

Health Returns on Investing in Improved Housing; A Case for Houston's Third Ward

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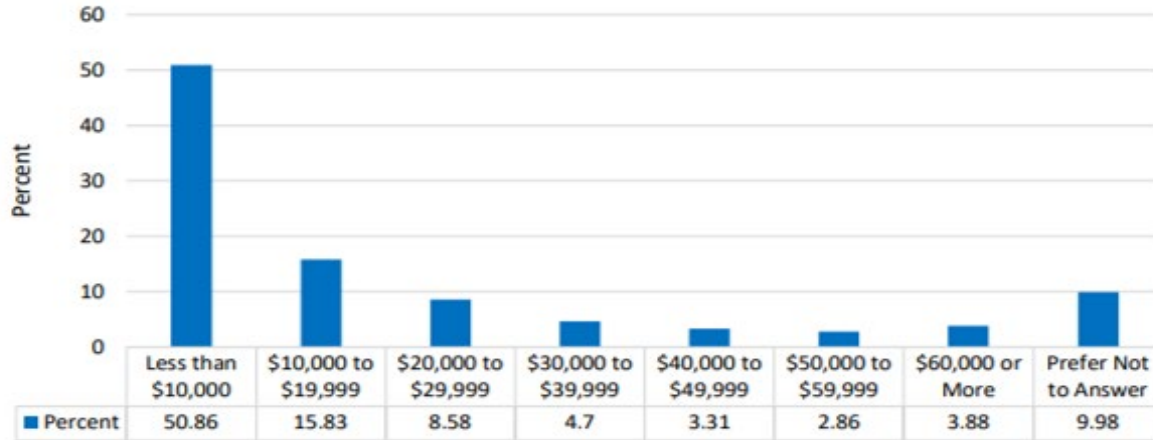
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Overview

- Many students have limited housing and financial resources
- US has high income inequality and high per capita GDP
- In the Third Ward, 50.86% of students live in households with an annual income of less than \$10,000

Third Ward Comprehensive Needs Assessment Data Report

Figure 1: Income Levels



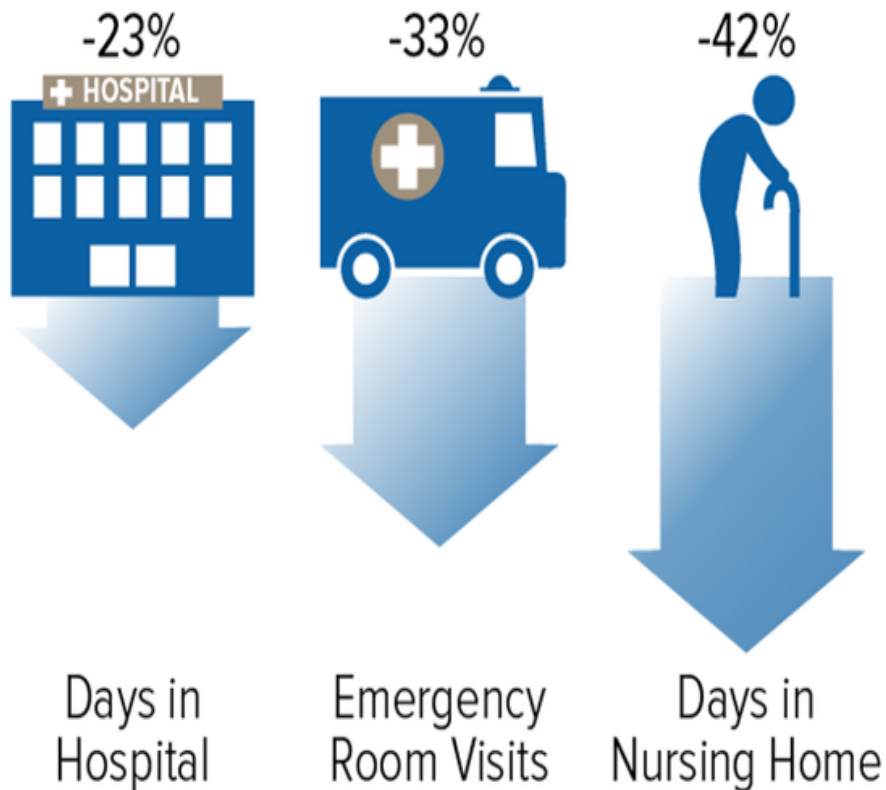
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Supportive Housing Can Produce Health Care Savings

Combining affordable housing with intensive services for a high-needs group saved an average of over \$6,000 a year per person in health care



CCPPI's Goal

Ideal Project Course



St. Charles Place Apartments

- Identify correlation through data that investing in affordable housing optimizes hospital resources
 - Attract hospital investment
 - Build multi family homes
 - Make homes sustainable and affordable
 - Create a positive impact on the community's health
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Can investment in affordable housing produce a positive impact on a community's overall health?



Approach

- Literature Review
- Establish Scope
- Map Outcomes
- Evidence Outcomes
- Evaluate Outcomes
- Establish Impact
- Calculate SROI

Establishing Scope

- Identified higher risk demographics that would experience benefits of affordable housing
 - Racial minorities
 - Elderly
 - Homeless
 - Identified high occurrence illnesses in the area most likely to be affected by housing
 - Hypertension
 - Asthma
 - Diabetes
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Mapping Outcomes

- Creating a theory to evaluate variables affected by changes, measure outcomes for inhabitants
- Variables affected by changes would be
 - Average hospital visits for particular illness
 - Medication Cost Average
 - Population diagnosed with aforementioned illness
- Outcome would be lower annual cost for Greater Third Ward to be treated for said illness

Evidencing Outcomes



- Captures all outcome benefits and assigns estimate to frequency of outcomes annually
- In an ideal report we would measure probabilities and financial proxies through literature, government data, and stakeholder info
- Translate monetary benefits into social value created by program

Valuing Outcomes

- Figures from previous step need to be discounted at rate consistent with current rate of inflation
 - Current inflation is volatile, opted to use 10 year average
- Assumed operating expenses are borne at beginning of the year, benefits gained at end of year



Math for impact within communities

Math for impact within communities I

- Diabetes Total Cost: \$52,507,157.57
- Asthma Total Cost: \$13,749,239.50
- Hypertension Total Cost: \$47,764,908.00
- Total cost is based on Third Ward population of 38,271 people (US Census Bureau)
- Based on percentage of population that has a particular ailment; I.E. 40% of population has Hypertension (Rice)



Math for impact within communities II

- We can estimate cost saving of building based on how many people live in a unit, multiplied by percent of population who has particular health issue and multiplied by average cost per ailment.
- 2.61 people per apartment unit on average (US Census Bureau)
- Units = 177 available based off previous Apartment complex project within the Third Ward.



Math for impact within communities III

Type of Ailment	Average Cost To Community
Hypertension	578,167.20
Asthma	165,967.34
Diabetes	633,814.94

We have calculated the cost for individuals in the buildings to have particular ailments.

These cost will go down based on our assessment for adequate housing being created.

Math for impact within communities IV

Based on the building from a previous project, we have calculated the yearly cost savings based on adequate vs inadequate housing on health if building is created.

Hypertension: \$152,000.10

Asthma: \$43,632.81

Diabetes: \$166,629.95

We will adjust yearly these results by 3% inflation rate.

Math for impact within communities V

New figures for cost based on creation of new buildings from previous figures. (this table is for one specific year)

Calculated by subtracting old average by cost savings

I.E. \$578,167.20 - \$152,000.10

Type of Ailment	Old Average Cost	New Average Cost
Hypertension	578,167.20	426,167.10
Asthma	165,967.34	122,334.53
Diabetes	633,814.94	467,184.99

Project Evaluation

Establishing Impact

- CCPPI future project:
 - 1 housing multifamily structure with 177 units
 - Initial investment from hospital of \$2 million
 - Average occupancy of 2-3 people per unit
 - 25 year project timeline

- Cost benefit effect calculation:

$$PV_{outcome} = \frac{C_{savings}}{(1+r)^n}$$

n = # of years

r = Target inflation rate

$C_{savings}$ = Dollar cost savings from healthcare

Calculating SROI

- Social impact returns

$$SROI: \frac{\Sigma PV_{outcome} - Initial\ Capital\ Investment}{Initial\ Capital\ Investment}$$

- Three factors, initial investment, project timeline
- Project valuation tool

Calculating SROI Cont.

- Net Present Value (NPV)
- Internal Rate of Return (IRR)
- Social Return on Investment (SROI)

Future Project Valuation (2 Million)			
years	0	10	25
Initial Capital Investment	\$(2,000,000.00)		
Hypertension	\$ 124,692.94	\$152,000.00	\$204,571.98
Diabetes	\$ 136,694.60	\$166,629.95	\$224,261.98
Asthma	\$ 35,794.10	\$ 43,632.81	\$ 58,724.02
Total Cashflow	\$(1,702,818.36)	\$362,262.76	\$487,557.98
NPV	\$ 114,808.18		
IRR	19%		
SROI	\$ 1.06		

Conclusion

Summary

- We have established a theory showcasing that investing in the future of a community with CCPPI can provide a positive SROI
- Affordable housing encourages positive health outcomes in the long term
- Further investigation and research will serve to enhance accuracy and support conclusion



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