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Fuel Poverty in Lawrence, MA

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Fuel Poverty in Lawrence, MA
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Advisors: Professor Brian Savilonis and Professor Geoff Pfeifer

Abstract
Low income communities in Lawrence, MA face the hardship of fuel poverty. This dilemma does not have a one-size-fits-all solution. We strive to contribute to the community by designing a low cost weatherization kit that households can easily utilize.

Background
In the US, ~15.9 million households live in fuel poverty. A household is in fuel poverty if they spend over 10% of their net income to safely heat their home. In the US, ~15.9 million households live in fuel poverty.

South Lawrence
- Average income $80,000/year
- Race Distribution: 52.5% White, 26% Hispanic
- Residents with income below the poverty level 2015

North Lawrence
- Average income $21,000/year
- Race Distribution: 26% Hispanic, 77.5% Hispanic
- Residents with income below the poverty level 2015

Health Effects of Fuel Poverty
- High rates of influenza
- Increase in respiratory, circulatory, and cardiovascular diseases
- Negative physiological effects on children
- Decreased mobility/flexibility in the elderly
- Overall decrease in quality of life

Weatherization Kit
Description of kit contents and benefits
1. Caulking ($8.61)
   - Reduces heat lost through unsealed windows/doors
2. Door Sweep ($18.54)
   - Reduces heat lost through the gap between doors and floors
3. Shrink Window Kit ($12.30)
   - Reduces heat lost through unsealed windows
4. Foam Insulation Strips ($6.90)
   - Reduces heat lost through large gaps
5. Framed Gun ($5.50)
   - Reduces heat lost through large gaps
6. Foil Tape ($1.16)
   - Prevents heat loss from air ducts

Note: The numbers above do not match our total cost of the kit as some basic tools are not listed.

Reduction of Fuel Poverty
- Grant Based Aid
- Drawback
- Weatherization
- Drawback
- Heating System Upgrades
- Drawback

Waffles for Warmth
In order to raise money for the weatherization kit, we sold waffles to the general public of WPI. We also held a raffle contest with gift cards from various restaurants around the Worcester, MA area.

Money Raised: $380.00

Conclusion
While not the most effective solution, the weatherization approach is the most realistic solution in terms of cost for this area. We successfully raised enough money to put together an affordable weatherization kit for $106.00. Because of its low cost, this kit could potentially be implemented in low income households to help combat fuel poverty.

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- Linda Soucy: LIHEAP Director in Lawrence, MA
- friends of the Earth
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References