Evaluation of the Houston Food Bank's Food Prescription (Rx) Program: Program Effectiveness

Clinical Effectiveness
This study used data from 2,028 patients enrolled by sixteen HCPs during May 2018 to March 2021. About half of the enrolled patients (n=1072, 52%) visited any food pantry during the period for which data were available. The average number of visits among patients who did visit a food pantry was 6.

The Food Rx model utilized by HFB demonstrated a clinically meaningful decrease in HbA1c levels among patients that redeemed their Food Rx vouchers (-0.52%) as compared to patients who did not redeem their voucher and received only standard medical care (-0.24%), for a net HbA1c difference of 0.28% (p=.007). Statistically significant reductions in systolic blood pressure (-3.2, p<0.001) and diastolic blood pressure (-2.5, p=0.028) favoring the group participating in Food Rx were also found.

Probability of 0.5% decline in HbA1c over 6 months by number of visits

<table>
<thead>
<tr>
<th>No visits</th>
<th>1-6 visits</th>
<th>7 or more visits</th>
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<tbody>
<tr>
<td>0.34 (0.28-0.40)</td>
<td>0.426 (0.39-0.55)</td>
<td>0.50 (0.44-0.56)</td>
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<tr>
<td>p&lt;.001</td>
<td>p&lt;.001</td>
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Dosage matters: Among patients who had 1-6 visits to the pantry, 42% experienced a clinically significant decline in HbA1c (>0.50%), while among those that had 7 or more visits, 50% experienced a clinically significant decline in HbA1c. In contrast, only 34% of patients that did not visit a pantry had a clinically significant decline in HbA1c.

Magnitude of decline in HbA1c, by exposure status

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Cost Effectiveness
- Subsequent to clinical effectiveness, we conducted a cost-effectiveness analysis of Food Rx using HbA1c as our health outcome to predict future health gains and averted medical costs.
- Future health gains (quantified as quality-adjusted life years or QALYs) and averted medical costs were estimated. Cost per redemption of Food Rx was estimated to range from $15-$30, with a 20% offset, to account for patients’ reduced costs of grocery.

Results show that use of Food Rx versus control resulted in modest incremental QALYs indicating that this program reduced disease burden and lengthened and/or improved patients’ lives.

- Overall, we conclude that HFB Food Rx is cost-saving and cost-effective, as long as the cost per redemption does not exceed $30, and patients redeem their vouchers no more than 12 times over a 6 month period.

Implications
A voucher-based model where food distribution is managed by an agency outside the healthcare provider, is feasible, clinically-effective, & cost-effective.

Top perceived benefits
- Provides healthy food to those at-risk
- Improves knowledge of nutrition and healthy eating
- Connects healthcare and social service partnerships to improve health outcomes.

This infographic is based on research funded by The Rockefeller Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of The Rockefeller Foundation.