

Drowning Prevention Research Priorities

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Overall Process

- Set guiding principles and scope
- Gather and review materials
 - Inventory of NCIPC projects
 - Landscape review
- Synthesize findings
- Draft research priorities for drowning prevention

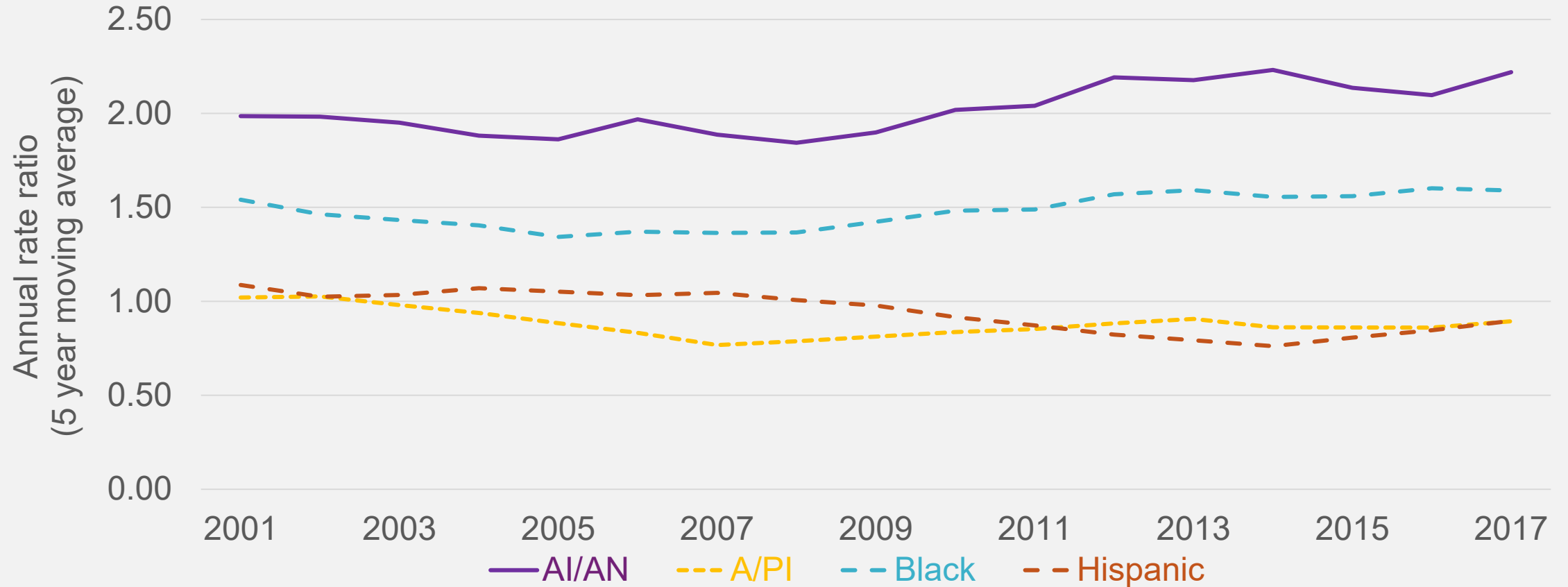
Guiding Principles and Scope

- Priorities are intended to cover 5 years
- Include intramural and extramural projects
- Need to demonstrate progress
- Consider available resources and capacity



Focus on Health Equity

Fatal drowning disparity rate ratios*, persons ≤29 years, US, 1999-2019



*Reference group: non-Hispanic White. Categories: non-Hispanic American Indian or Alaska Native, non-Hispanic Asian or Pacific Islander, non-Hispanic Black, Hispanic

Source: <http://dx.doi.org/10.15585/mmwr.mm7024a1>

Workgroup and Roles

- Small internal workgroup:
 - Mick Ballesteros
 - Tessa Clemens
 - Christopher Harper
 - Karin Mack
 - Briana Moreland
 - Brendan Nesbitt
- Contract support from Guidehouse



Evaluation Questions

- How has the drowning prevention research landscape changed in the last 5 years?
- What are the largest gaps in the drowning field that research efforts should focus on for the next 5 years?
- Have emerging research issues related to drowning surfaced?
- How do new and emerging drowning topics inform research priorities for drowning?
- What is CDC's unique contribution to the drowning research field?
- What is CDC's unique role in the federal landscape of drowning research?



Methodology

- 1) Literature review:** Targeted review and summary of seminal drowning prevention articles
- 2) Research inventory:** Compilation of NCIPC's previous drowning research
- 3) Partner scan:** Review of key drowning prevention partner organization's research activities
- 4) Capacity assessment:** Assessment of NCIPC's current and planned capacity to conduct drowning prevention research.
- 5) Interviews/focus group:** Conducted interviews and focus group with drowning research experts and partners internal and external to CDC

Literature Review Findings

- Improved understanding of drowning-related circumstances among disproportionately impacted persons is needed
- Water competency training is an effective prevention approach; however further research is needed to determine best practices
- There are gaps in surveillance and economic burden data for drowning

Research Inventory Findings

- 7 research articles published (1998-2014)
- 7 recently published/current research projects (2021-present)

Drowning Prevention Research Domain	# of Studies
Basic swimming instruction and water safety interventions for the prevention of drowning	2
Methods for improving surveillance data to enhance knowledge base of drowning-related risk and protective factors	3
Implementation science to improve the effectiveness and equitability of interventions among persons at disproportionate risk for drowning	2

Partner Scan Findings

- No direct overlap with NCIPC's drowning prevention research
- Limited organizational presence in drowning prevention research
- Opportunity for CDC to establish leadership in advancing primary prevention research and collaborate with partner organizations

Interviews/Focus Group Participants

External SMEs

- American Academy of Pediatrics
- Diversity in Aquatics
- Safe Kids Worldwide
- World Health Organization
- Clinician scientists (trauma/emergency)
- Drowning research experts

CDC SMEs

- National Center for Environmental Health
- Healthy and Safe Swimming Program
- Disaster preparedness
- Health Equity Officer
- Previous drowning SME

Interviews/Focus Group Findings

CDC's role in drowning research:

- Support the development and implementation of effective interventions
- Address gaps in data collection and data linkage to better understand circumstances and burden of drowning
- Improve efforts to address known racial/ethnic and sociocultural disparities in drowning
- Emerge as domestic leader in supporting research and guidance in drowning prevention
- Create greater opportunities for organizational collaboration

Proposed Priorities (1)

1. Describe the risk and protective factors associated with fatal and non-fatal drowning with an emphasis on persons who may be disproportionately affected.

1. What is the usefulness of existing data sources for reporting the burden, circumstances, and risk factors related to drowning?
2. How can innovative techniques (e.g., data linkage, machine learning) be employed to improve drowning surveillance and contribute to better understanding the circumstances of drowning?
3. How can analytic tools (e.g., social vulnerability index) be employed to improve our understanding of drowning risk factors?
4. What risk and protective factors are related to differences in drowning rates among different groups (e.g., racial and ethnic minority groups, low socio-economic status, children with autism)?

Proposed Priorities (2)

2. Identify and evaluate effective strategies to prevent drowning among persons that are at increased risk of drowning.

1. How can basic swimming and water safety skills most efficiently and effectively be taught to children and youth (including young children 1 to 4 years of age)?
2. What are the most effective ways to increase adoption of environmental and equipment-related drowning prevention strategies (e.g., pool fencing, lifejacket use, lifeguard supervision) and what is the role of policy/legislation to support these measures?
3. What individual, relationship, community, and societal factors serve as barriers and facilitators to willingness to adopt drowning prevention strategies (e.g., pool fencing, lifejacket use), especially among disproportionately affected persons?

Proposed Priorities (3)

3. Identify how to effectively and equitably implement basic swimming and water safety skills training among persons at increased risk of drowning.

1. What are the barriers (including historical context and cultural considerations) to accessing basic swimming and water safety skills programs for persons at an increased risk of drowning and how can these barriers be overcome for effective program implementation?
2. What are the most effective ways to encourage youth and parents/guardians who are at an increased risk of drowning to participate in basic swimming and water safety skills training?
3. How can partnerships be leveraged to scale up basic swimming and water safety skills training programs among persons at increased risk of drowning?

Thank you!

Discussion



The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.