

Responding to Threats to Child Health: Unhealthy Consequences of Housing and Energy Costs

BUSPH Social Inequalities, March 2007

Lauren Smith, MD, MPH

Department of Pediatrics

Boston Medical Center

Boston University School of Medicine

Child Health Impact Assessment: Rationale

- Extensive evidence connecting non-medical factors – “social determinants” and health
- Child health impacts not usually considered in domains outside of health care
- Child Health Impact Assessment offers objective, evidence- and experience-based method of evaluating policy, regulations, legislation

Child Health Impact Assessment: Working Group

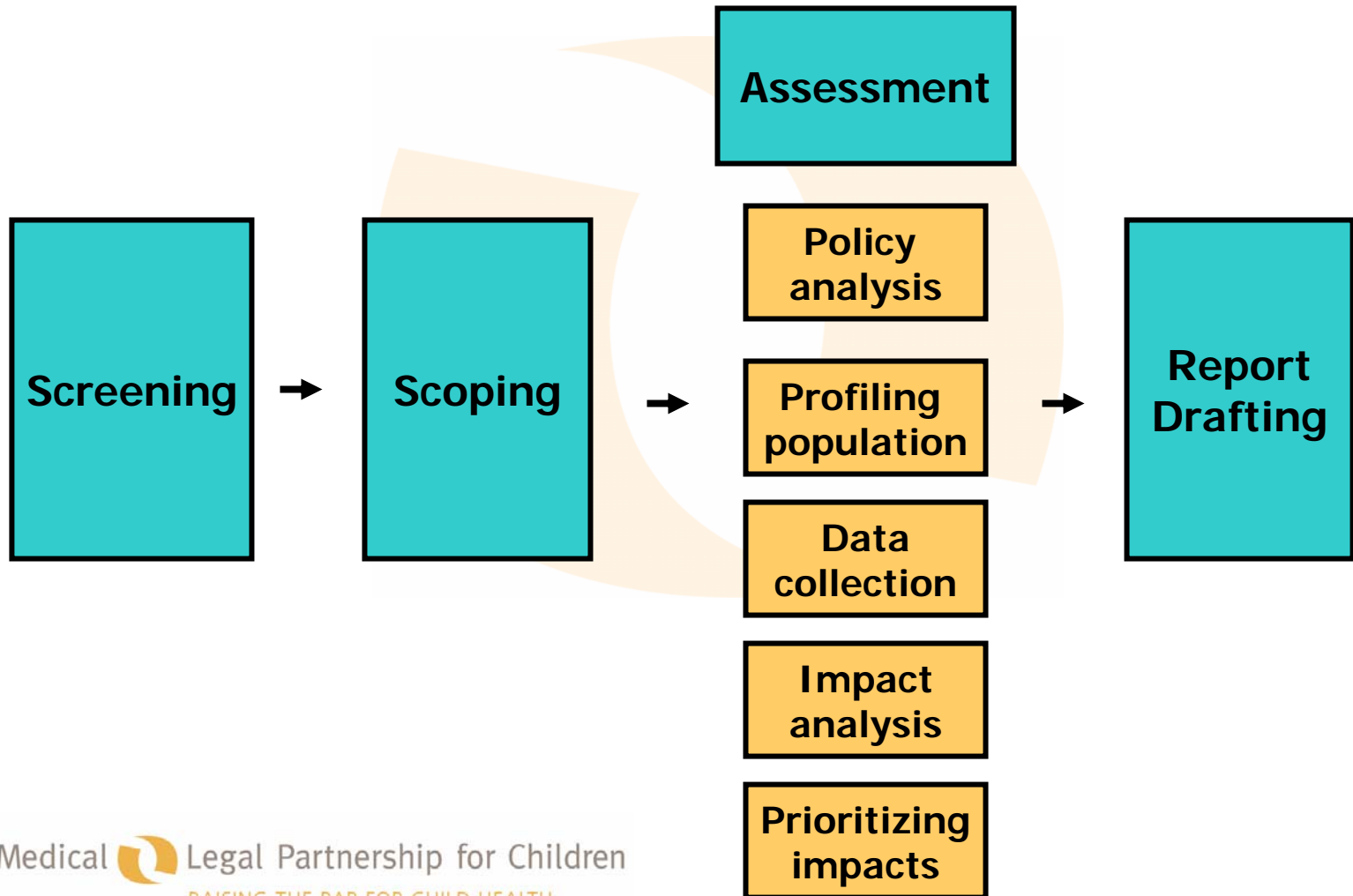
Multidisciplinary

- Pediatricians
- Public health researchers
- Lawyers
- Health economists

Inter-institutional

- Boston University Schools of Medicine and Public Health
- Harvard Schools of Medicine and Public Health
- Children's Hospital
- McCormick Institute, Univ. of Massachusetts, Boston
- Brandeis University

Stages of Child Health Impact Assessment Process



Child Health Impact Assessment: Selecting a Study Topic

- Criteria for selecting a CHIA topic:
 - Potential impact on children & families
 - Availability of rigorous research & clinical data
 - Saliency for policy makers
 - Relevance to the Commonwealth
- Housing:
 - Massachusetts Rental Voucher Program (MRVP)
- Energy Assistance:
 - Low Income Home Energy Assistance Program (LIHEAP)

Why conduct a CHIA of Affordable Housing or Energy Assistance?

Housing

- Proposed program changes in budget
 - Time limits
 - Work requirements
 - Increased frequency of eligibility determination
 - Tenant rent contribution cap
 - Tenant mobility

Energy assistance

- Dramatic increases in energy prices after Hurricane Katrina
- Clinical experience regarding increasing utility arrearages

Child Health Impact Assessment: Research Methods

- **Review of relevant health literature** (PubMed, ScienceDirect)
- **Analysis of relevant non-health data** (program participation and funding, etc.)
- **Key stakeholder interviews**
 - State and federal program officers
 - Local administering agencies
 - Advocates

MRVP Proposed Changes

Program Component	Proposed Changes
Funding	Increase funding by \$2 million to \$26,283,345
Time limits	36 month consecutive limit 60 month lifetime limit
Work requirements	20-30 hours/week depending on age of youngest child
Tenant rent contribution	Cap tenant rent share at 40% of income
Tenant mobility	Require reissuing of mobile vouchers ceded when families exit program
Eligibility redetermination period	Redetermine eligibility twice a year rather than annually

Rental Experiences of Low-Income MA Households

	< 30 % MA Median Income	
Family Characteristics	Small Families 2-4 members	Large Families >5 members
Live in overcrowded, unaffordable or substandard housing with insufficient plumbing	76.1 %	87.1 %
Spend more than 30% of income on rent	71.9 %	74.2 %
Spend more than 50% of income on rent	55.9 %	52.4 %

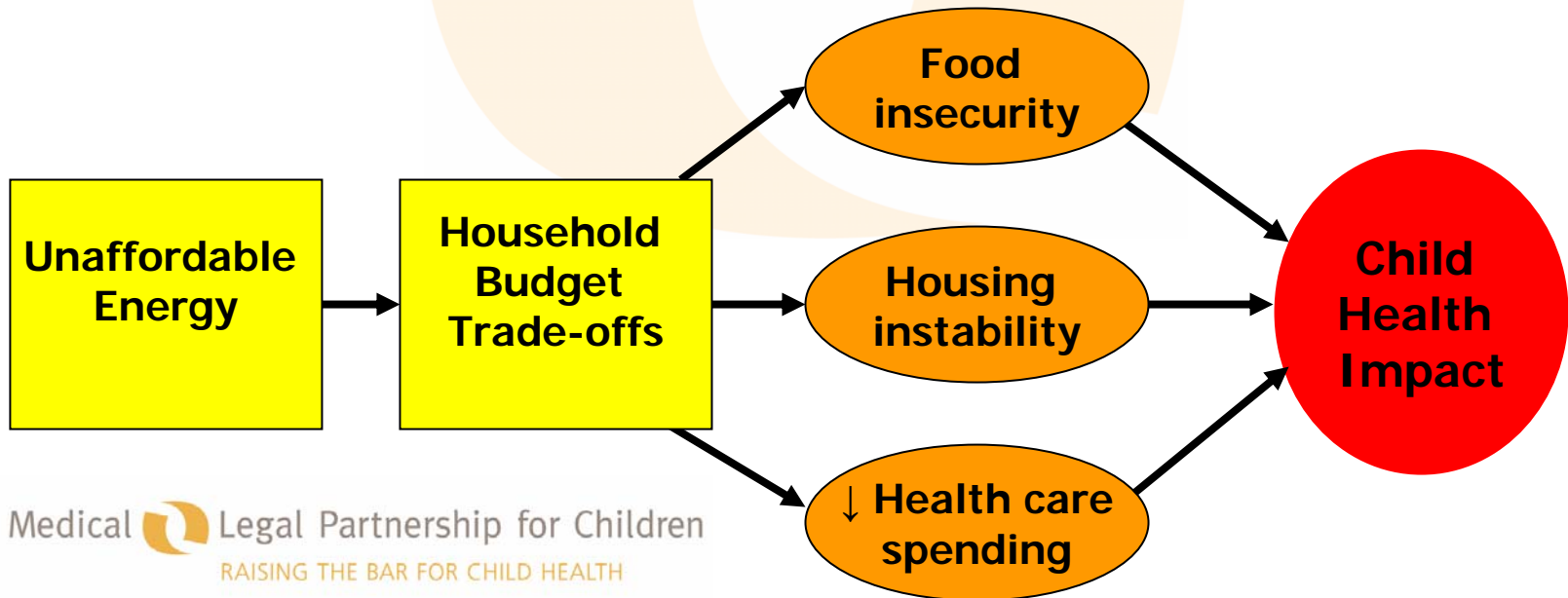
Source: McCormick Institute; US Dept. of Housing and Urban Development

Child Health Impacts of Unaffordable Housing

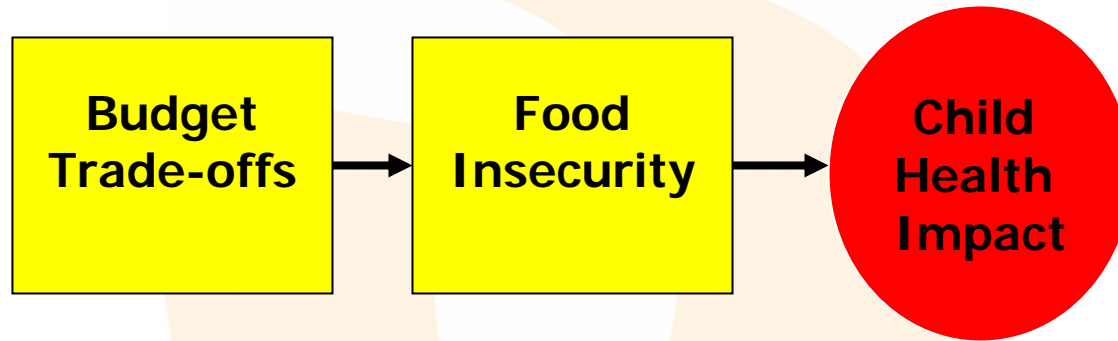
- **Budget trade-offs** due to high housing costs mean less money is spent on food and health care
- **Substandard housing conditions** affect physical health
- **Homelessness & housing instability** affect physical and mental health, as well as long-term behavioral, developmental and educational outcomes

Making Ends Meet?

- Families who spend more than 50% of their income on housing spend less on food and other basic necessities.

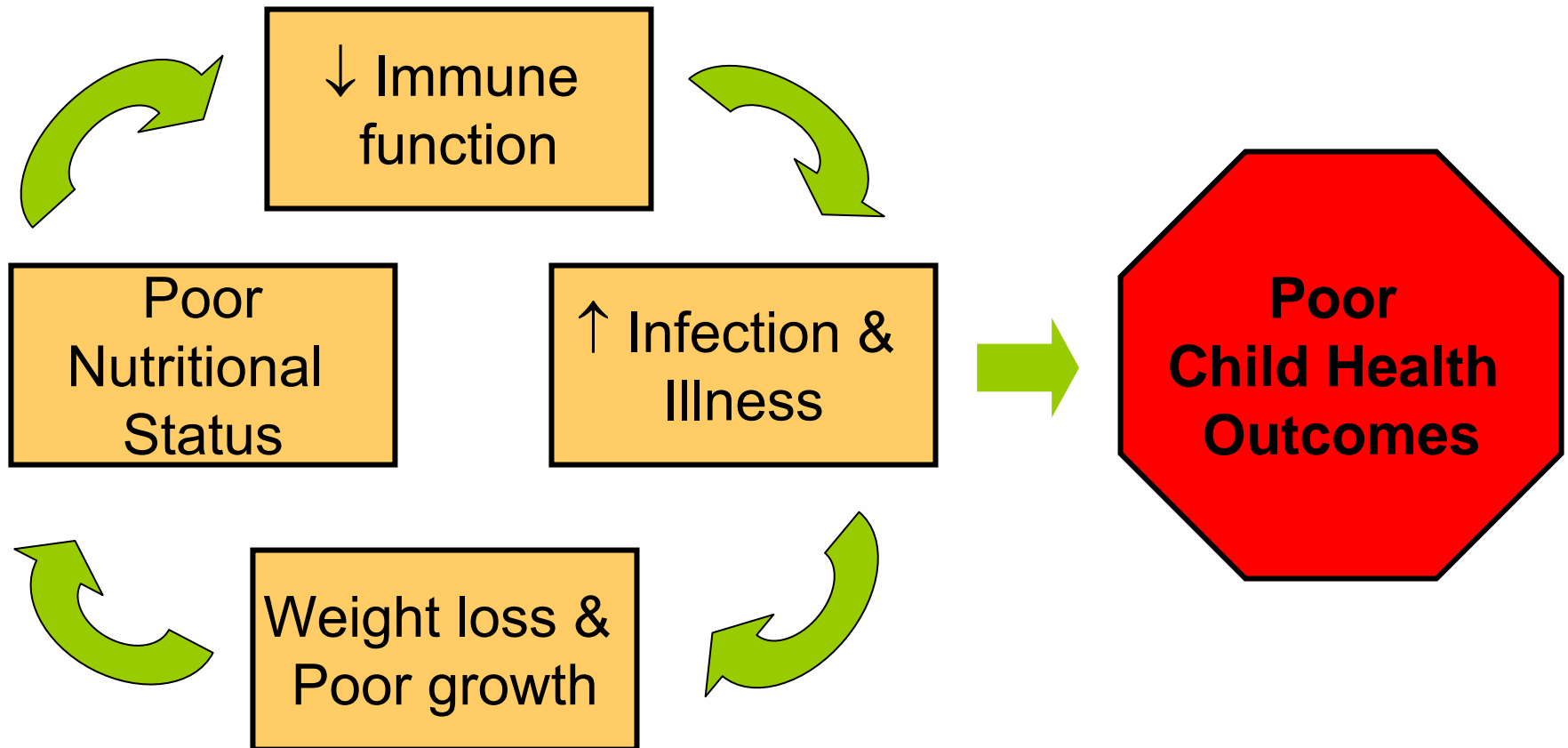


Pathways of Impact: Budget Trade-offs



- Poor growth
- Malnutrition-infection cycle
- Cognitive, developmental deficits
- Poor school performance

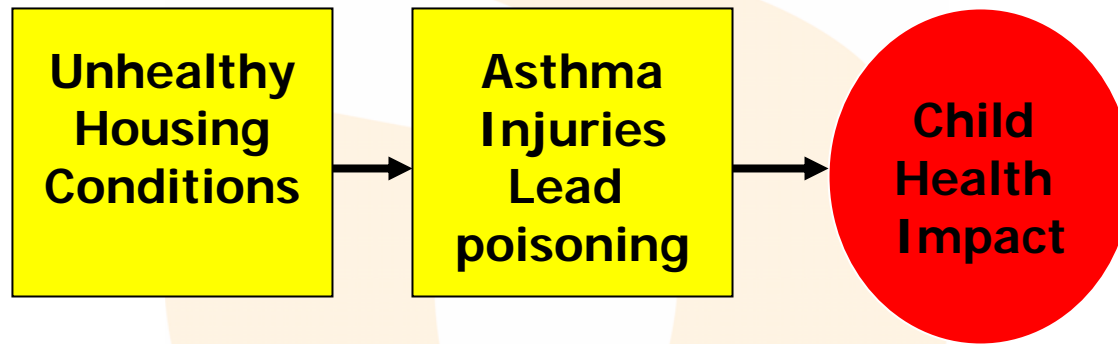
Food Insecurity's Toll: Infection-Malnutrition Cycle



Child Health Impacts of Substandard Housing Conditions

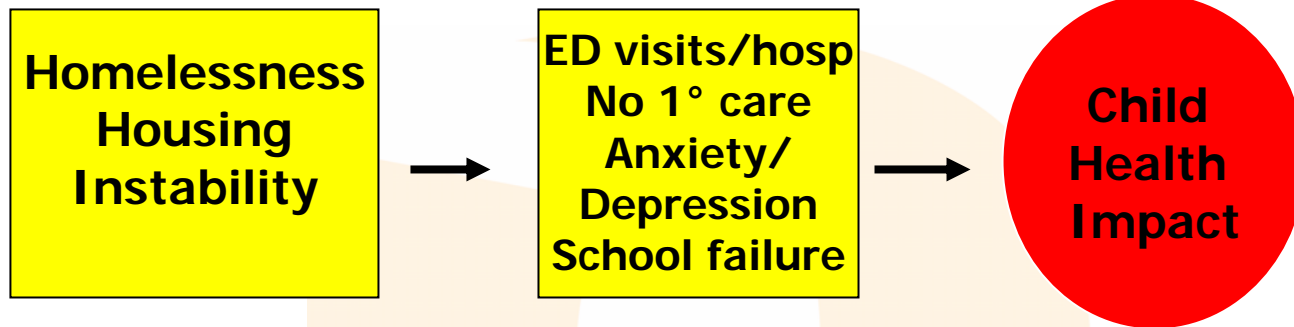
- Rodent and cockroach infestation
- Water leaks and resultant mold
- Peeling paint and lead paint
- Exposed wires and uncovered radiators
- Insufficient heat or running water
- Overcrowding
- Increased asthma
- Increased lead poisoning
- Injuries
 - Radiator burns
 - Window falls
 - Fires from improper wiring, lack of smoke detectors, use of space heaters
- Increased infectious diseases

Pathway of Impacts: Substandard Housing



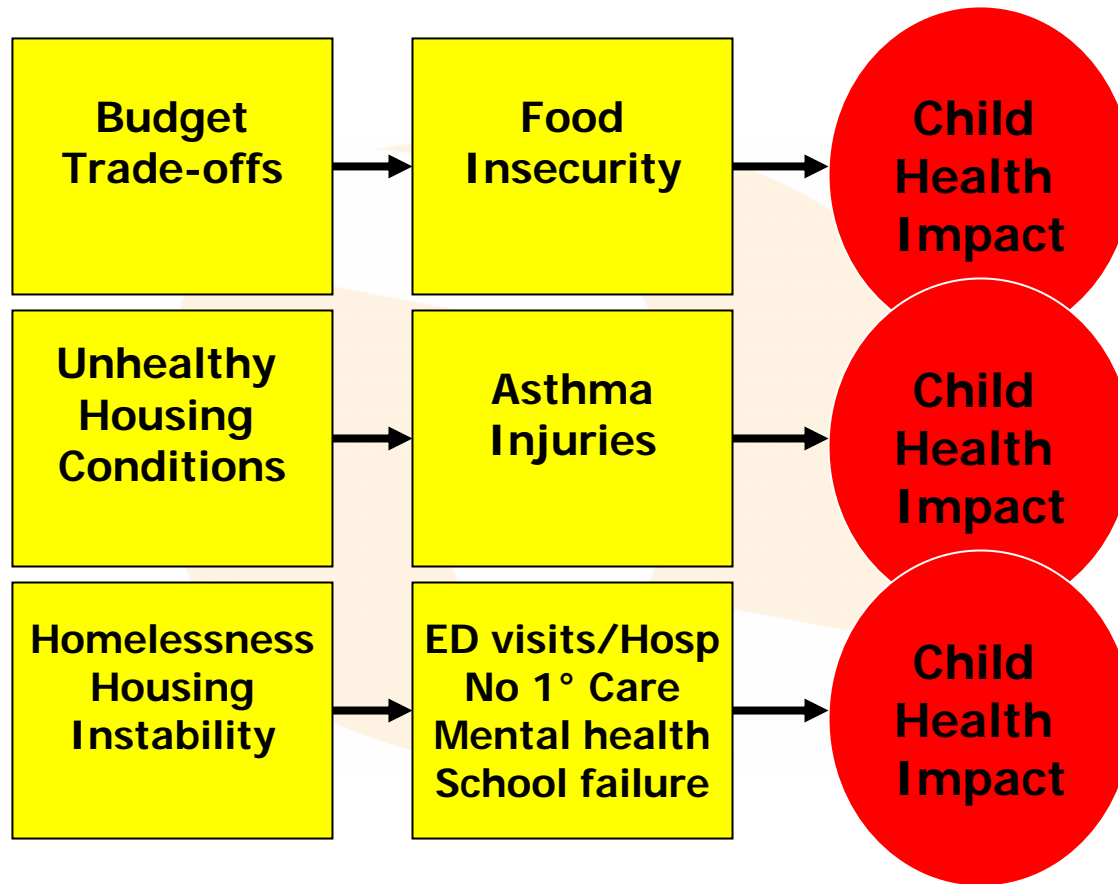
- Increased health care utilization – ED visits, hospitalizations
- Missed school due to illness
- Cognitive & developmental deficits due to lead poisoning

Pathway of Impacts: Homelessness & Housing Instability

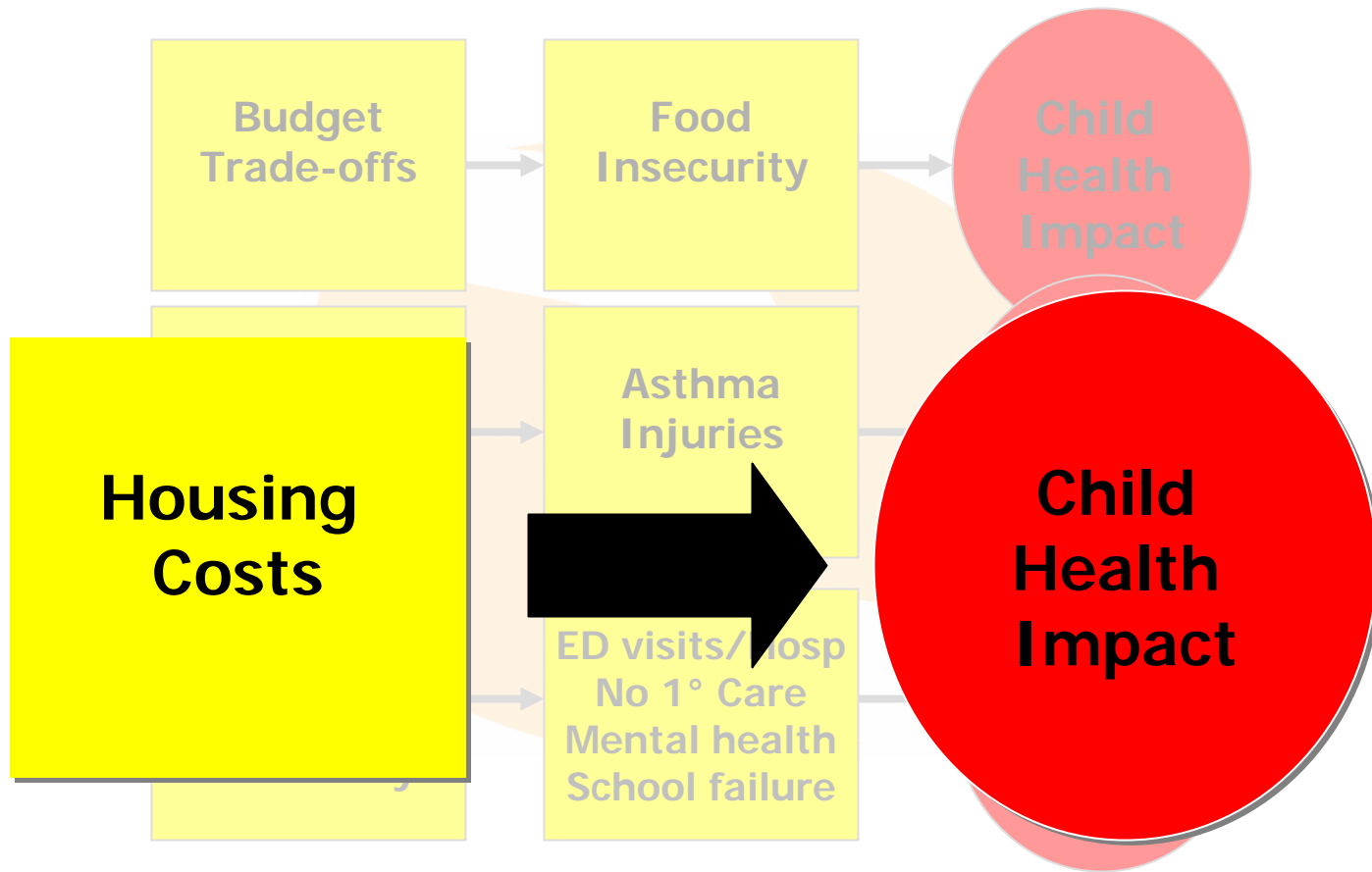


- Physical health:
 - ↑ ED visits, hospitalizations
 - Missed primary care – immunizations, TB screening
- Mental health:
 - Disrupted social supports
 - Anxiety, depression
- Behavioral, Developmental, Educational:
 - ↑ Developmental delay
 - Poor academic performance – grade repetition, special ed

Housing Costs & Child Health



Housing Costs Affect Child Health



Why conduct a CHIA of Energy Assistance?

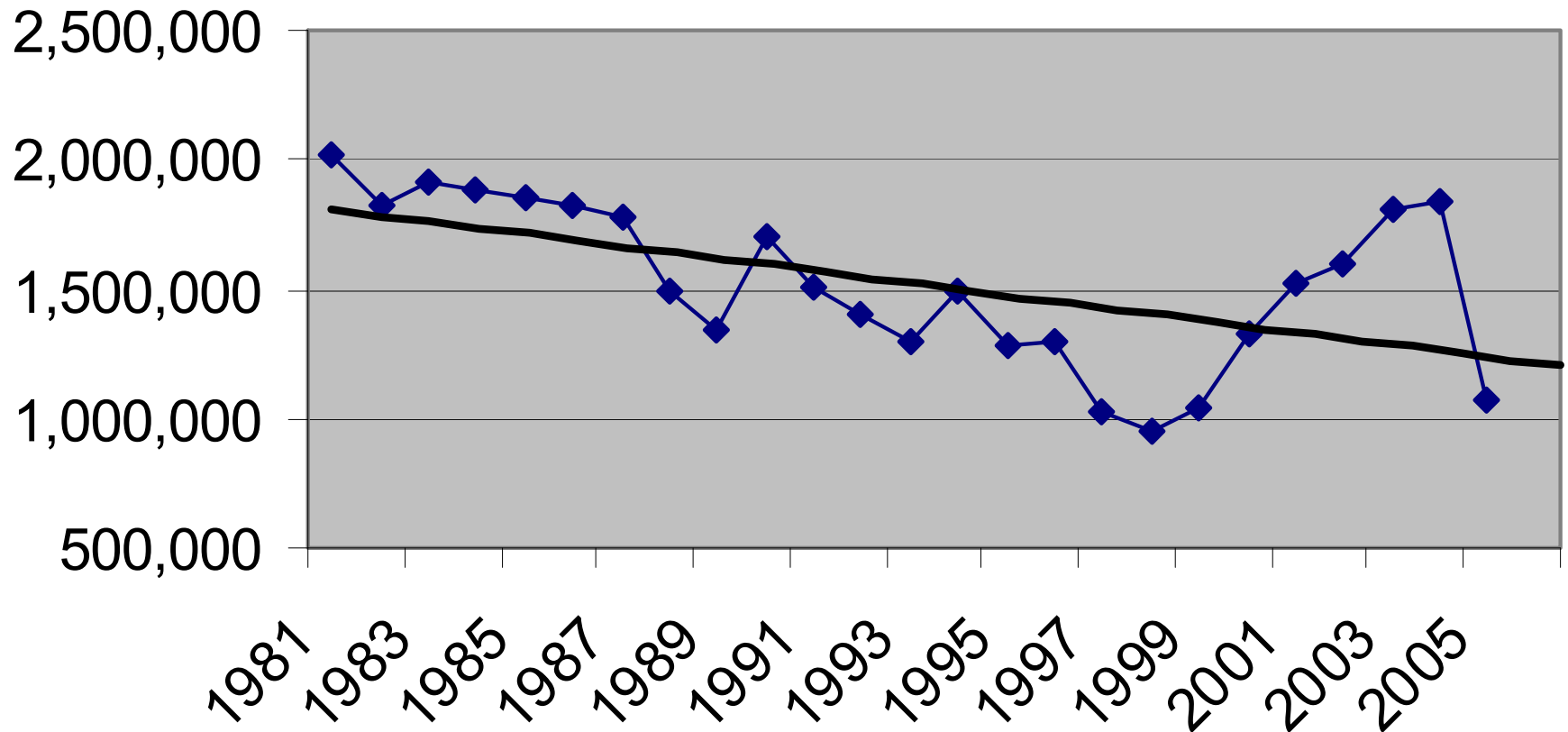
“Winter Heating Bills Set to Soar”

The Washington Post September 15, 2005

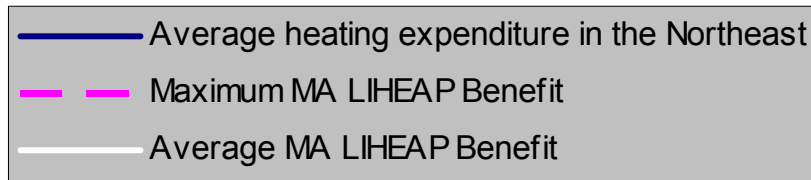
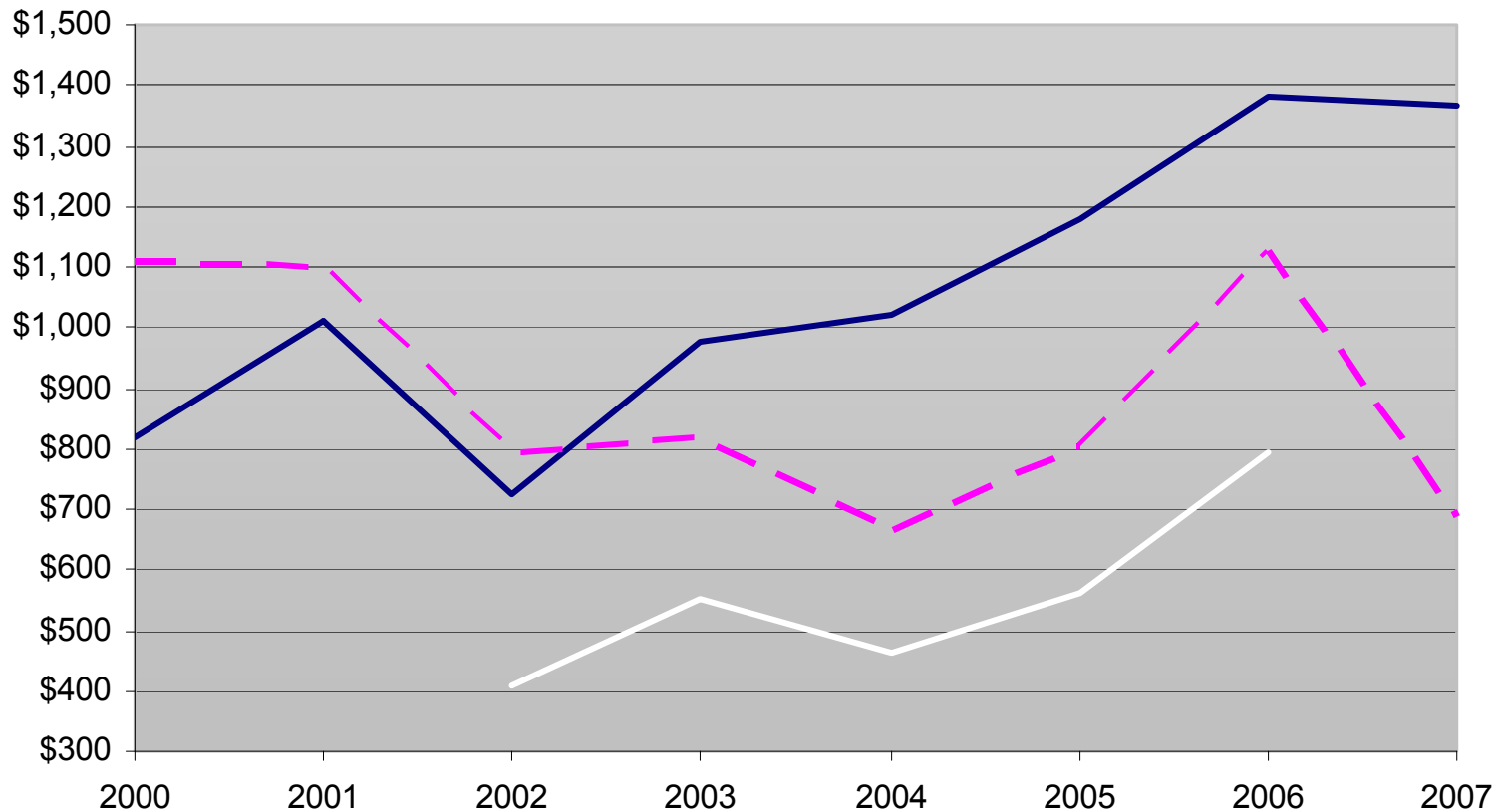
- Dramatic increases in energy prices after Hurricane Katrina
- Clinical experience with families facing increasing utility arrearages

Declining Federal LIHEAP Funding, 1981-2006

Total LIHEAP Funding in 1981 Dollars



MA LIHEAP Benefits & Home Heating Costs in the Northeast



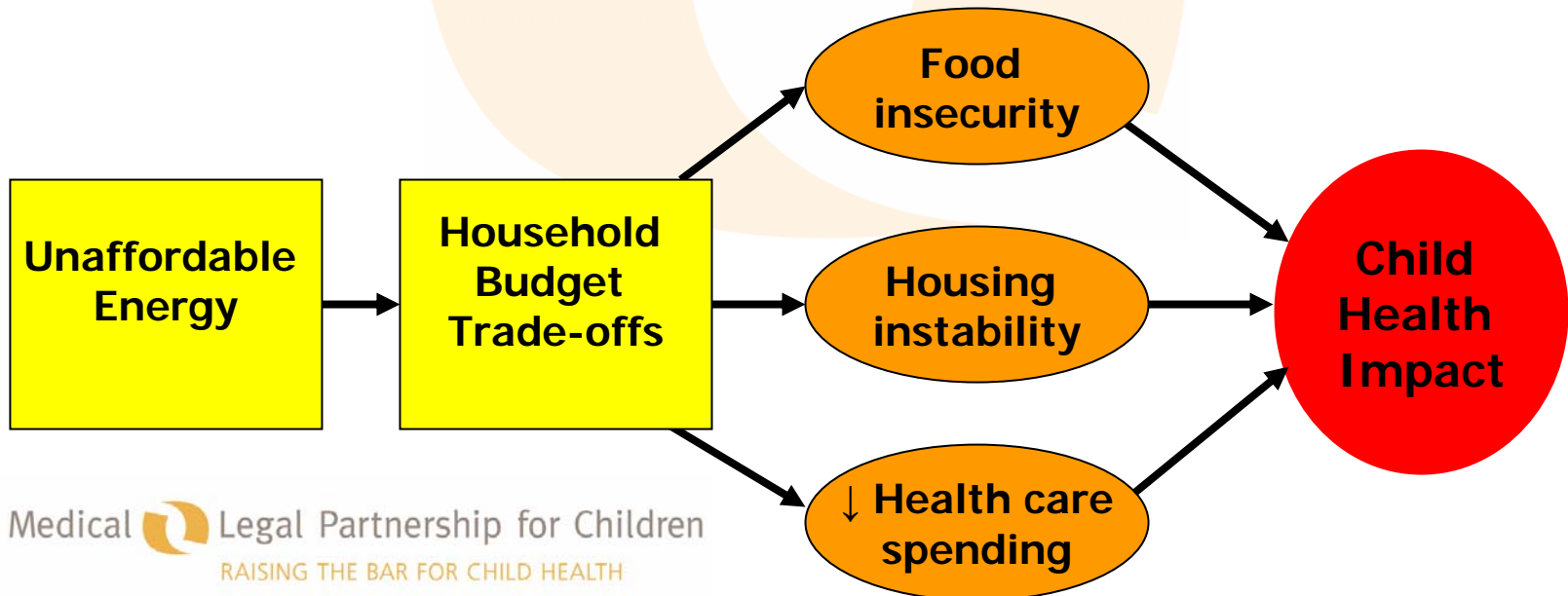
Sources: Massachusetts Department of Housing and Community Development. Short Term Energy Outlook, October 10, 2006. Energy Information Administration.

Child Health Impacts of High Energy Costs

- Household **budget trade-offs**
- Use of **alternative heat sources**
- Utility **arrears** and **disconnection**
- Unhealthy **housing conditions** and **homelessness**

Making Ends Meet?

- Average MA LIHEAP benefit is about half the average heating expenditure

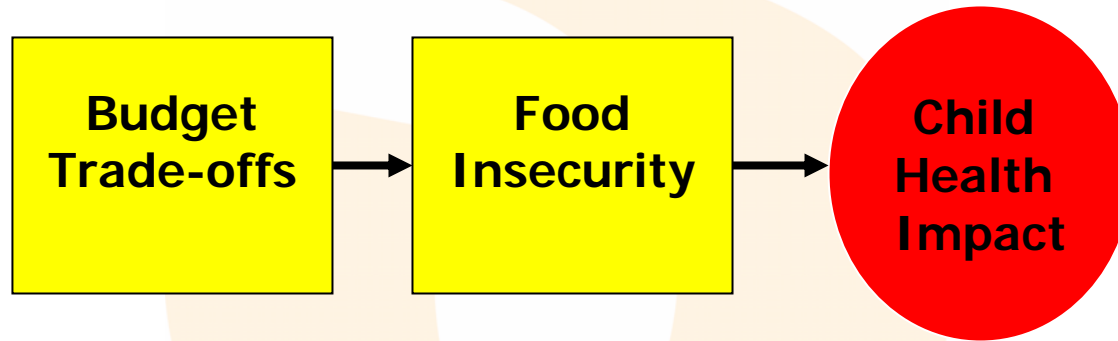


“Heat or Eat”

High energy costs force risky budget trade-offs

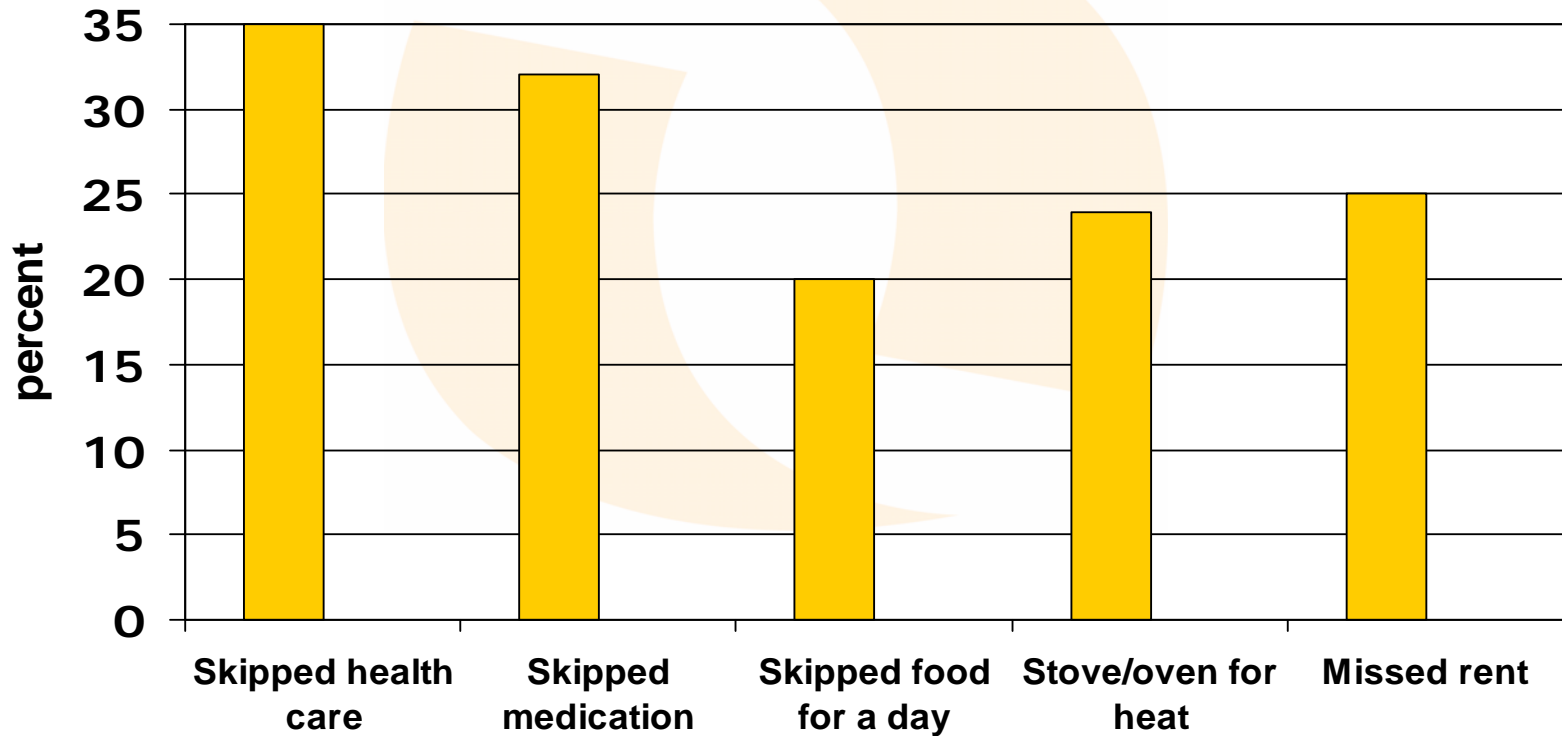
- Low income families more vulnerable to hunger during winter, early spring (Nord, M. 2003)
- Boston study of young children found increased malnutrition in the winter. (Frank, DA, et al. 1996)
- “Poor parents are only imperfectly able to protect their children from cold-weather resource shocks.” (Bhattacharya J, et al. 2003)

Pathways of Impact: Budget Trade-offs



- Poor growth
- Malnutrition-infection cycle
- Cognitive, developmental deficits
- Poor school performance

Impact of Unaffordable Utilities for LIHEAP Households



Child Health Impacts of Household Budget Trade-Offs

2006 Child Sentinel Nutrition Assessment Program (CSNAP) study showed low-income children not receiving LIHEAP were:

- *30% more likely to be admitted to the hospital*
- *20% more likely to be nutritionally at risk for growth problems*

Child Health Impacts of Dangerous Alternative Sources of Heat

“Two Boys Killed in Mattapan House Fire; Blaze is Blamed on Space Heater”

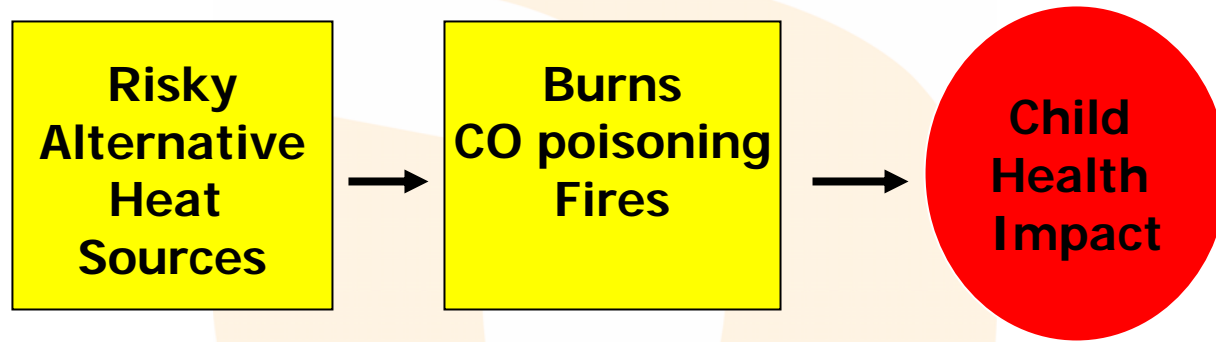
-- *The Boston Globe* December 28, 2000

- 22% of LIHEAP households in Northeast use kitchen stoves for heat because they cannot afford to pay energy bills
- “High oil and gas prices and power outages during the winter months can contribute to consumer use of improperly vented heating sources.” (CDC, 2005)

Winter Fire Danger

- Use of alternative heating is particularly risky for low-income families
 - Less likely to have working smoke detectors
 - Live in less fire-resistant housing
 - Have fewer resources to invest in fire safety

Pathways of Impact: Use of Alternative Heat



- Long-term health consequences of burns, carbon monoxide exposure
- Economic impact of preventable hospitalizations

The Washington Post

December 31, 2006

Utility Begins Cutting Off Power in Winter

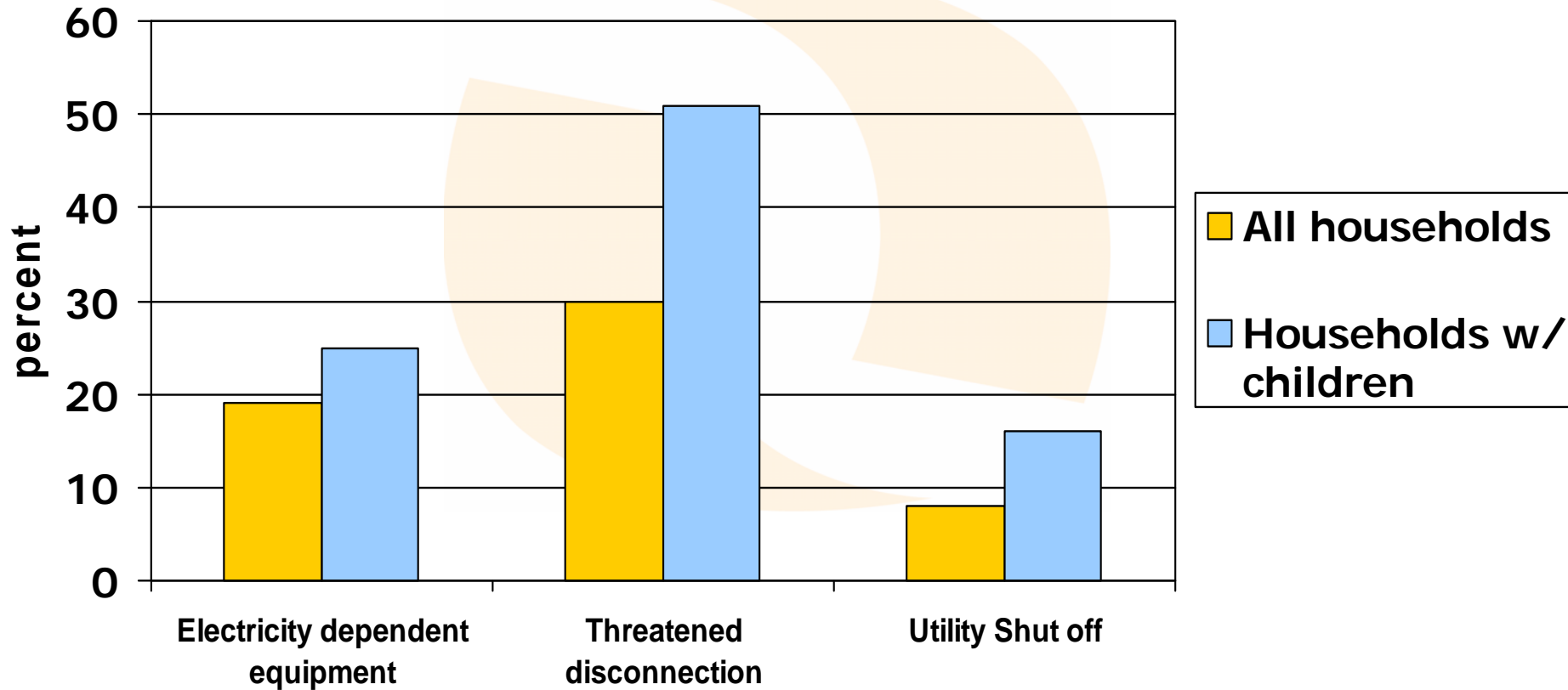
By Michael Tunison

“Policy changes at Southern Maryland's main electric utility mean that area residents who fail to pay their bills can have their power cut off during winter's cold months.... So far this winter, the Southern **Maryland Electric Cooperative** has terminated service to 83 households as a result of **nonpayment.**”

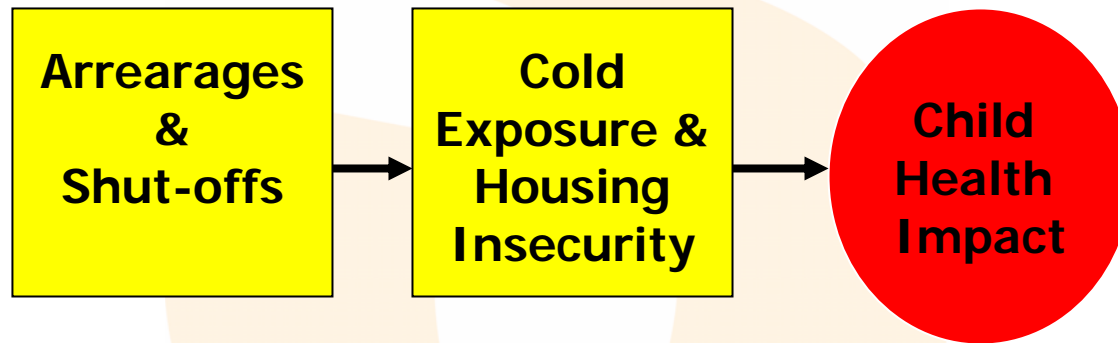
Arrearages & Shut Offs

- Increasing energy costs mean higher arrearages & more shut-offs
- Not all state have winter moratorium

Impact of Utility Disconnections



Pathway of Impact: Arrearages & Shut-offs



- Housing instability
- Lack of primary care, undertreated medical conditions, growth delay
- Adverse mental health impacts: anxiety, depression, behavioral disorders
- Adverse educational impact: grade repetition, special education

Average Pediatric Hospitalization Costs for Burns, CO Poisoning & Asthma

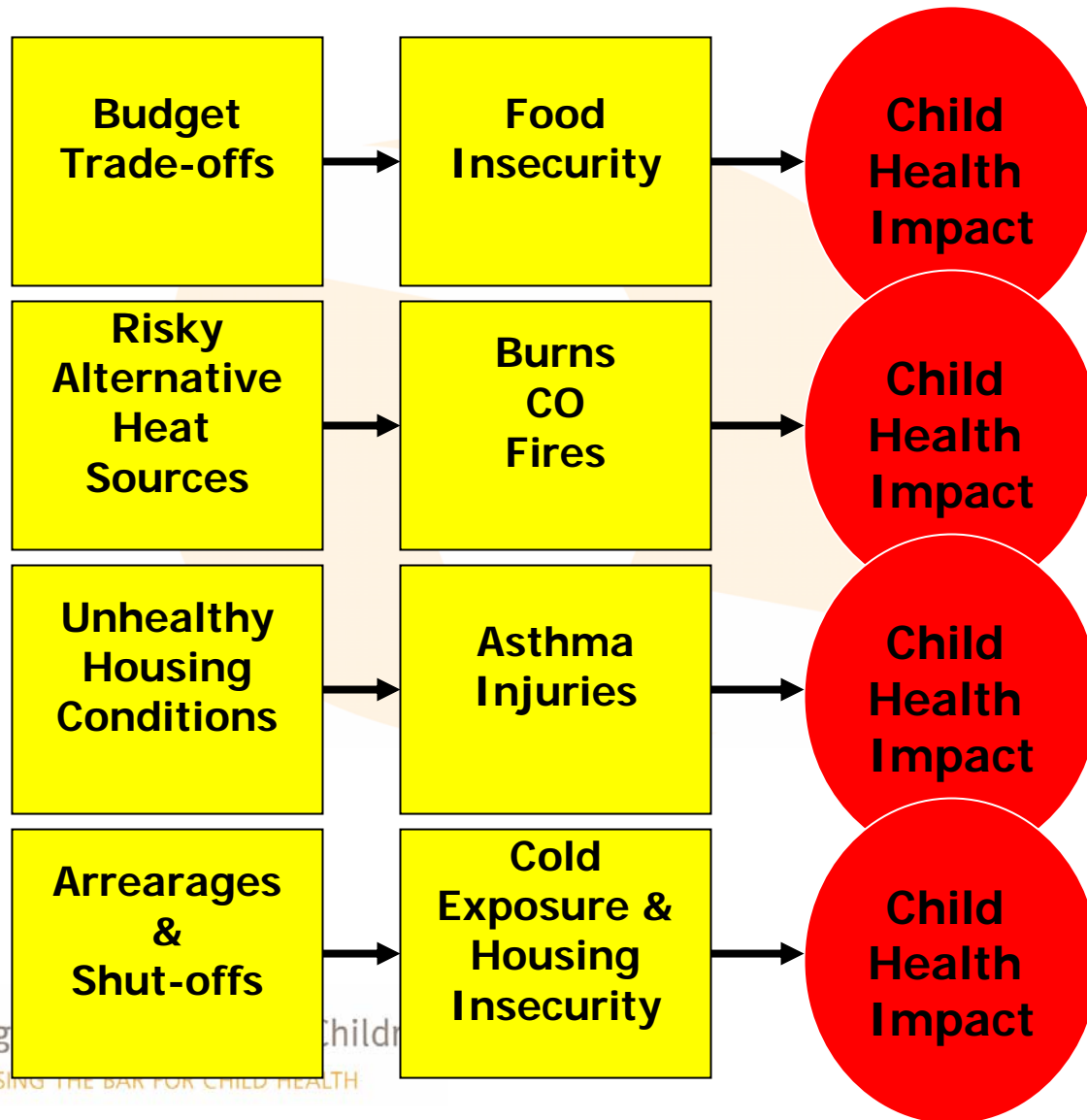
	Massachusetts		Nationwide	
	Average length of stay	Average hosp charges	Average length of stay	Average hosp charges
General pediatric hospitalization	4.2 days	\$9,989	3.6 days	\$9,945
Burns	3 days *	\$7,505 *	6.6 days	\$28,235
Carbon monoxide poisoning	**	**	1.8 days	\$10,728
Bronchitis & Asthma	2.4 days	\$5,272	2.6 days	\$7,386

*Numbers do not include hospitalization for patients less than one year of age.

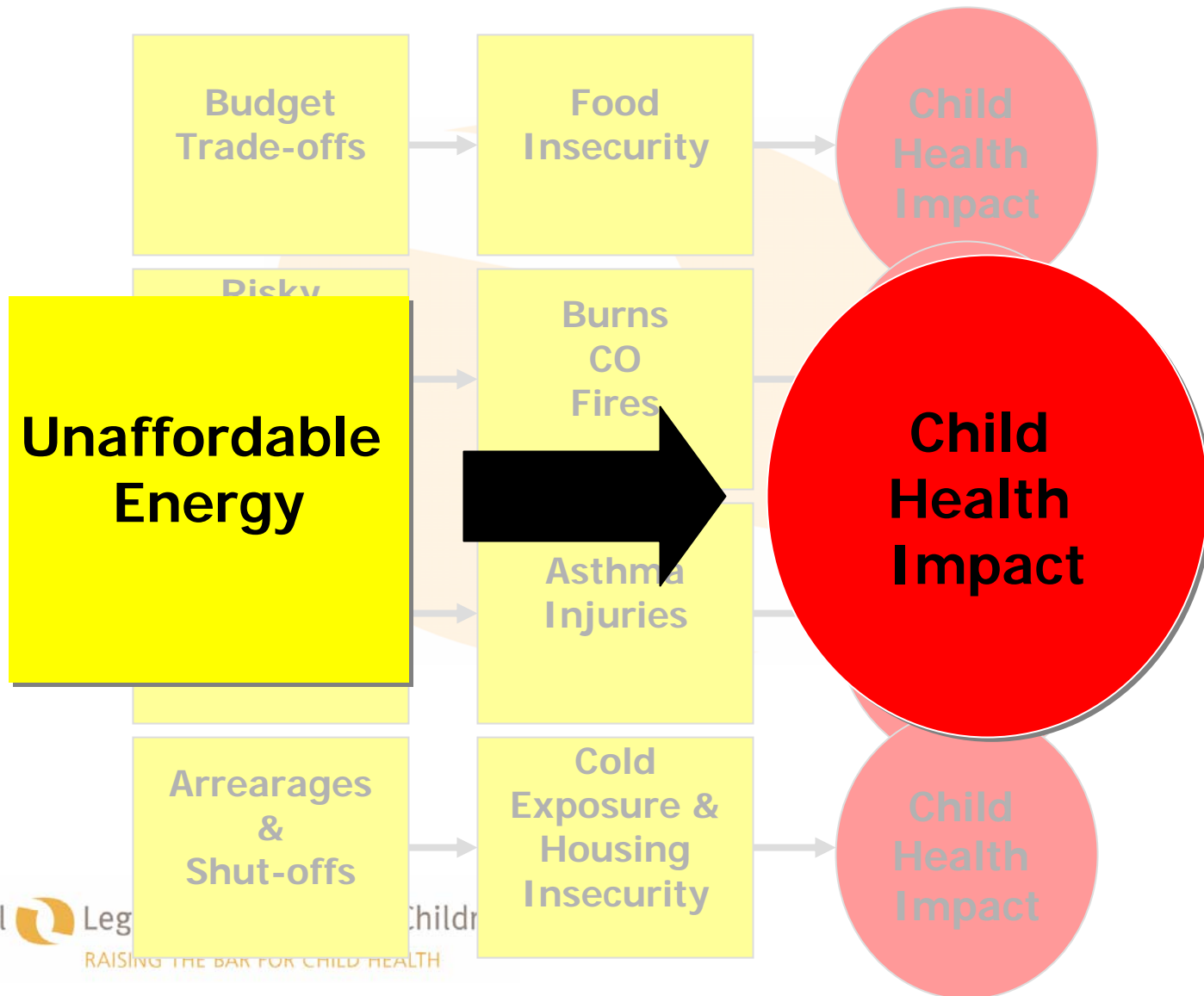
** No data available.

Source: Healthcare Cost and Utilization Project. Agency for Healthcare Research and Quality, Rockville, MD. Available at <http://www.ahrq.gov/HCUPnet/>

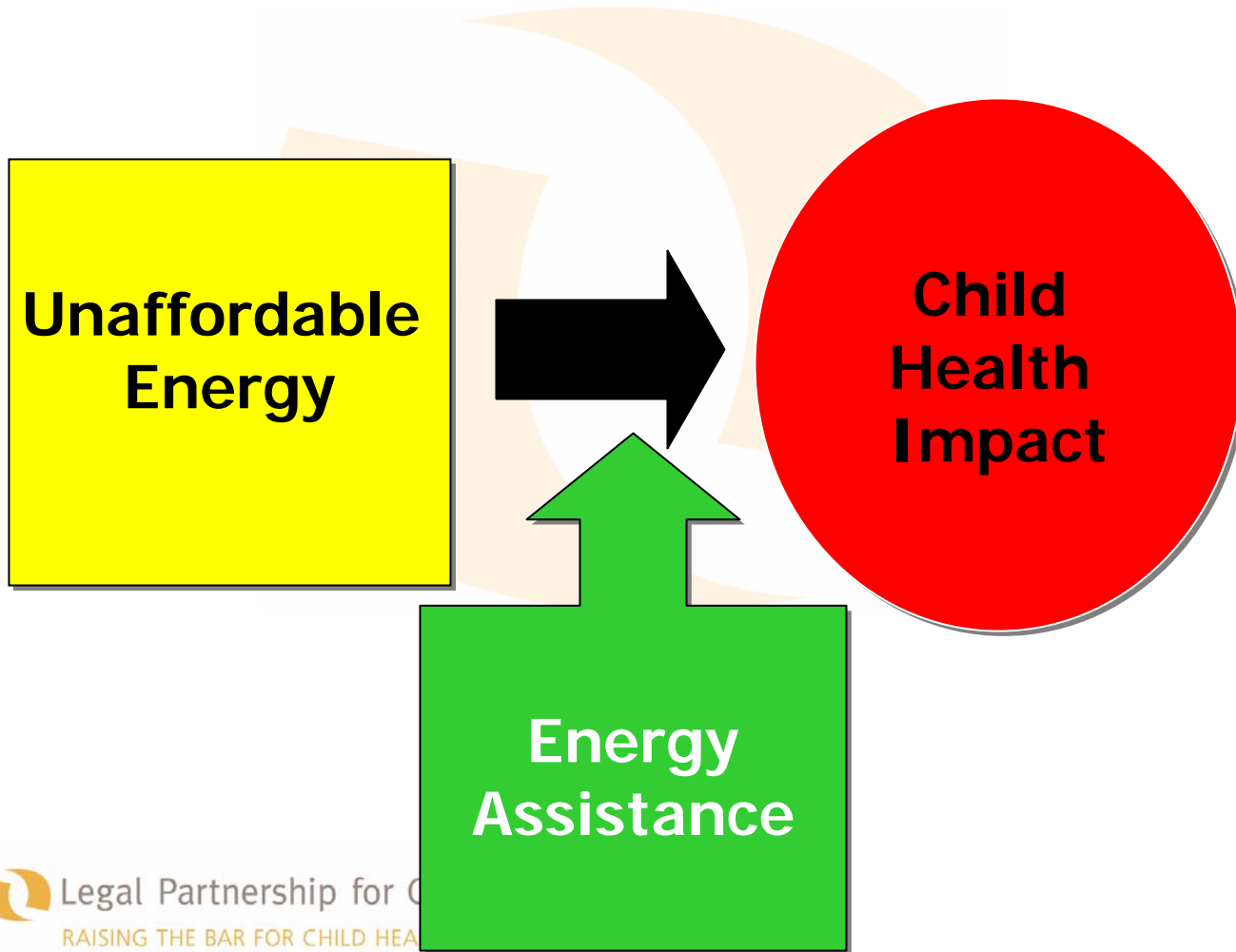
Energy Costs & Child Health



Energy Costs Affect Child Health



Energy Costs Affect Child Health



Themes from LIHEAP Stakeholder Interviews

- Federal LIHEAP funding level
- Timing of program funds release
- LIHEAP eligibility and certification
- Growing problem of arrearages
- Overcoming barriers to LIHEAP participation
- Purpose of LIHEAP?

City & Regi

BOSTON SUNDAY GLOBE NOVEMBER

EILEEN McNAMARA

Time to turn up the heat



It has been a de
tively warm autu
the constant hum
firing furnace still
mostly a memory
last winter. The un
sonable temperat
pose a challenge t
week for medical
searchers who hav

documented a link between the cost of fuel and the health of children.

"It is hard to get the attention of policy makers on this issue when it feels like spring outside," acknowledged Dr. Lauren A. Smith, an associate professor of pediatrics at the Boston University School of Medicine and chairman of the research team that has concluded that adequate fuel assistance is a medical necessity for the well-being of low-income children.

So many of the findings of the Child

... adequate fuel assistance is a *medical necessity* for the well-being of low income children.

Thousands of poor people in Massachusetts could be forced to choose between home heating and necessities such as food and medicine....

TO
EMBER 5, 2006

THE BOSTON GLOBE

Auditor urges the state to boost fuel aid for poor

By Raja Mishra
GLOBE STAFF

Thousands of poor people in Massachusetts could be forced to choose between home heating and necessities such as food and medicine if the Legislature does not quickly approve money for state heating oil programs, state Auditor A. Joseph DeNucci warned yesterday.

His report said the state has become complacent about heating-oil subsidies, as the price of oil has dropped from record highs last year.

"I'm concerned that because the cost has leveled off, there might be a false sense of security," DeNucci said in an interview.

His report was issued as wintry weather finally appears to have arrived, after an unusually warm November.

Two years ago, a similar report by DeNucci led to record state subsidies for heating oil. Last year, amid record-high energy prices, state lawmakers and Governor Mitt Romney approved \$20 mil-

\$30 million, but it is unclear what Governor-elect Deval L. Patrick will do when he takes office in January. During his campaign, Patrick emphasized property tax relief, more education spending, and adding police officers. Heating oil subsidies, said advocates for the poor, were scarcely debated.

Patrick "wants 1,000 new policemen on the block; I hope that doesn't come out of fuel assistance money," said Robert M. Coard, president and chief executive of Action for Boston Community Development, which provides heating aid.

A spokesman for Patrick did not return calls yesterday.

Heating oil currently costs \$2.35 per gallon. Last year, it averaged \$2.42.

"Our assumption is that, as demand increases in the winter, the prices will go up," said Joe Diamond, executive director of the Massachusetts Association for Community Action, whose member groups provide heating assistance to 140,000 households

December 2, 2006

Report: High utility costs affect children's health

By David Casey

PROVIDENCE - Friday was a busy day for utility watchdogs.

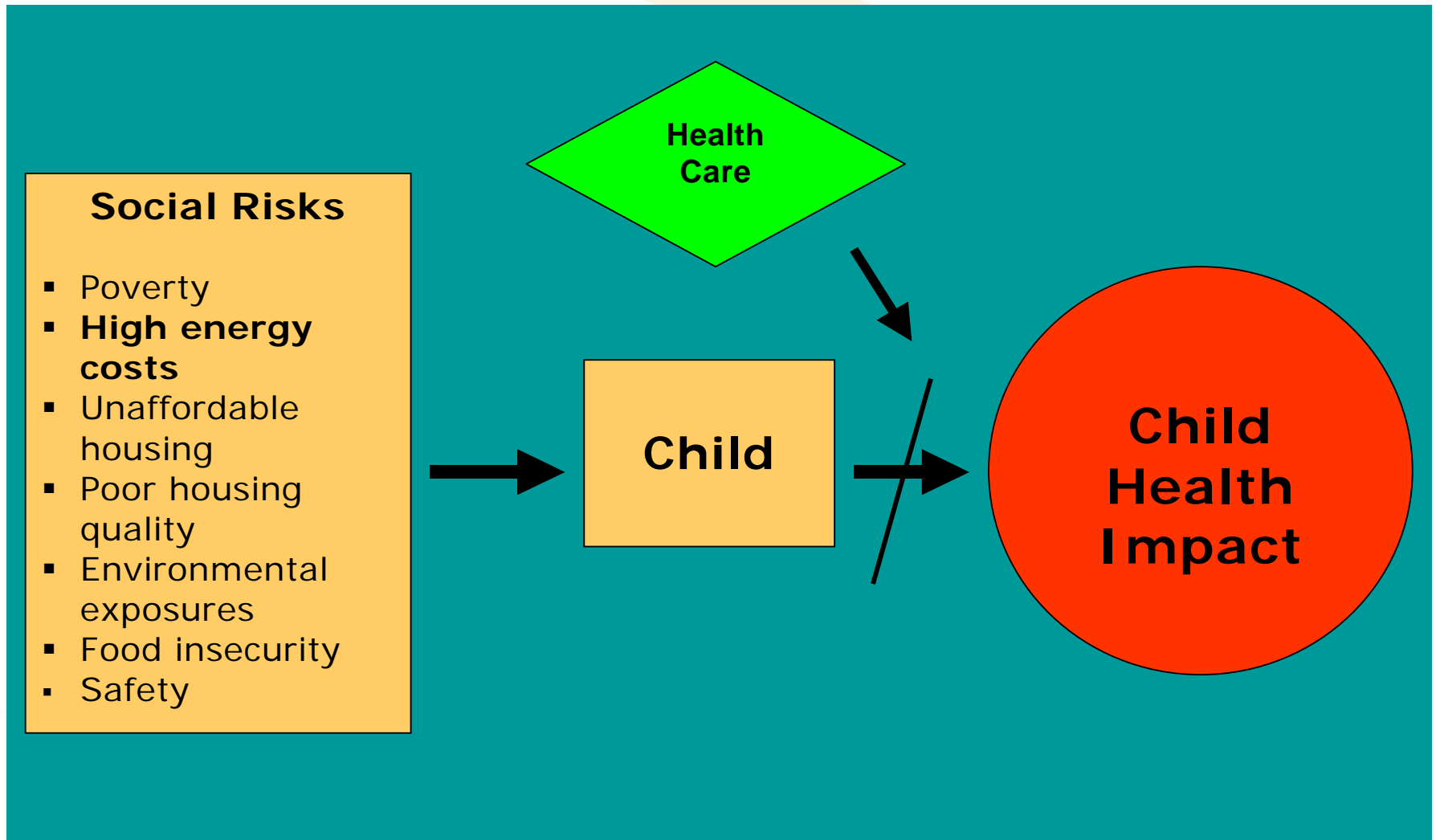
A late morning press conference outside the Health headquarters detailing the negative utility costs, was followed by a formal meeting with Governor Patrick Lynch that Gov. P. Lynch invited additional members to the Public Utilities Commission.

Both events helped to further the agenda of the Wile Center, the Blackstone Valley-based non-profit sworn to eliminate childhood poverty and effect "justice" for the low-income utility consumer.

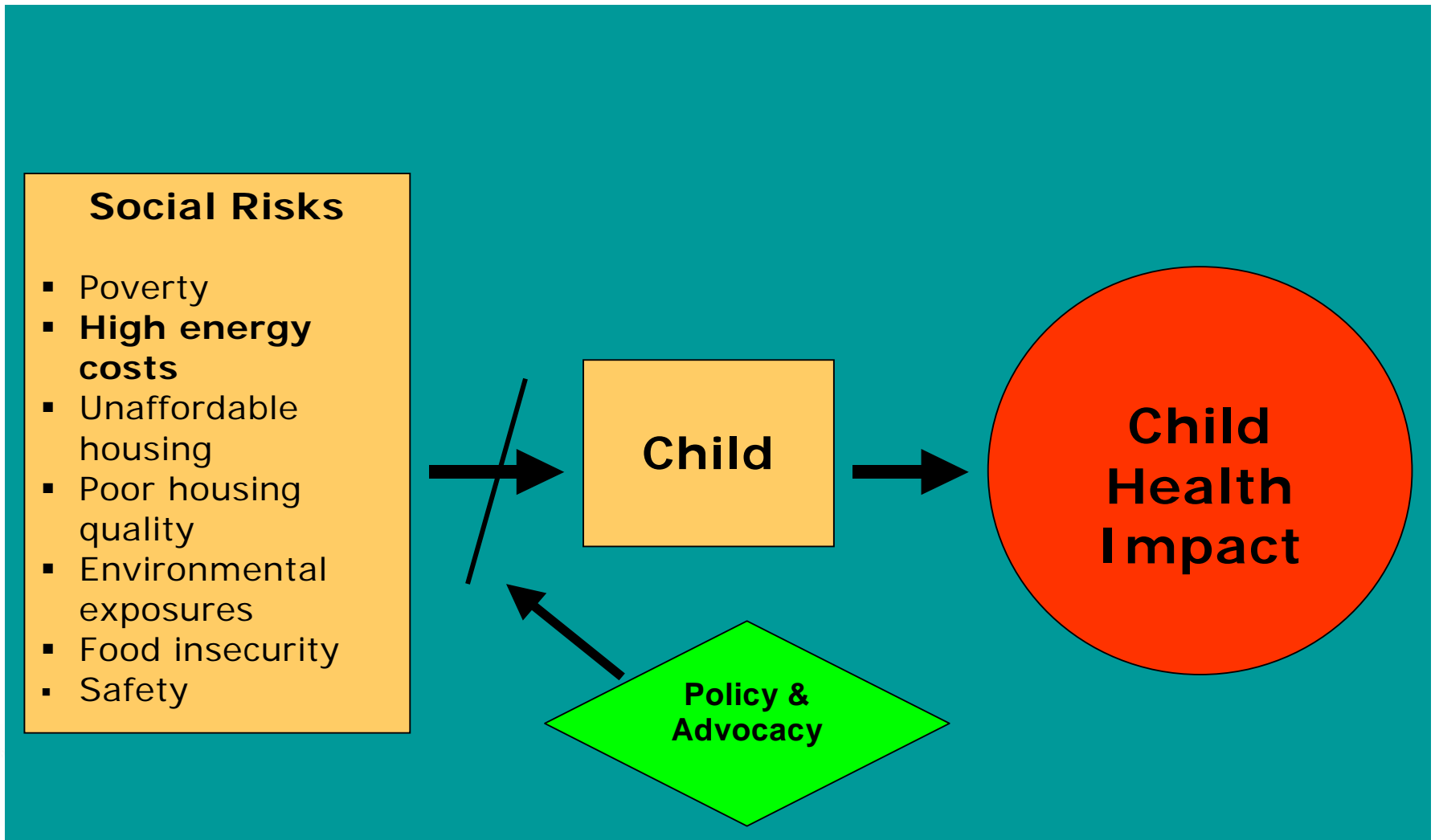
At 11 a.m. Wile Center Director Henry Shelton unveiled "Unhealthy Consequences: Energy Costs and Child Health," a 48-page report prepared by the Child Health Impact Working Group, a panel of medical professionals hailing from Boston University, Harvard School of Public Health, Brandeis University and other private research organizations.

We intend to hand-deliver this report to the PUC and Governor's office to show just how dangerous [shutoffs] can be," Shelton told The Times

Disrupting the Link Between Social Factors & Health Outcomes:



Disrupting the Link Between Social Factors & Health Outcomes:



Disrupting the Link Between Social Factors & Health Outcomes: DO BOTH!

