Einstein’s Journey Towards Value-Based Health Care

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Value Management Office
Hospital israelita Albert Einstein
The 12th largest city in terms of population in the world & the largest in America

The financial and economic center of Brazil | The biggest economy by GDP in LatAm

Head-office of 63% of the international companies with business in Brazil

Cultural diversity: São Paulo is home to the largest Italian, Japanese, Lebanese, Spanish & Portuguese population living outside their country of origin.
Brazil Healthcare Market is the largest in LatAm: 9.1% GDP ($177 bi)
Public funding $ 74.8 bi (3.9% GDP) | Private funding $102 bi (5.2% GDP)
Annual health expenses per capita still relatively low ($ 995)
Einstein is a non-profit private organization with activities in 5 main areas:

1. Hospital
2. Ambulatory & Diagnostic Medicine
3. Education & Research
4. Social Responsibility
5. Consulting & Management

Metrics:
- Patient Safety (23.5%)
- Human Capital (23.5%)
- Capacity (20%)
- Knowledge Management (10%)
- Efficiency (8%)
- Reputation (10%)
- Patient experience (5%)

https://clustersalud.americaeconomia.com/gestion-hospitalaria/ranking-de-clinicas-y-hospitales-estos-son-los-mejores-de-america-latina
# Einstein Health System in Numbers – 2017

## Private Health Care

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>627-bed private hospital</td>
<td>55,491 discharges</td>
</tr>
<tr>
<td>176-bed public hospital</td>
<td>6,810 discharges</td>
</tr>
<tr>
<td>240-bed public hospital</td>
<td>18,893 discharges</td>
</tr>
</tbody>
</table>

## Public Health Care

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>176-bed public hospital</td>
<td>6,810 discharges</td>
</tr>
<tr>
<td>240-bed public hospital</td>
<td>18,893 discharges</td>
</tr>
</tbody>
</table>

## Outpatient Facilities

<table>
<thead>
<tr>
<th>Private</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 private outpatient facilities</td>
<td>5,3 MM lab &amp; imaging tests</td>
</tr>
<tr>
<td>Public</td>
<td>Details</td>
</tr>
<tr>
<td>21 public outpatient facilities</td>
<td>84 Family Health Temp</td>
</tr>
<tr>
<td>2,7 MM lab &amp; imaging tests</td>
<td></td>
</tr>
</tbody>
</table>

## Investments on Education, Research and Consulting

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Training</td>
<td>8 teaching facilities</td>
</tr>
<tr>
<td>Research &amp; Innovation</td>
<td>$ 9,3 MM invested</td>
</tr>
<tr>
<td>Consulting</td>
<td>24 projects for health institutions</td>
</tr>
</tbody>
</table>

## Additional Information

- **Employees**: 13,052
- **Physicians**: 9,415
- **Transplants**: 194
- **Private Patients**: 17 (9%)
- **Public System**: 177 (91%)
- **Students**: 24,461
- **Projects**: 746
- **Papers Published**: 717
- **Citations**: 2,606
- **New Startups Incubator**: ERETZ.BIO
Einstein’s Value Journey

1992
1st Certification

1999
Joint Commission International

2001
IOM’s 6 dimensions of health care quality

2005
Clinical guidelines| practice monitoring| outcomes for specific conditions: AMI, heart failure, stroke and transplant.

2008
Peer-comparison feedback to physicians and Publication of outcomes at www.einstein.br

2011
Outcomes Unit: PROMS
Transparency:
Publication of Outcomes Reports

Quality and performance Indicators of strategic specialties are published annually in the Outcome reports available on-line at www.einstein.br

Reports available at www.einstein.br
Surgery Outcomes Report

Long-term Quality of Life after Gastroplasty for Morbid Obesity (EQ-5D-3L)

Recovery of Urinary Control

Recovery of Erectile Function

Robotic Surgery (da Vinci System)

Robotic Prostatectomy:
Recovery of Erectile Function

Einstein
International Benchmark

12 months 18 months

Pre-op 6 months 1 yr 2 yrs 3 yrs 4 yrs

0.74 0.93 0.94 0.94 0.89 0.91

93.0% 94.9% 97.4% 97.9%
Outcomes at the physician level

Length of Stay according to the Severity of Illness (APR-DRG)

Median cost according to the Severity of Illness (APR-DRG)
Effect of implementing an acute myocardial infarction guideline on quality indicators

Efeito da implementação de um protocolo assistencial de infarto agudo do miocárdio sobre os indicadores de qualidade

Marcia Makdisse, Marcelo Katz, Alessandra da Graça Corrêa, Luciano Monte Alegre Forlenza, Marco Antonio Perin, Fábio Sândoli de Brito Junior, Teresa Cristina Dias Cunha Nascimento, Ivanise Maria Gomes, Marcelo Franken, Marcos Knobel, Antonio Eduardo Percira Pesaro, Oscar Fernando Pavão dos Santos, Miguel Cendoroglo Neto, Claudio Luiz Lottenberg

<table>
<thead>
<tr>
<th>Quality Indicators</th>
<th>Pre-Guideline</th>
<th>Guideline Implementation</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin at arrival for all patients (%)</td>
<td>95.8</td>
<td>99.6</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Aspirin prescribed at discharge (%)</td>
<td>95.8</td>
<td>99.1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Beta-Blocker at discharge (%)</td>
<td>81.7</td>
<td>95.9</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Door to Ballon (median), min</td>
<td>93±51</td>
<td>86±32</td>
<td>0.20</td>
</tr>
</tbody>
</table>

American Heart Association/JCI goal: D2B ≤ 90 minutos

Einstein’s Value Journey

Benchmarking:
Moving from Non-adjusted to Adjusted Real-world Comparisons

Door to Balloon Time (minutes, median)
Einstein’s Value Journey

2013

Benchmarking ACC/NCDR ACTION | CathPCI Registries

2013-2016

GMAs IHI Triple Aim

2017

Value Management Office
What is a Value Management Office?
An implementation experience in Latin America

Value Health Reg Issues 2018;17:71-73.
Mission:

To adapt the Value Agenda to our own clinical context.

Einstein’s Clinical Context

83% of doctors are independent

9,415 Total
1,415 Employed
8,000 Independent Practice

Reimbursement
Fee-for-Service

Benchmarking
Lack of a national outcomes benchmark platform

Reputation
Quality & Safety
Physician Relationship Program
Second Opinion Programs
Innovation

Top Premium 10 0.1%
Premium 343 4%
Advance 1,052 11%
Special 5,856 62%

76% Admissions
75% Surgeries
Physician Engagement: GMAs – Grupos Médicos Assistenciais
Doctor-Led Multidisciplinary Groups

29 different groups

2013
- Obesity, Metabolic and CV risk
- Liver Diseases
- Endovascular Therapy
- Pelvic Floor
- Prematurity
- Foot & Ankle
- Neuro-Oncology
- Movement Disorders

2014
- Urology
- Memory
- Pneumo-Oncology
- Oncology|Hematology
- Spine

2015
- Trauma
- Sleep
- Intensive Care
- GI-Oncology
- Patient Safety
- Neuro-Oncology
- Movement Disorders
- Spine
- Perioperative care
- Thyroid
- Thorax
- Mastology
- Hip

Diseases
- Obesity, Metabolic and CV risk
- Liver Diseases
- Endovascular Therapy
- Pelvic Floor
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Specific conditions
- Obesity, Metabolic and CV risk
- Liver Diseases
- Endovascular Therapy
- Pelvic Floor
- Prematurity
- Foot & Ankle
- Neuro-Oncology
- Movement Disorders
- Urology
- Memory
- Pneumo-Oncology
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Therapies
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- Liver Diseases
- Endovascular Therapy
- Pelvic Floor
- Prematurity
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- Thyroid
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Technologies
- Obesity, Metabolic and CV risk
- Liver Diseases
- Endovascular Therapy
- Pelvic Floor
- Prematurity
- Foot & Ankle
- Neuro-Oncology
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940 Doctors
518 Other health professionals
907 formal meetings
327 actions derived


Adapting the Value Agenda to Einstein’s clinical context

1. Organize into Integrated Practice Units (IPUs)
2. Measure Outcomes and Costs for Every Patient
3. Move to Bundled Payments for Care Cycles
4. Integrate Care Delivery Across Separate Facilities
5. Expand Excellent Services Across Geography
6. Build an Enabling Information Technology Platform

1. Select Medical conditions & measure outcomes
2. Build an Enabling IT Platform
3. Find your cohort & measure costs at the condition level for episodes of care
4. Design Care Pathways & Define Key Performance Indicators
5. Pilot new Value-Based Payments models

Adapting the Value Agenda to Einstein’s clinical context

1. **Select Medical conditions & measure outcomes**

**Outcomes measured for:**
- Hip Osteoarthritis
- Knee Osteoarthritis
- Shoulder Osteoarthritis
- Low back pain
- Stroke
- Carotid stenosis
- Central nervous system tumors
- Bariatric and metabolic surgery
- Robotic surgery
- Heart failure
- Coronary artery disease
- Cardiac surgery
- Breast cancer
- Prostate cancer
- Bone marrow transplant
- Organ transplants (Heart | Liver | Lung | Kidney)
- Diabetes

**Conditions selected:**
- Hip Osteoarthritis
- Knee Osteoarthritis
- Low back pain
- Bariatric and metabolic surgery
- Robotic surgery
- Coronary artery disease
- Breast cancer
- Prostate cancer
- Diabetes
Adapting the Value Agenda to Einstein’s clinical context

1. Select Medical conditions & measure outcomes

- ICHOM|ANAHP initiative in Brazil
- April 2017: Heart Failure Standard set – 8 private hospitals
- Einstein was the 1st hospital to start reporting
- Main expectations were standardization of outcomes & national|international benchmarking

At Einstein we have already implemented ICHOM standard sets for 8 medical conditions – 1,998 patients included:

- **Heart Failure**: 240 patients
- **Coronary Artery Disease**: 410 patients
- **Stroke**: 169 patients
- **Hip & Knee Osteoarthritis**: 144 patients
- **Low Back Pain**: 637 patients
- **Localized Prostate Cancer**: 306 patients
- **Breast Cancer**: 68 patients
Adapting the Value Agenda to Einstein’s clinical context

# Build an Enabling IT Platform

Main recent IT investments to enable a value-based platform

<table>
<thead>
<tr>
<th>August 2015</th>
<th>January 2017</th>
<th>February 2018</th>
<th>July/August 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APR-DRG</strong></td>
<td><strong>CERNER MILLENIUM</strong></td>
<td><strong>VMO Business Intelligence (BI) System</strong></td>
<td><strong>Digital Outcomes System</strong></td>
</tr>
<tr>
<td>Diagnostic Related Group</td>
<td>Electronic Medical Record</td>
<td>Integration of different data sources enabling the capture of clinical, financial, and outcomes data at the patient and the physician level.</td>
<td>Integration with EMR and BI to contact and keep track of patients following a pre-defined timeline.</td>
</tr>
<tr>
<td>Risk-adjustment based on the Severity of illness (SOI) and Risk of Mortality (ROM)</td>
<td>Phase 1 completed. Phase 2 underway to include outpatient services.</td>
<td><strong>QlikView</strong> <strong>Qlik Sense</strong></td>
<td></td>
</tr>
</tbody>
</table>
Adapting the Value Agenda to Einstein’s clinical context

Find your cohort & measure costs at the condition level for episodes of care

Physicians are selected to participate on new payment models based on a “data-driven meritocracy”

| Source | BI – VMO (Aug|15-Dec|2017) |

<table>
<thead>
<tr>
<th>Volume</th>
<th>Geral</th>
<th>MEDICO 1</th>
<th>MEDICO 2</th>
<th>MEDICO 3</th>
<th>MEDICO 4</th>
<th>MEDICO 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. MEDIANO ÍND</td>
<td>R$ 22,602,89</td>
<td>R$ 21,432,23</td>
<td>R$ 19,554,77</td>
<td>R$ 18,445,65</td>
<td>R$ 22,602,89</td>
<td>R$ 22,602,89</td>
</tr>
<tr>
<td>C. MEDIO ÍND</td>
<td>R$ 23,877,89</td>
<td>R$ 22,234,44</td>
<td>R$ 20,654,88</td>
<td>R$ 18,856,66</td>
<td>R$ 23,877,89</td>
<td>R$ 23,877,89</td>
</tr>
</tbody>
</table>

| VARIAÇÃO ÍND | 31,56% | 22,15% | 11,76% | 10,41% | 78,24% | 11,17% |

| READMISSÕES 90D | 16 | 3 | 2 | 1 | 2 | 2 |
| READ 90D RELAC | 2 | 0 | 0 | 0 | 2 | 1 |
| VISITAS UPA | 0 | 1 | 0 | 1 | 1 | 2 |

| % READ 90D RELAC | 0,53% | 0,00% | 0,00% | 0,00% | 0,08% | 0,13% |

| C. MEDIANO 90D | R$ 22,880,88 | R$ 21,432,23 | R$ 19,554,77 | R$ 18,449,55 | R$ 22,980,88 | R$ 24,332,87 |
| C. MEDIO 90D | R$ 23,980,88 | R$ 22,234,44 | R$ 20,654,88 | R$ 18,964,98 | R$ 23,889,88 | R$ 25,356,68 |

| VARIAÇÃO 90D | 33,75% | 22,15% | 11,76% | 10,93% | 82,13% | 36,26% |
| TMP REAL DRG | 2,56 | 2,52 | 1,98 | 1,89 | 3,26 | 3,01 |
| TMP ESPERADO DRG | 2,86 | 2,55 | 2,88 | 1,99 | 2,26 | 2,92 |

Limitation: Costs of services used in the Einstein System
### Key Performance Indicators (KPIs)

#### Process
- Adherence to care pathway recommendations

#### Efficiency
- Observed | expected LOS
- Anesthesia and surgical procedure times

#### Outcomes
- Clinical: Complications | Mortality | Readmissions
- Patient-reported: Disability | Functional status | Pain

#### Experience
- Patient-reported: NPS - Net Promoter Score

#### Costs
- Total costs for the episode of care
Adapting the Value Agenda to Einstein’s clinical context

5 Pilot new value-based payments models

- Second opinion programs in Orthopedics (Low back pain) and Cardiology (Pacemaker implant)
- Focus on the appropriateness of care & on increasing patient access
- Partnerships with Health Insurance companies, Suppliers & Physicians
- Standardization of surgical materials
- Monitoring of PROMs (pain, disability and quality of life)
- Monitoring of costs and savings

Adapting the Value Agenda to Einstein’s clinical context

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- Standardization of surgical materials
- Monitoring of PROMs (pain, mobility and quality of life)
- Monitoring of costs and savings

2018:
First opinion programs in Orthopedics and Cardiology

Adapting the Value Agenda to Einstein’s clinical context

5 Pilot new value-based payments models

Pilot phase:
July-Dec|2017 – new satellite unit (Kablin)

Expansion to all ED Units in the System:
January|2018 – Alphaville | Ibirapuera | Perdizes
April|2018 – Morumbi (Main unit)

☑ One insurance company
☑ 21.193 patients (July|17-March|18)

Bundles for less complex ED visits (ESI 3 to 5)
Fee-for-Service for more complex cases (ESI 1-2)

- Bundle 0 (Basic)
- Bundle 1 (Basic + 1 Resource)
- Bundle 3 (Basic + Max. 3 resources)
Adapting the Value Agenda to Einstein’s clinical context

5 Pilot new value-based payments models

Einstein’s Employee Health Program

27,000 Lives covered

*Primary care and specialized care*

Next step: Start piloting a VBHC Diabetes Program

*Populational comprehensive diabetes care, based on coordination & integration - tailored to individual needs, disease complexity and evolution.*

<table>
<thead>
<tr>
<th>High risk for DM – estimated (FINDRISK)</th>
<th>Screenign and Risk stratification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital population survey</td>
<td>Pre-diabetes</td>
</tr>
<tr>
<td>Health claims</td>
<td>Recent Diabetes</td>
</tr>
<tr>
<td>Medication database</td>
<td>Gestational DM</td>
</tr>
<tr>
<td>Big data</td>
<td>IDDDM / complications</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Complexity classification</th>
<th>Coordinated care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic Medical Record</td>
<td>One day visit</td>
</tr>
<tr>
<td>Evidence Based Guidelines</td>
<td>Navigation</td>
</tr>
<tr>
<td>Multidisciplinary Team</td>
<td>Individual and group sessions</td>
</tr>
</tbody>
</table>

| Patient education and navigation        |                                   |
|----------------------------------------|                                   |

7,000 High risk for DM – estimated (FINDRISK)

3,000 Diabetes (Known | Hyperglycemia)

2,000 Complex cases (HbA1c > 7% | Complications)

Care coordination – Patient Navigation

PCP

Patient

Diabetes educators

Dietitian

Endocrinologist

OB-GYN

Care coordination – Patient Navigation
Next Steps

- Piloting the designed bundles for episodes of care
- Initial conversations with insurance companies seem promising
Einstein’s clinical context has enabled us to start piloting alternative payment models that may help drive care transformation towards value in our organization and in Brazil.

Each institution needs to find its own model of implementation, one that builds on its own organizational culture and mitigates the risks of failing in the value-based care strategy.

Thank you!

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Value Management Office, Hospital Israelita Albert Einstein