The Role of Policy in Implementation Science and Health Equity

Karen M. Emmons, Ph.D.
Why Policy?

The relationship between organizational characteristics and the adoption of workplace smoking policies
K M Emmons, B Thompson, D McLerran, G Sorensen, L Linnan, K Basen-Engquist, L Bie

Restrictive workplace smoking policies: impact on nonsmokers' tobacco exposure
B H Marcus, K M Emmons, D B Abrams, R J Marshall, M Kane, T E Novotny, R A Etzel

Characteristics of patients adhering to a hospital's no-smoking policy
K M Emmons, B R Cargill, J Hecht, M Goldstein, R Milman, D B Abrams

Intervention and policy issues related to children's exposure to environmental tobacco smoke
K M Emmons, M Wong, S K Hammond, W F Velicer, J L Fava, A D Monroe, J L Evans

The SunWise Policy intervention for school-based sun protection: a pilot study
Karen M Emmons, Alan C Geller, Vish Viswanath, Linda Rutsch, Jodie Zwirn, Sue Gorham, Elaine Pulero

Preventing excess sun exposure: it is time for a national policy
K M Emmons, G A Colditz
About Implementation Science
Implementation science is the study of methods to promote the adoption and integration of evidence-based practices, interventions, and policies into routine health care and public health settings to improve the impact on population health.

NCI Website
Policies that affect health are developed and implemented every single day, like it or not.
Thinking Broadly about the Definition of Policy

Depending on your perspective, a policy may be a:

1. Law
2. Regulation/rule
3. Court decision
4. Procedure
5. Administrative action
6. Program
7. Information Provision/Education
8. Incentive
9. Guidelines
10. Voluntary practice

...of governments and other institutions

Slide courtesy of Jamie Chriqui
<table>
<thead>
<tr>
<th>Policy Instrument</th>
<th>Examples of policies adopted that might be studied using implementation science</th>
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<tbody>
<tr>
<td>Law/legislation</td>
<td>Sweetened beverage tax adoption (or failure)</td>
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<td>Rule/regulation</td>
<td>School meal regulations</td>
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<td>Executive order/administrative action</td>
<td>COVID-19 Shelter-in-Place Orders</td>
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<td>Program or Service Delivery</td>
<td>Smoking quitline program</td>
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<td>Information Provision/Education</td>
<td>Nutrition/calorie labelling requirements</td>
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<td>Campaign/Program</td>
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<td>Incentives</td>
<td>Double value of EBT benefits for purchasing fruits and vegetables</td>
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<td>Guidelines</td>
<td>Dietary Guidelines for Americans, Physical Activity Guidelines for Americans</td>
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<td>Voluntary Standards/Practices</td>
<td>SHAPE America National Standards for Physical Education</td>
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Slide courtesy of Jamie Chriqui
CDC Stages of the Policy Process

1. Problem identification
2. Policy analysis
3. Strategy and policy development
4. Policy enactment
5. Policy implementation
6. Evaluation


- Assumes the policy process is linear
An alternative model of the public policymaking process

- Preferences of individuals, organizations, and interest groups, along with biological, cultural, demographic, ecological, economic, ethical, legal, psychological, social, and technological inputs
- Bridged by formal enactment of legislation
- Implementation science applies to all phases of policy, not just the implementation phase

Policy Formulation Phase
- Agenda Setting
  - Problems
  - Possible Solutions
  - Political Circumstances
- Development Of Legislation
- Window of Opportunity*

Policy Implementation Phase
- Regulations/Rulemaking
- Operation

Policy Modification (Evaluation) Phase
- Feedback from individuals, organizations, and interest groups experiencing the consequences of policies, combined with the assessments of the performance and impact of policies by those who formulate and implement them, influence future policy formulation and implementation.

* The window of opportunity opens when there is a favorable confluence of problems, possible solutions, and political circumstances.


Slide courtesy of Jamie Chriqui
Implementation Science Is Well-Suited to Policy Translation
Defining the Scope

Systems/Context

- ACA linked to reduced racial disparities, earlier diagnosis and treatment in cancer care
- Why Rwanda could be the first country to wipe out cervical cancer
- Smokefree workplaces effective October 1!
- Gaston County to prohibit tobacco use on government grounds, parks and indoor public places
- New York Ends Religious Exemptions For Required Vaccines

ISAAC LOGO

HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH
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Interventions

- Walking Trails: From Conception to Reality
- Body & Soul
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- Body & Soul: A Program of Health, Hope & Change
- New York Ends Religious Exemptions For Required Vaccines

Strategies

- Virginia Cancer Plan
- CDC Cancer Control Standard
Four Ways to Conceptualize Policy in IS (Purtle, et al., 2023)

1. Policy as Something to Adopt

2. Policy as Something to Implement

3. Policy as Context to Understand

4. Policy as Strategy to Use

Policymaker-Focused Dissemination Research

Clinically-, Organizationally-, or Community-Focused IS Research That Embraces Policy

Policy-Focused Implementation Research
Levels of Context in “Typical” Clinical D&I Study

- Intervention
  - Evidence-based Intervention
- Adopters
  - Clinicians
  - Org. leaders
- Inner-setting
  - Imp. climate
  - Org. culture
- Outer-setting
  - Policy, policymakers

Levels of Context in Policy D&I Study

- Intervention
  - Policy, evidence-supported
- Adopters
  - Legislators
  - Admin. Policymakers
- Inner-setting
  - Legislature politics
  - Governor agenda
- Outer-setting
  - Public opinion
  - Media coverage

Slide Courtesy of Jonathan Purtle
Part 1: Process model of implementation from a policy perspective depicting the policy process at one level

Part 2: Determinants framework of implementation from a policy perspective

Fig. 1 Policy optimized version of the Exploration, Preparation, Implementation, and Sustainment (EPIS) framework

Crable, et al., 2022
Recommendations to advance policy D & I research:

• Specify dimensions of a policy’s function
• Specify dimensions of a policy’s form.
• Identify and define the nonlinear phases of policy D&I
• Describe the temporal roles that stakeholders play over time
• Consider policy-relevant outer and inner context adaptations
• Identify and describe bridging factors necessary for policy D&I success.
THE KNOWLEDGE, POLICY, AND POWER FRAMEWORK

Political context: Who has the strongest voice in policy debates? What checks and balances are in place to ensure that weaker voices can be heard?

Actors’ interests, values and beliefs: Actors do not always act in their own self interests. Values and belief systems affect who is seen as credible in policy debates.

Types of knowledge: Considering research knowledge, citizen knowledge and implementation knowledge, is one type dominant? What are the implications?

Knowledge intermediaries: How people and organizations work at the intersection of knowledge and policy has implications for how knowledge is taken up and used.

What are Appropriate Policy Implementation Outcomes and Measures?

Proctor, E.K., et.al., 2009

What?
- Evidence Based Interventions

How?
- Implementation Strategies

**Implementation Outcomes**
- Feasibility
- Fidelity
- Penetration
- Acceptability
- Sustainability
- Uptake
- Costs

**Policy Outcomes**

**Systems Outcomes**

**Service Outcomes***
- Efficiency
- Safety
- Effectiveness
- Equity
- Patient-centeredness
- Timeliness

**Health Outcomes**
- Satisfaction
- Function
- Health status/symptoms

*IOM Standards of Care*
Implementation science has a lot to offer

### Randomized Controlled Designs: True Experimental Options

| Traditional randomized controlled trial with individuals as the unit of R |
|-----------------------------|-----------------------------|
| R<sub>0</sub> | O | X | O |
| R<sub>0</sub> | O | O |

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### Nonrandomized Designs With or Without Control/Comparison Groups: Quasi-Experimental

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<th>Interrupted time series design</th>
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<td>With a nonrandomized control/comparison group</td>
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### Effectiveness-Implementation Hybrid Designs

- **Hybrid Type 1**
  - Primary Aim: Determine effectiveness
  - Secondary Aim: Better understand context for implementation

- **Hybrid Type 2**
  - Primary Aim: Determine effectiveness
  - Co-Primary Aim: Determine feasibility and/or impact of an implementation strategy

- **Hybrid Type 3**
  - Primary Aim: Determine impact of implementation strategy
  - Secondary Aim: Assess clinical outcomes associated with implementation

Curran, et al., 2012; Landes, McBain & Curran, 2019
Asada, et al., 2023,
What Can We Learn from Variation in Translation of Evidence to Policy?
Tobacco Use in the US

- Federal “Interventions”:
  - Tobacco treatment a free essential benefit under ACA
  - Raised federal excise tax to $1.01/pack
  - FDA authority to regulate tobacco products
  - Significant state and local “interventions”

Fiore, 2016
What Would Policies that Continue the Obama Era Tobacco Use Trajectory Look Like?

Tobacco 21

On Dec. 20, 2019, the President signed legislation amending the Federal Food, Drug, and Cosmetic Act, and raising the federal minimum age for sale of tobacco products from 18 to 21 years. This legislation (known as “Tobacco 21” or “T21”) became effective immediately, and it is now illegal for a retailer to sell any tobacco product—including cigarettes, cigars, and e-cigarettes—to anyone under 21. The new federal minimum age of sale applies to all retail establishments and persons with no exceptions.

Tobacco 21 is the Law of the Land
A review of the evidence on cigarettes with reduced addictiveness potential

Eric C. Donny, Cassidy M. White

Available evidence suggests that reducing nicotine content in cigarettes to very low levels could benefit public health in three primary ways, by 1) decreasing uptake of regular smoking, 2) decreasing the amount people smoke, and 3) increasing the likelihood of smoking cessation. Current evidence also suggests that reducing nicotine in cigarettes may produce similar benefits across many important subpopulations of people who smoke, including those with psychiatric comorbidities, those who use other substances, those with low socioeconomic status, young people, people who smoke infrequently and people who prefer menthol cigarettes. Cigarette nicotine reduction could also lead to some undesirable outcomes, such as experiencing withdrawal, product manipulation, an illicit market, and harm misperceptions; strategies that may mitigate each are discussed.
F.D.A. Aims to Cut Down on Smoking by Slashing Nicotine Levels in Cigarettes

The move would be an effort to further wean Americans from addictive tobacco products and reduce smoking-related illnesses.

By Christina Jewett and Andrew Jacobs
June 21, 2022

The Food and Drug Administration is planning to require tobacco companies to slash the amount of nicotine in traditional cigarettes to make them less addictive and reduce the toll of smoking that claims 480,000 lives each year.
What Can We Learn from Variation in State-Level Policies?

Medicaid Coverage of Cessation Treatments (as of 12/31/21)

Excise Tax Rates on Packs of Cigarettes by State (as of 12/31/21)
How Does Policy Inform and Improve Our Impact on Equity?
We Must Begin to Explore Intersectoral Opportunities in Evidence Translation to Policy

Black and White Age-Adjusted Breast Cancer Mortality, Chicago 1980-2005

Editorial: South Side's transit desert: More trains would be a lifeline
HEALTH IN ALL POLICIES
SOCIAL DETERMINANTS AND SOCIAL NEEDS: MOVING BEYOND MIDSTREAM

STRATEGIES
- Improve Community Conditions
- Addressing Individuals' Social Needs
- Providing Clinical Care

COMMUNITY IMPACT
- Laws, policies, and regulations that create community conditions supporting health for all people.
- Include patient screening questions about social factors like housing and food access; use data to inform care and provide referrals.
- Social workers, community health workers, and/or community-based organizations providing direct support/assistance to meet patients social needs

TACTICS

INDIVIDUAL IMPACT
- Medical interventions

upstream

midstream

downstream

Created by the de Beaumont Foundation and Trust for America's Health, 2019.
City Health- Policies to Improve SDOH

http://cityhealthdata.org/policy

- Earned Sick Leave
- High-quality, Universal Pre-Kindergarten
- Affordable Housing/Inclusionary Zoning

- Complete Streets
- Alcohol Sales Control
- Tobacco 21

- Smoke Free Indoor Air
- Food Safety and Restaurant Inspection Rating
- Healthy Food Procurement
RECOMMENDATIONS FOR EXPANDING RESEARCH INQUIRY IN POLICY IMPLEMENTATION SCIENCE

Examine whether existing IS conceptual frameworks can more explicitly focus on policy

Develop and use policy-relevant measures

Study the intersection between policy instruments and the policy context

Develop collaboration structures that support policy implementation science

Be explicit about the factors that influence the knowledge to policy interface

Comprehensively explore the impact of all aspects of policy

Emmons, Chambers, Abazeed, 2021
Thank You!