

Local Health Departments Demonstrate Relationships between Population-focused Physical Activity Interventions & Obesity Outcomes: A 5-state study

Betty Bekemeier, Michelle Pui-Yan Yip, Abraham Flaxman

University of Washington

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PHAST 
Public Health Activities & Services Tracking

Presenter Disclosures

Betty Bekemeier

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Background

- Growing rates of obesity
 - 1/3 of adults, 17% of youth in U.S. in 2012 (Ogden et al, 2014)
- Local health departments (LHD) play important roles, although great variation exists
- Most previous research focused on individuals & children (Brennan et al, 2014)
- Few large scale studies of intervention impacts
- Little evidence available regarding effective population-based interventions to combat obesity

Objectives



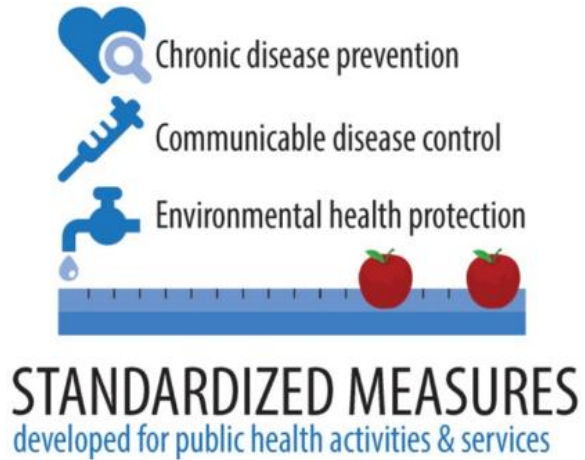
Public Health
Prevent. Promote. Protect.

- Explore associations between physical activity (PA) program approaches with local prevalence rates of obesity & PA engagement
- Expand knowledge regarding PA interventions impacting community health

Data

- PHAST/Multi-Network Practice & Outcome Variation Examination (MPROVE) data on obesity prevention obtained in 2012 from 218 LHDs in:
 - Colorado
 - Florida
 - Minnesota
 - New Jersey
 - Tennessee
 - Washington
- Behavioral Risk Factor Surveillance System (BRFSS) data on obesity rates & PA
- American Community Survey (ACS) demographic data

Origin of PHAST/MPROVE Measures



315 
HEALTH DEPARTMENTS
participated in developing the project

Multi-Network Practice & Outcome Variation Examination (MPROVE) Study

- Launched in **May 2012**
- Glen Mays, PI (PHSSR National Coordinating Center)
- 6 PH Practice-Based Research Networks:
 - WA, CO, MN, TN, NJ, FL
- Co-investigators at each network = one practitioner, one researcher
- **Identify service delivery measures for selected, high-value PH services, to be collected consistently across local jurisdictions**

Item Used

“Which of the following community-wide PA interventions have been underway within your jurisdiction during the last 12 months?”

- Response Choices
 - Community-Wide Health Education Campaigns
 - Community-Wide Stair Use Campaigns
 - School-Based PE Program
 - Social Support Interventions
 - Individually Adapted Health Behavior Change Programs
 - Initiatives to Create or Enhance Access to Places for Physical Activity
 - Community-Level Urban Design Initiatives



(Adapted from Brownson et al, 2007)

Method

- Cluster analysis categorizing 218 LHDs based on PA intervention approaches in their jurisdictions
- Descriptive statistics of identified clusters
 - jurisdictional
 - demographic
 - geographic
- Associations between approach categories & prevalence rates of obesity & of residents engaged in PA

Results

- Identified 5 distinctive categories of LHDs:
 - *Comprehensive* — most common (48% of jurisdictions)
 - *Built-environment*
 - *Personal-health*
 - *School-based interventions*
 - *No Apparent Services* — most common (21% of jurisdictions)
- Each state (aside from TN) had at least 4 of 5 clusters
- Each cluster found in each of rural, micropolitan, urban areas



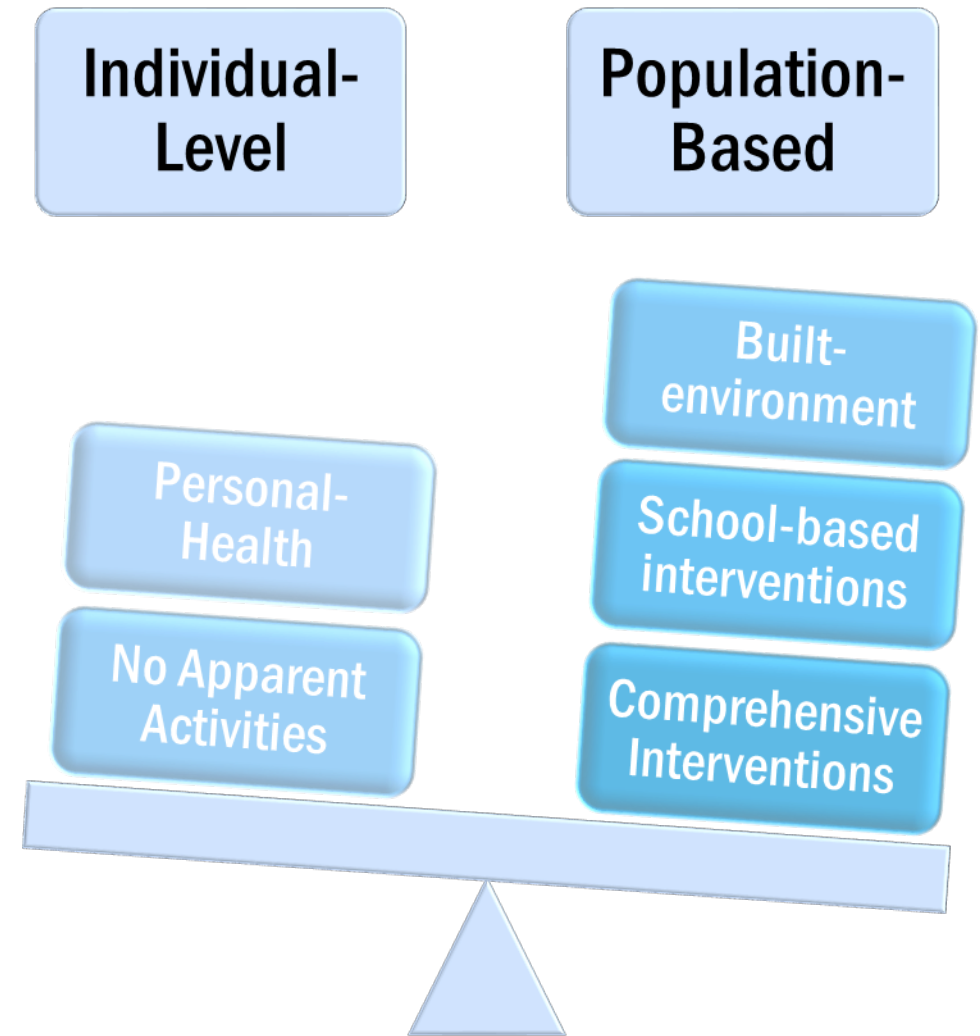
DESIGNING
WALKABLE URBAN
THOROUGHFARES

Mean & standard deviation of the five PA intervention clusters based on PA interventions available in the corresponding local health jurisdictions

| Physical Activity Interventions | LHD Clusters | | | | | |
|-------------------------------------------------------------------------|----------------------|-------------------|-----------------|---------------|--------------|-----------------------|
| | No Apparent Activity | Built-Environment | Personal Health | Comprehensive | School-Based | Total (of 5 Clusters) |
| Community-Wide Health Education Campaigns | 0 | 0.26(0.45) | 0.08(0.28) | 0.75(0.43) | 0.25(0.44) | 0.44(0.50) |
| Community-Wide Stair Use Campaigns | 0 | 0.07(0.27) | 0 | 0.21(0.41) | 0.05(0.22) | 0.12(0.32) |
| School-Based PE Program | 0 | 0.11(0.32) | 0 | 0.47(0.50) | 0.95(0.22) | 0.34(0.47) |
| Social Support Interventions | 0 | 0 | 0.38(0.51) | 0.84(0.37) | 0.25(0.44) | 0.47(0.50) |
| Individually Adapted Health Behavior Change Programs | 0 | 0 | 0.77(0.44) | 0.74(0.44) | 0.20(0.41) | 0.43(0.50) |
| Initiatives to Create or Enhance Access to Places for Physical Activity | 0 | 0.85(0.36) | 0 | 0.86(0.35) | 0.45(0.51) | 0.58(0.49) |
| Community-Level Urban Design Initiatives | 0 | 0.67(0.48) | 0.08(0.28) | 0.61(0.49) | 0.10(0.31) | 0.41(0.49) |

Results

- Prevalence of obesity lower & PA is higher in all LHD groups with population-based interventions, compared to LHDs with “No Apparent Activities.”
- Population-based interventions more strongly linked to positive outcomes when compared to individual-level interventions.
- LHDs with individual-level interventions were not significantly different from those with “No Apparent Activities.”



Discussion

- PHAST/MPROVE Obesity activity measures appear meaningful
- Association between population-based approaches & outcomes supported by other research (Chen et al, 2013)
- Individual-level approaches appeared insufficient
- Incorporation of these measures into practice would support longitudinal & outcome research

Standardized Data of LHD Activity Needed

2800  
local health departments in all **50** states

   
   
measure their activities & services **differently**

       
but need standardized, comparable data for



Limitations

- LHD Directors may not always know about community-wide activities
- No causal relationships determinable





Conclusion

- Value of community-wide, population-focused, comprehensive approaches to PA & obesity prevention
- Importance of continued collection of PH services data
- Informing the selection of obesity prevention strategies
- More research is possible & good measures are available

Questions

See www.PHASTdata.org