1    | 122.4      | 57.1               | 63.4%                 | 48.3                   | 39.4%                    |
| Operating Margin % w/o Dir Pmts| 6.3%    | 4.0%    | 5.6%       | 2.3%               | 0.7%                  |                        |                          |

| Gain (Loss) on Investments  | (57.1)  | 40.0    | 116.4      | (97.2)             | -242.8%               | (173.6)                | -149.1%                  |
| Other Non-Operating Gain (Loss) | (14.6)  | (12.6)  | (13.5)     | (2.0)              | 16.1%                 | (1.1)                  | 8.2%                     |

| **Net Income**              | **380.2** | **117.5** | **225.3** | **262.6**          | **223.5%**            | **154.8**              | **68.7%**                |
| **Net Margin**              | 14.7%    | 5.2%     | 9.8%       | 9.6%               | 4.9%                  |                        |                          |

*Directed payment revenues will be invested in expanding Medicaid access.*
## Key Metrics

<table>
<thead>
<tr>
<th>Financial Operations</th>
<th>Preliminary FY22 YTD Through June</th>
<th>Moody’s Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Margin</td>
<td>16.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td><strong>Financial – Liquidity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Days Cash on Hand</td>
<td>245</td>
<td>341</td>
</tr>
<tr>
<td><strong>Financial – Leverage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debt to Capitalization</td>
<td>23.0%</td>
<td>19.6%</td>
</tr>
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High dose, intravenous vitamin C for the treatment of cancer
(Pharmacological Ascorbate, P-AscH⁻)

Presentation to The Board of Regents, State of Iowa

Joseph J. Cullen, MD
Professor, Department of Surgery
“...the slow but steady march toward more individualized care in cancer medicine has left pancreatic cancer behind...”

...patients diagnosed with this disease live no longer today than patients diagnosed two decades ago, despite more than a dozen large clinical trials...

...even as many patients with other cancers have benefitted from targeted drugs, pancreatic cancer remains as deadly as ever...”

http://www.cancer.gov/ncicancerbulletin/110309/page1
Oral vitamin C does not attain the levels needed to kill cancer cells.
High dose vitamin C kills cancer cells by generating hydrogen peroxide ($\text{H}_2\text{O}_2$)
We can achieve high levels of vitamin C in the blood by giving it intravenously. Levels that will kill the cancer cells.
P-AscH⁻ is safe, well tolerated and increased survival from 6 months to 16 months.

Results from a phase I clinical trial

Welsh et al. Cancer Chemotherapy Pharmacology. 2013, 71(3):765-75. PMC3587047

Subject

Progression free survival
Overall survival
* Subject remains alive (08/2016)
P-AscH⁻ kills cancer cells better when added to radiation
Phase I trial of P-AscH- + chemoradiation in pancreatic cancer

A. Overall Survival

- P-AscH-
- Comparator
- Historical

Overall Survival (%)

22.8 months
12.7 months \( p = 0.02 \)

Months

B. Progression Free Survival

- P-AscH-
- Comparator
- Historical

Progression Free Survival (%)

4.6 Months \( p = 0.01 \)

13.7 Months

Months

Cancer Research, 78:6838-6851, 2018

35 Presentation to The Board of Regents, State of Iowa | September 2022
P-AscH<sup>-</sup> protects normal tissue from radiation damage.
Collaborators

UI Free Radical and Radiation Biology Program
• Gary Buettner, PhD
• Juan Du, PhD
• Brianne O’Leary, PhD
• Brett Wagner, MS
• Prabhat Goswami, PhD
• Bryan Allen, MD, PhD
• Doug Spitz, PhD
• John Buatti, MD

UI Department of Internal Medicine
• Daniel Berg, MD

UI Holden Comprehensive Cancer Center
• Sandy Vollstedt, RN, BSN, OCN
• Heather Brown, BAN

National Institutes of Health
• Mark Levine, MD
Thank you