EFFECTIVE APPROACHES TO DETERMINING RETURNS ON INVESTMENT IN HEALTHCARE LEADERSHIP DEVELOPMENT PROGRAMS: A SCOPING REVIEW

Maya Jeyaraman & Ahmed Abou-Setta • May 26, 2016
OVERVIEW OF THE PRESENTATION

1. Study selection process
2. Types of studies identified (2 Types)
3. **Objective 1** – ROI determinants associated with healthcare leadership quality/style
4. **Objective 2** – ROI determinants associated with leadership development programs/tactics
5. **Objective 3** – ROI determinants associated with existing ROI tools
6. Conclusions
Study selection process

Title and Abstract screening (~11,000)

Full text screening (~1,500)

Included studies (198)

Objective 1 (73 studies)

Objective 2 (125 studies)

Objective 3 (11 studies)
Types of studies
(Objective 1)

Leader quality/style

- Patient outcomes
- Organizational outcomes
- Staff outcomes
Types of studies (Objective 2)

- Leadership development programs/tactics

  Leader

  Evaluation

  - Individual development
  - Individual & Organizational development

  Program evaluation tools with metrics
OBJECTIVE 1

• To identify and summarize evidence on ROI determinants (factors, indicators and metrics) associated with healthcare leadership
STUDY DESIGNS

~ 80% of studies are of Survey design

Survey 78%

Qualitative study 2.7%

Prospective study 1.4%

Pre-post study 4%

Mixed methods study 1.4%

Interrupted time series 0%

Prospective study 1.4%
~ 90% of studies are from Canada & USA

- UK: 5.1%
- Australia: 8.9%
- Canada: 35.4%
- USA: 50.6%
~ 80% of studies focused on Nurse leadership

- Nurse leader: 77%
- CEO: 6%
- Physician leader: 4%
- Non-clinical leader: 1%
- Manager: 3%
- Leader: 1%
- Executive: 4%
- Director: 4%
EMERGING VS EXECUTIVE LEADERS

~ 60% of studies focused on Mid-level leaders

- Frontline leader: 16.9%
- Mid-level leader: 59.2%
- Executive leader: 14.1%
- Emerging leader: 0%
# LEADER QUALITY/STYLE

<table>
<thead>
<tr>
<th></th>
<th>Leadership quality/style</th>
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<tbody>
<tr>
<td>1.</td>
<td>Transformational leadership (27.4%)</td>
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<tr>
<td>2.</td>
<td>Effective/Good leadership (20%)</td>
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<td>3.</td>
<td>Authentic leadership (10.5%)</td>
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<td>4.</td>
<td>Transactional leadership (10.5%)</td>
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<td>5.</td>
<td>Laissez-faire leadership (5.3%)</td>
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<td>6.</td>
<td>Leadership practices (4.2%)</td>
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<td>7.</td>
<td>Clinical nurse leader impact (4.2%)</td>
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<td>8.</td>
<td>Emotionally intelligent leadership (2.1%)</td>
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<td>9.</td>
<td>Leader-Member exchange (2.1%)</td>
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<td>10.</td>
<td>Leader walk-rounds (2.1%)</td>
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<td>11.</td>
<td>Management by exception (2.1%)</td>
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<td>12.</td>
<td>Relational leadership (2.1%)</td>
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<td>13.</td>
<td>Abusive leadership (1.1%)</td>
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<td>14.</td>
<td>Change-oriented leadership (1.1%)</td>
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<td>15.</td>
<td>Exemplary leadership (1.1%)</td>
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<tr>
<td>16.</td>
<td>Managerial exclusion (1.1%)</td>
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<td>17.</td>
<td>Passive leadership (1.1%)</td>
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<td>18.</td>
<td>Task-focused leadership (1.1%)</td>
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<tr>
<td>19.</td>
<td>Visible-nursing leadership (1.1%)</td>
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PATIENT OUTCOMES

Most reported patient outcomes:

- Patient adverse events: 7 studies
- Patient mortality: 5 studies
- Patient satisfaction: 4 studies
- Infection rates: 3 studies
Most reported staff outcomes

- Job satisfaction
- Turnover intention
- Burn-out
- Organizational commitment
- Work effectiveness
- Effective team work
Most reported organizational outcomes
AUTHENTIC LEADERSHIP (GOOD LEADERSHIP)

- Job satisfaction
- Care quality
- Bullying
- Adverse events
TRANSFORMATIONAL (GOOD) VS LAISSEZ-FAIRE (BAD) LEADERSHIP

Transformational Leadership (Good)

Laissez-Faire Leadership (Bad)

Job satisfaction
Turnover intention
Turnover intention
Burn-out
Job satisfaction
Turnover intention
Burn-out
SUMMARY OF RESULTS (Objective 1)

- Majority of studies:
  1. Are surveys
  2. Are published in USA & Canada
  3. Are focused on Nurse leadership
  4. Are focused on Mid-level leaders
- Good leadership quality/style has a positive impact on healthcare outcomes (patient/ staff/ organizational outcomes)
- Bad leadership quality/style has a negative impact on healthcare outcomes (patient/ staff/ organizational outcomes)
OBJECTIVE 2

• To identify and summarize evidence on ROI determinants (factors, indicators and metrics) associated with healthcare leadership development programs
~60% of studies are of pre-post design.
~ 90% of studies are from Canada & USA
~ 50% of studies are focused on nurse leaders.
EMERGING LEADER VS EXECUTIVE LEADER

- Frontline leader: 19%
- Mid-level leader: 34%
- Executive leader: 6%
- Emerging leader: 28%
Context of delivery of leadership development programs/tactics

- Individual development: 66%
- Individual and organizational development: 34%
CONTEXT OF DELIVERY (PROGRAMS/TACTICS)

~ Majority of studies focused on Individual development

- Individual development: 58%
- Individual and organizational development: 41%
- Broader organizational purpose: 3%
OUTCOMES REPORTED BY PROGRAMS

- Leadership competencies/skills: 70%
- Job satisfaction: 6%
- Staff turnover rate: 7%
- Patient satisfaction: 10%
- Hospital length of stay: 2%
- Family satisfaction: 2%
- Quality improvement outcomes: 2%
## Leader Outcomes associated with leadership development programs/tactics

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
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<tbody>
<tr>
<td>1.</td>
<td>Increased leadership competencies</td>
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<tr>
<td>2.</td>
<td>Ability to resolve conflicts</td>
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<td>3.</td>
<td>Increased assertiveness</td>
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<td>4.</td>
<td>Increased self-confidence &amp; Self-awareness</td>
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<td>5.</td>
<td>People management skills</td>
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<td>6.</td>
<td>Decision making skills</td>
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<td>7.</td>
<td>Financial management skills</td>
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<td>8.</td>
<td>Communication with listening</td>
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<td>9.</td>
<td>Improved negotiation skills</td>
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<td>10.</td>
<td>Motivation to pursue higher education</td>
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SUMMARY OF RESULTS (Objective 2)

• Majority of studies:
  1. Are pre-post design
  2. Are published in USA
  3. Are focused on Nurse leadership
  4. Are focused on Mid-level and emerging leaders
  5. Are focused on individual development

• Leader development programs/tactics show a positive impact on individual leadership skills and an improvement in healthcare outcomes
OBJECTIVE 3

• To identify and summarize the evidence on ROI determinants (indicators and metrics) from existing ROI evaluative instruments
<table>
<thead>
<tr>
<th>INTERVENTION</th>
<th>COUNTRY</th>
<th>ROI - INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. LEAN</td>
<td>UK</td>
<td>1. A mean reduction of 20 minutes from emergency department arrival to initial nurse assessment</td>
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</tbody>
</table>
| 2. LEAN           | Canada  | 1. Decreased emergency wait times  
2. Decreased patient length of stay  
3. Improved operating room usage  
4. More radiology procedures per time period  
5. Better infection control outcomes                                                                                                             |
| 3. IPIP (Improving performance in practice) | USA     | 1. **Diabetes measures** (percentage of sampled diabetes patients with a hemoglobin A1c level of less than 9%, blood pressure less than 130/80 mm Hg, low-density lipoprotein cholesterol level less than 100 mg/dL, yearly eye examinations, and annual nephropathy screening)  
2. **Asthma measures** (percentage of asthma patients with an asthma control assessment, controller medicine use, influenza vaccination, and a bundled patient measure including all 3)  
3. **Monthly practice change ratings by the coach** |
## ROI - INDICATORS & METRICS

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<tbody>
<tr>
<td>4. MI Program (Mentored Implementation Program)</td>
<td>USA</td>
<td><strong>Glycemic control:</strong></td>
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<tr>
<td></td>
<td></td>
<td>1. Day-weighted mean blood glucose</td>
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<td></td>
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<td>2. Percentage of glucose readings in desired range over patient-stay</td>
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<td></td>
<td></td>
<td>3. Percentage of patient-days or patient-stays with hypoglycemia (&lt; 70 mg/dL) or severe hypoglycemia (&lt; 40 mg/dL)</td>
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<tr>
<td></td>
<td></td>
<td>4. Mean time to documented resolution of a hypoglycemic event Percentage of hypoglycemic patients suffering from recurrent hypoglycemia</td>
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<tr>
<td>Project BOOST:</td>
<td>USA</td>
<td><strong>Venous Thromboembolism prevention</strong></td>
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<td></td>
<td></td>
<td>1. Prophylaxis type: anticoagulant (green); mechanical (yellow); red (no prophylaxis)</td>
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<td></td>
<td></td>
<td>2. Adequacy of prophylaxis in each category (green/yellow/red) Overall measure: percentage of patients with adequate VTE prophylaxis</td>
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</tbody>
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{Maynard et al 2012}
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<td>McNally 2006</td>
<td>USA</td>
<td>“Through the course of our coaching, a minimum of 4 clinical leaders stated unequivocally that their engagement in the professional coaching prevented them from resigning from their positions. The average annual salary of a director is US$90,000. The approximate cost of providing the professional coaching program for 64 leaders was US$85,000. This figure is based on the external coach’s fees and the portion of the internal coach’s salary (one third of her full-time equivalent) dedicated to the program. Thus, it could be viewed that the cost of the coaching program would be budget neutral if only 1 director was retained as a result of the coaching.”</td>
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<td>Johnson 2010</td>
<td>USA</td>
<td>“Fall rate reduction from 6.45 to 3.8 per 1000 patient days $67,749. (This figure assumes a 30% injury rate.). Hospital-acquired pressure ulcer rate reduction from 1.62 to 1.12 per 1000 patient days $115,720. Patient satisfaction improvement priceless.”</td>
</tr>
<tr>
<td>Stone 2010</td>
<td>USA</td>
<td>“To calculate the ROI metrics for sending nurses to the E-EBP program, Manager Jones estimates that for a $14,000 investment, the hospital would save $36,000, translating to an ROI of 257%.”</td>
</tr>
<tr>
<td>Moffatt – Bruce 2014</td>
<td>USA</td>
<td>“Between July 2010 and July 2013 3,000 health system employees across 12 areas had been trained at an estimated cost of $3,557,000. The total number of adverse events avoided was 759 and savings ranged from a conservative estimate of $11,285,300 to as much as $24,634,140. Additionally, reimbursement bonuses totaled $4,971,700 and included third party payer incentives and Value Base Purchasing results. Therefore the overall impact had a net return in the range of $12,700,000 to $26,048,840.”</td>
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## ROI - INDICATORS & METRICS

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<td>5. Tylor-Ford et al 2015</td>
<td>USA</td>
<td>“The ANM turnover rate prior to intervention was 23%. At the conclusion of the intervention, ANM turnover was at 13% in the first year, which includes all ANMs within and outside of the LPCP. This represents a 10 percentage point reduction in overall turnover and a cost savings of approximately $585,000 per year using Jones and Gate methods. Additionally, no program participants left their positions while in the program or at 6 months post-program, which represents a 0% turnover rate of those within the program. One participant was awarded a promotion within the organization at 6 months post-program.”</td>
</tr>
</tbody>
</table>
| 6. Harris et al 2008 | USA     | “Cost Benefit Summary - Before CNL  
|                          |         | Cancelled GI procedures 30%  
|                          |         | Loss in revenue $195,000  
|                          |         | CNL annual cost $70,000  
|                          |         | Total savings realized by CNL introduction - $86,000” |
| 7. Kooker et al 2011  | USA     | “Using the updated Nursing Turnover Cost Calculation Methodology, the per RN true cost of nurse turnover is calculated to be 1Æ2–1Æ3 times the RN annual salary (Jones 2005). The findings indicate that the three highest cost categories were vacancy, orientation and training and newly hired RN productivity.  
At The Queen’s Medical Center, the annual salary of an experienced RN is currently $91,520. Therefore, using the Updated Nursing Turnover Cost Calculation Methodology, the per RN turnover cost is $109,824–118,976. As there was turnover of 62 RNs in 2006, their total turnover cost can be estimated at $6Æ8 and $7Æ4 million. Strategies to prevent or minimize external turnover clearly would have a positive financial impact on the organisation in addition to the minimising human capital costs and losses.” |
Limitations

- It was often difficult for individual hospitals to report on common metrics (such as “adequate VTE prophylaxis” or “good glycemic control”) because of the diversity of information systems across the cohorts and lack of institutional resources for data collection.
- Without a common platform for data collection, no way existed to compare performance within one unit of a hospital to other units.
- Measuring performance across the cohort and comparing one hospital to other hospitals with similar demographics was not possible.
- Hospitals were using their own measures to define parameters.

“In 2010 SHM began developing a data center for performance tracking to address these challenges”

{Maynard et al 2012}
Thank you!

GEORGE & FAY YEE
Centre for Healthcare Innovation

COLLABORATION INNOVATION TRANSFORMATION