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Screening for Environmental Justice: A Framework for Comparing National, State, and Local Data Tools

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Background

Communities of color are disproportionately exposed to environmental harms

- Black residents breathe in an inordinate amount of air pollution (Tessum et al. 2021)

- Hispanic communities experience more natural gas flaring events at fracking sites than predominantly white communities (Johnston et al. 2022)

- Communities of color nationwide are likelier to live proximate to a hazardous brownfields site (EPA 2022)
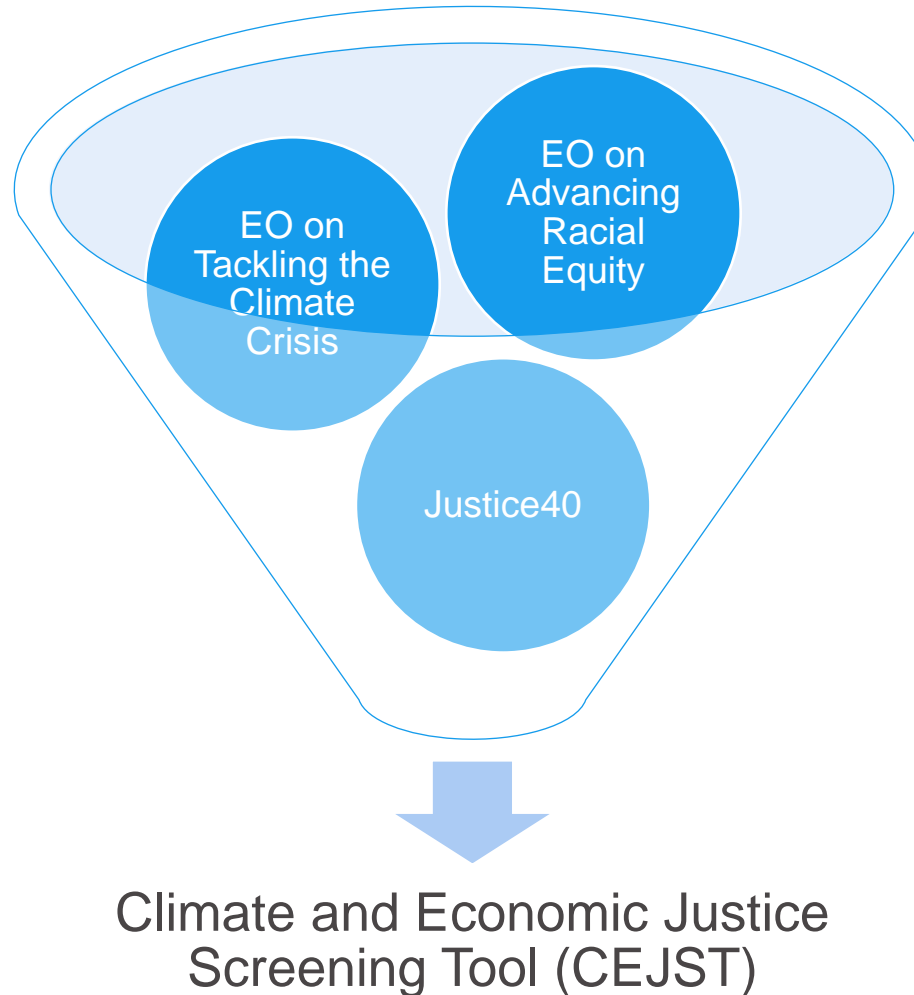
Defining key terms

- **Environmental justice** – a set of "cultural norms and values, rules, regulations, behaviors, policies, and decisions to support sustainable communities, where people can interact with confidence that their environment is safe, nurturing, and productive" (Bryant 1995).

- **Environmental racism** - "any policy, practice, or directive that differentially affects or disadvantages individuals, groups, or communities based on race or color" (Bullard 1993).

Defining key terms (cont.)

- **Environmental justice screening tool –** interface that combines environmental, health, socioeconomic, and/or demographic information, often overlaid in an interactive mapping format

- **Environmental justice community –** communities identified by tools as being most impacted by environmental harms and most in need of EJ-focused remedies and investments

The federal government has placed an increased focus on environmental justice issues

EO on Tackling the Climate Crisis

EO on Advancing Racial Equity

Justice40

Climate and Economic Justice Screening Tool (CEJST)

Experts have levied criticisms against EJ screening tools

- Omission of race as explicit criterion for identifying EJ communities

- Omission of other relevant indicators

- Inability to measure cumulative harms or impacts

- Use of binary metrics that do not account for severity

No comprehensive review of all EJ screening tools exists

- [CEJST](#) and EPA's [EJScreen tool](#) are the most prominent federal tools, but dozens of state and local tools exist too

- **Our research goal:** provide tool users and creators with a framework for comparing across tools and assessing relative advantages & disadvantages
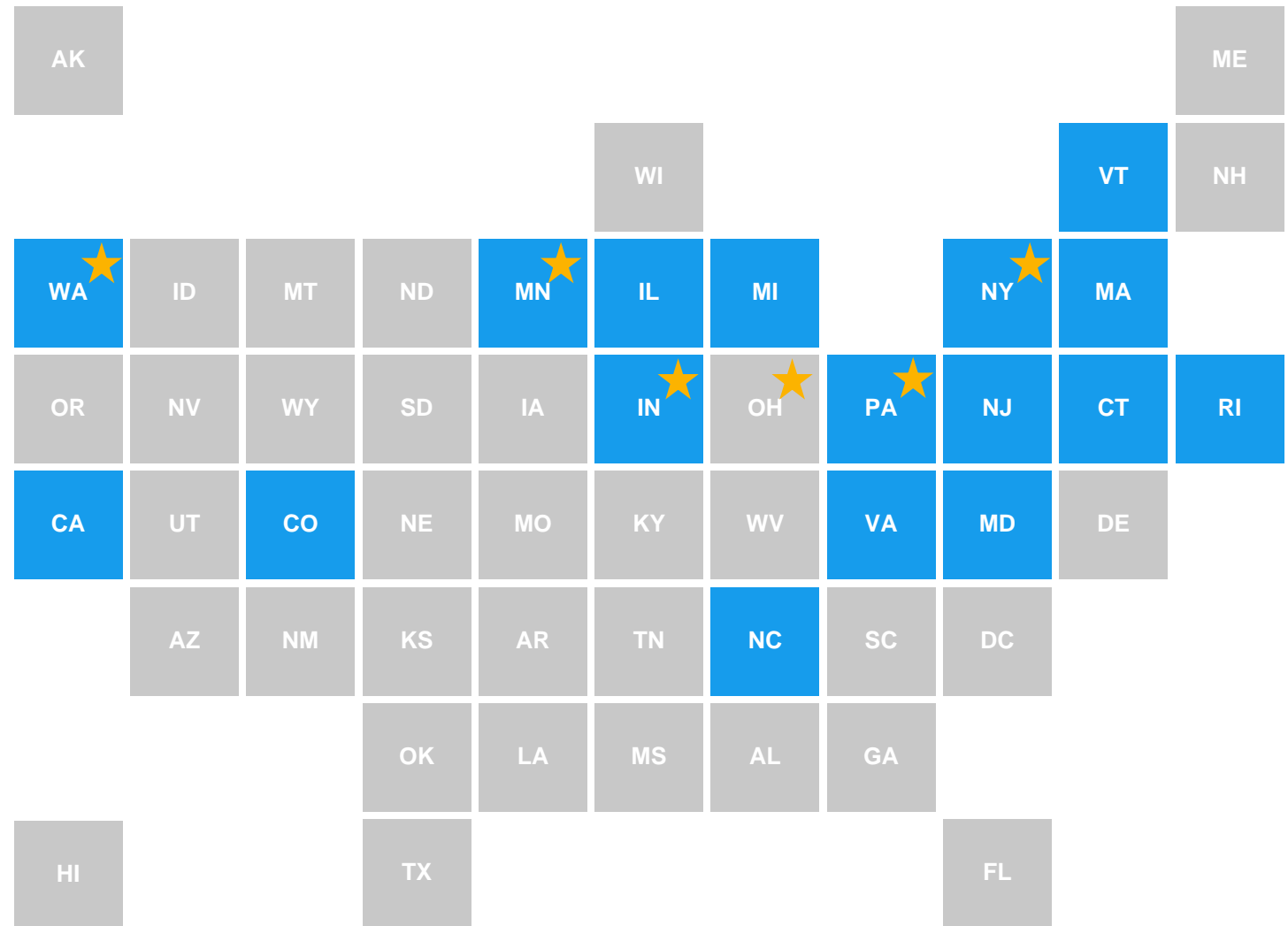
Our Framework for Comparing Tools

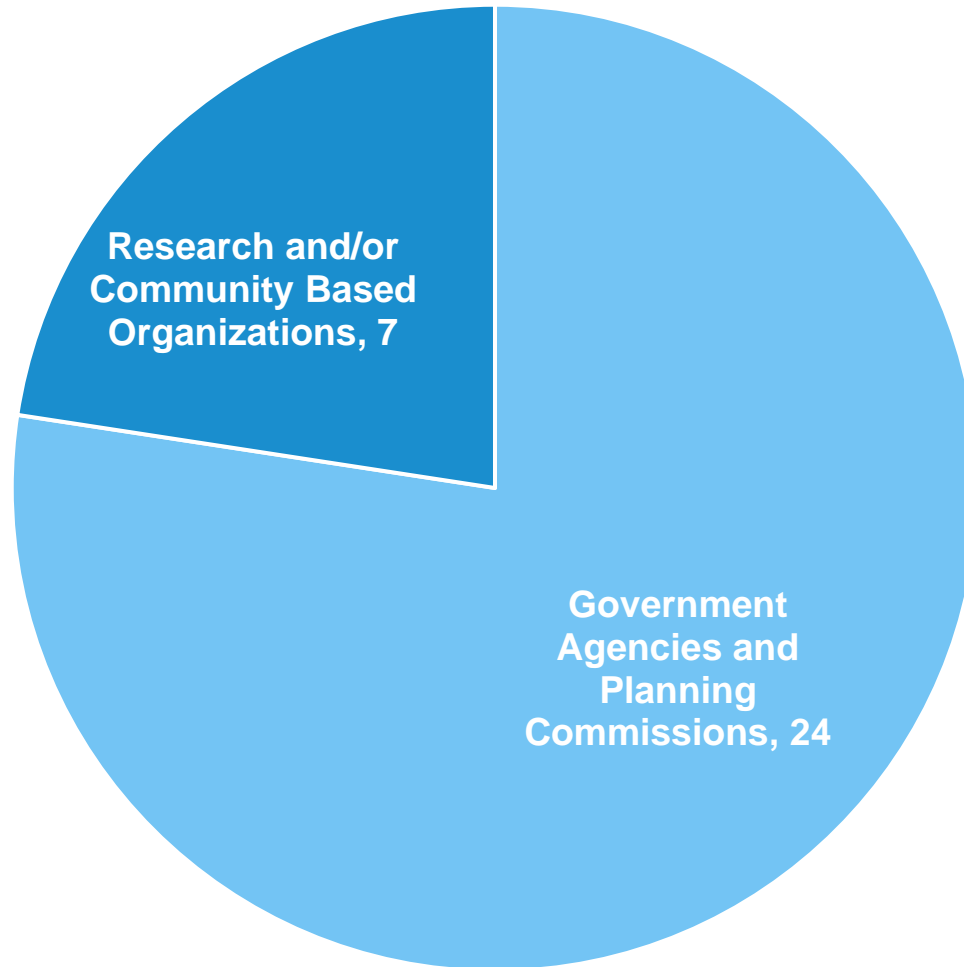## We surveyed:

- 2 national tools
- 23 state-level tools
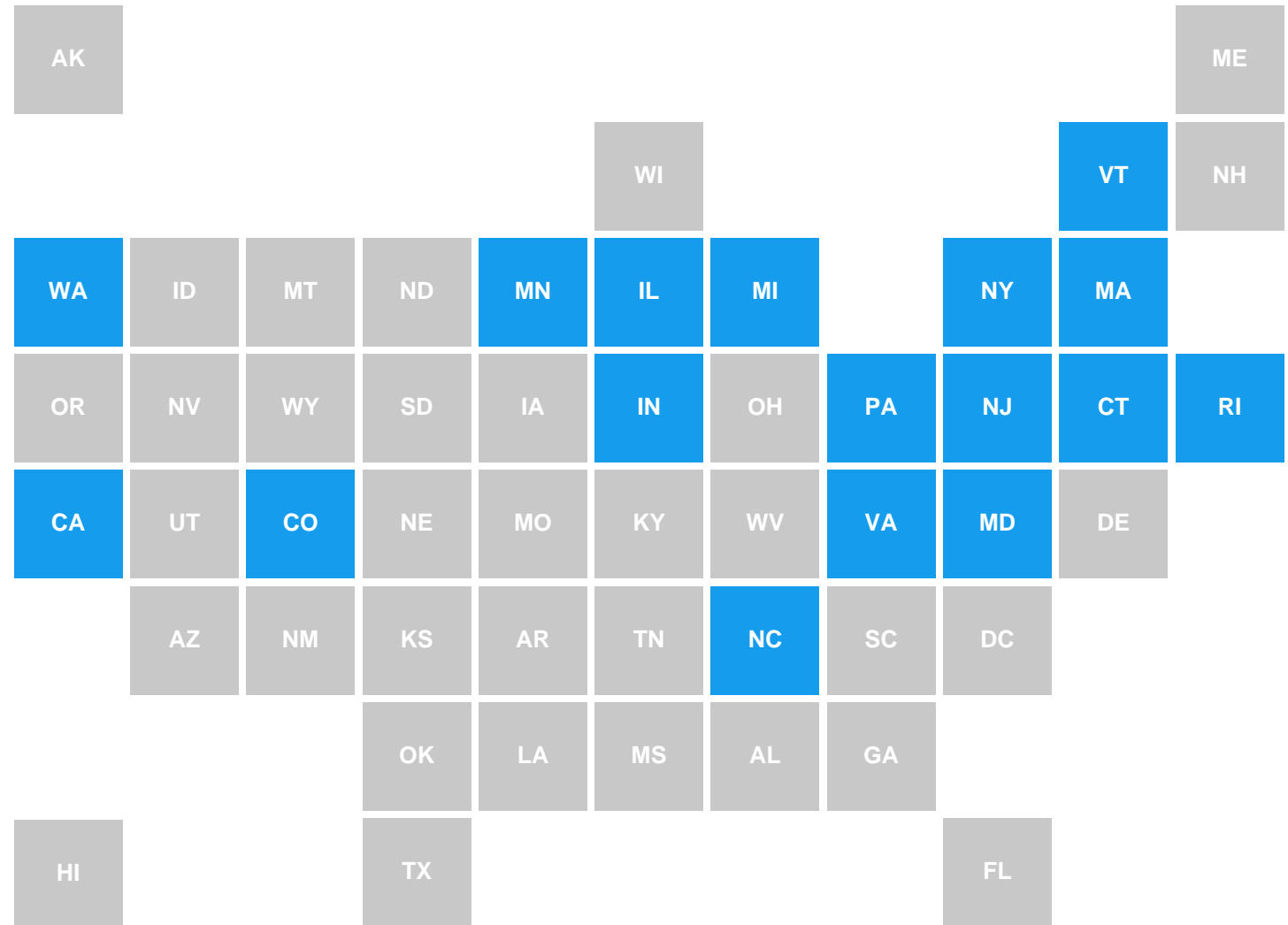
We surveyed:

- 2 national tools

- 23 state-level tools

- 6 county, metro, and city-level tools

Tool Creators

Research and/or Community Based Organizations, 7

Government Agencies and Planning Commissions, 24

Key Research Themes

- Data sources

- Race and ethnicity

- Quantifying burdens

- Prioritization among environmental justice communities

- Development process

Indicator Groupings

Air Quality

Water Quality

Socioeconomic & Access to Opportunity

Climate Vulnerabilities and Natural Hazards

Other Environmental Pollutants
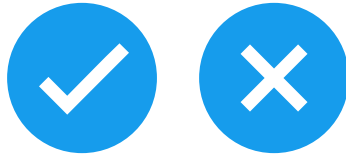
Physical Health

Quantifying Burdens

Composite: Tool aggregates multiple indicators together in identifying EJ communities.

Not Composite: Tool considers individual indicators separately in identifying EJ communities.

Prioritization

Binary: Tool assigns a yes/no (binary) threshold and does not attempt to compare EJ communities

"Is a community an EJ community?"

Tiered: Tool ranks communities relative to other communities in the area covered by the tool
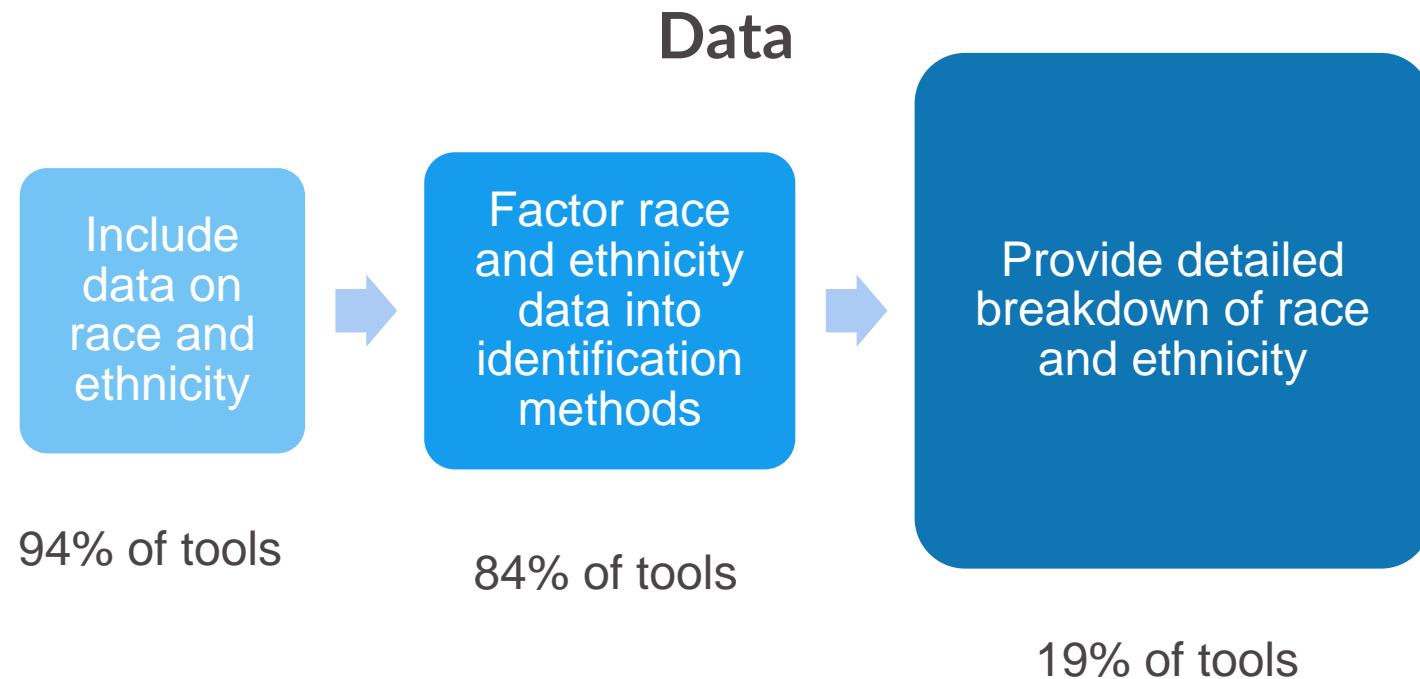
"To what degree does a community face EJ issues?"

Key Findings

Tools often lack local context and are out of date

- Tool data sources:

  - Federal government: 100%

  - State government: 61%

  - Local government: 13%

  - Third-party: 32%

- State, local, and third-party sources capture unique data (housing, food access, etc.)

- Special concerns for quality of environmental data

  - e.g., EJScreen's NATA-based indicators

Tools should disaggregate race and ethnicity data and address environmental racism

Data

Include data on race and ethnicity	Factor race and ethnicity data into identification methods	Provide detailed breakdown of race and ethnicity

94% of tools

84% of tools

19% of tools

Motivating Language

Practical Usage

Methods for identifying EJ communities vary with the intended uses of screening tools

New York City's Environmental Justice Atlas

- Identifies areas that meet one of two socioeconomic thresholds
- EJ community definition established in statute
- More comprehensive report on EJ areas is forthcoming

Colorado EnviroScreen

- Ranks all communities on numerous socioeconomic, health, and environmental criteria
- Engaged community in creation of tool
- CDPHE's EJ Advisory Board will use tool's definition of EJ community to determine grant eligibility
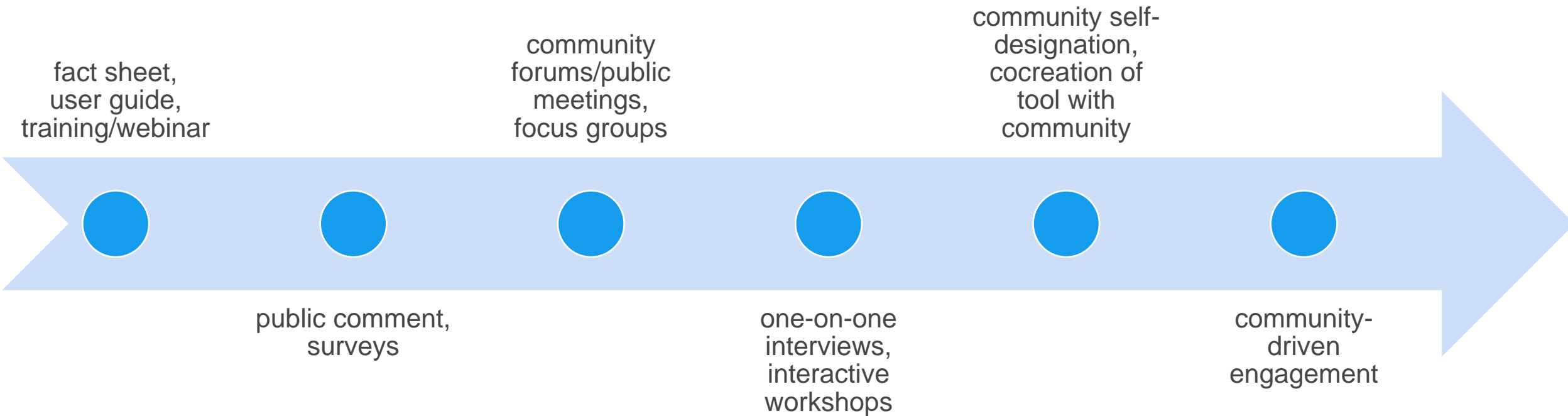
Most screening tools include environmental indicators, but many key topics are overlooked

- 77% of tools include environmental data

  - Air quality: 65%

  - Water quality: 58%

  - Climate vulnerabilities and natural hazards: 52%

- Few tools include projected hazards resulting from climate change

- Physical and mental health indicators can capture pre-existing vulnerabilities and the effects of undue environmental impacts

Many tools insufficiently reflect real community data and needs

- Urban bias

  - Regional, community-specific concerns

  - Reporting inaccuracies in rural areas

- Importance of capturing lived experience

  - Gaps in environmental data (e.g., lead in drinking water)

  - Equipping community members with knowledge

Informing and Engaging Community

fact sheet,
user guide,
training/webinar

community
forums/public
meetings,
focus groups

community self-
designation,
cocreation of
tool with
community

public comment,
surveys

one-on-one
interviews,
interactive
workshops

community-
driven
engagement

See Facilitating Power's Spectrum of Community Engagement to Ownership

Recommendations for Improving New and Existing Tools

- Be explicit about the intended use of tools

  - Establish use cases and use them to guide decisions throughout development process

- Allow for communities to self-identify

  - Understand that data are systematically lacking

- Develop tools in conjunction with community members

- Account for local context to the extent possible

- Include more regularly updated indicators across diverse topic areas

Next Steps for Research

- Consider tools beyond those tied explicitly to environmental justice

- Further explore the extent to which tools capture cumulative impacts and burdens

- Analyze how tools can advance racial equity

- Interview community members on community engagement processes

Q&A