The Cost of Implementing and Sustaining the COMprehensive Post-Acute Stroke Services (COMPASS) Model

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Disclosure Information

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The Cost of Implementing and Sustaining COMPASS

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Pamela Duncan and Cheryl Bushnell: Ownership in Care Directions, LLC
Design

- Transitional stroke care model
- Two-phase cluster-randomized pragmatic trial funded by PCORI
- Tested in 40 hospitals in North Carolina between 2016-2019
- The objective of this study was to quantify the hospital-level costs of implementation of COMPASS
<table>
<thead>
<tr>
<th>Component</th>
<th>Activities</th>
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<tbody>
<tr>
<td>Hospital discharge</td>
<td>• Post-acute Care Coordinator (PAC) identifies eligible patient</td>
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<tr>
<td></td>
<td>• Patient given educational materials</td>
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<tr>
<td>2-day call</td>
<td>• PAC schedules or confirms visit in clinic, medication reconciliation, and status check</td>
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<tr>
<td>Clinic visit by day 14</td>
<td>• Follow-up assessment by Advanced Practice Provider (APP)</td>
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<td>• Electronic Care Plan created by APP and patient</td>
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<tr>
<td>30-day and 60-day calls</td>
<td>• PAC follows up with patient</td>
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Design

PHASE 1

20 Intervention Hospitals

20 Usual Care Hospitals

PHASE 2

14 Hospitals Sustainability

16 Hospitals Crossover
Methods

• Activity-based costing approach

• Data sources:
  • Web-based survey estimating COMPASS-related resource costs
  • COMPASS enrollment and hospital characteristics data
  • Wage data from Bureau of Labor Statistics

• Captured Phase 2 COMPASS Costs for both sustaining and crossover sites

• Main outcomes:
  • Annual total COMPASS cost
  • Annual COMPASS per patient receiving intervention
  • Annual COMPASS costs by activity
Results

- 22 hospitals completed the survey
- 1,582 patients received the intervention across these 22 hospitals

<table>
<thead>
<tr>
<th></th>
<th>Average cost per hospital</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
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<tbody>
<tr>
<td>Total</td>
<td>$74,975</td>
<td>$46,240</td>
<td>$87,785</td>
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<tr>
<td>Per-enrollee</td>
<td>$2,861</td>
<td>$735</td>
<td>$3,475</td>
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</table>
Per patient costs decrease with higher enrollment volume
Annual Cost Per Patient by Phase

Sustainability phase, n=8
Implementation phase, n=14
Average Per-Patient Cost, by Activity

- Hiring/Retraining Staff: $54
- Patient Identification: $586
- Enrollment: $362
- Follow-up calls: $342
- Clinic visits: $638
- Community Resources: $561

Average Per-Patient Cost ($), by Activity
Limitations

• This analysis included only a subset (N=22) of the 40 sites originally participating in COMPASS

• Limitations of survey methods
  • Recall bias
  • Non-response bias
Conclusions

• COMPASS exhibits positive economies of scale

• Average per-patient costs were lower among larger hospitals

• COMPASS could lower net costs if the model is able to prevent about six readmissions per hospital per year
COMPASS References


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