

# Supplementary Information

**Title:** Assessing Preparedness for Extreme Weather Events in Community Health Centers and Free Clinics Across North Carolina

**Authors:** Kelly Speicher <sup>a,b</sup>, Charlie Reed <sup>a</sup>, Kathleen Shapley-Quinn<sup>b</sup>, and Jennifer D. Runkle<sup>a</sup>

<sup>a</sup>NC Institute for Climate Studies, North Carolina State University, Raleigh, NC USA

<sup>b</sup>Carolina Advocates for Climate, Health, and Equity, Chapel Hill, NC, USA

## Table of Contents

Supplementary Table S1: Perceived clinic action, readiness, and barriers related to climate preparedness in safety-net clinics in North Carolina stratified by administrative positions and all other positions

Supplementary Text 1: Survey Instrument

**Supplemental Table S1.** Perceived clinic action, readiness, and barriers related to climate preparedness in safety-net clinics in North Carolina stratified by administrative positions and all other positions.

|                                                            | Director / Administrator Positions |      |           |      |               |      |               |      |            |      | All Other Positions |      |           |      |               |      |               |      |            |      |
|------------------------------------------------------------|------------------------------------|------|-----------|------|---------------|------|---------------|------|------------|------|---------------------|------|-----------|------|---------------|------|---------------|------|------------|------|
|                                                            | Yes, Completed                     |      | Partially |      | No Action Yet |      | N/A           |      | Don't Know |      | Yes, Completed      |      | Partially |      | No Action Yet |      | N/A           |      | Don't Know |      |
|                                                            | Freq.                              | %    | Freq.     | %    | Freq.         | %    | Freq.         | %    | Freq.      | %    | Freq.               | %    | Freq.     | %    | Freq.         | %    | Freq.         | %    | Freq.      | %    |
| <b>A) Clinic Action</b>                                    |                                    |      |           |      |               |      |               |      |            |      |                     |      |           |      |               |      |               |      |            |      |
| Assess risks with hazard vulnerability assessments (n=190) | 8                                  | 14.3 | 18        | 32.1 | 19            | 33.9 | 1             | 1.8  | 10         | 17.9 | 28                  | 20.9 | 26        | 19.4 | 23            | 17.2 | 4             | 3    | 53         | 39.6 |
| Prioritizing climate actions with timeline (n=190)         | 5                                  | 8.9  | 14        | 25   | 23            | 41.1 | 1             | 1.8  | 13         | 23.2 | 20                  | 14.9 | 25        | 18.7 | 32            | 23.9 | 4             | 3    | 53         | 39.6 |
| Training staff on CC impacts (n=190)                       | 4                                  | 7.1  | 16        | 28.6 | 28            | 50   | 1             | 1.8  | 7          | 12.5 | 19                  | 14.2 | 23        | 17.2 | 58            | 43.3 | 4             | 3    | 30         | 22.4 |
| Collaborating to reduce CC impacts (n=190)                 | 4                                  | 7.1  | 17        | 30.4 | 19            | 33.9 | 2             | 3.6  | 14         | 25   | 11                  | 8.2  | 14        | 10.5 | 42            | 31.3 | 5             | 3.7  | 62         | 46.3 |
| Assessing ability to respond to CC (n=190)                 | 5                                  | 8.9  | 22        | 39.3 | 17            | 30.4 | 1             | 1.8  | 11         | 19.6 | 16                  | 11.9 | 29        | 21.6 | 33            | 24.6 | 3             | 2.2  | 53         | 39.6 |
| Improving supply chain resiliency (n=190)                  | 6                                  | 10.7 | 18        | 32.1 | 20            | 35.7 | 2             | 3.6  | 10         | 17.9 | 14                  | 10.5 | 19        | 14.2 | 35            | 26.1 | 3             | 2.2  | 63         | 47   |
| Dedicating staff to include CC in risk management (n=190)  | 4                                  | 7.1  | 11        | 19.6 | 27            | 48.2 | 2             | 3.6  | 12         | 21.4 | 16                  | 11.9 | 14        | 10.5 | 37            | 27.6 | 5             | 3.7  | 62         | 46.3 |
| Securing funding for CC emergencies (n=190)                | 2                                  | 3.6  | 13        | 23.2 | 24            | 42.9 | 2             | 3.6  | 15         | 26.8 | 11                  | 8.2  | 14        | 10.5 | 31            | 23.1 | 5             | 3.7  | 73         | 54.5 |
| <b>B) Clinic Readiness</b>                                 |                                    |      |           |      |               |      |               |      |            |      |                     |      |           |      |               |      |               |      |            |      |
|                                                            | Director / Administrator Positions |      |           |      |               |      |               |      |            |      | All Other Positions |      |           |      |               |      |               |      |            |      |
|                                                            | Very Effective                     |      | Effective |      | Somewhat      |      | Not Effective |      | Unsure     |      | Very Effective      |      | Effective |      | Somewhat      |      | Not Effective |      | Unsure     |      |
|                                                            | Freq.                              | %    | Freq.     | %    | Freq.         | %    | Freq.         | %    | Freq.      | %    | Freq.               | %    | Freq.     | %    | Freq.         | %    | Freq.         | %    | Freq.      | %    |
| Back up power systems (n=190)                              | 22                                 | 39.3 | 13        | 23.2 | 9             | 16   | 10            | 17.9 | 2          | 3.6  | 42                  | 31.3 | 42        | 31.3 | 18            | 13.4 | 9             | 6.7  | 23         | 17.2 |
| Protocols for monitoring temp. changes (n=190)             | 24                                 | 42.9 | 19        | 33.9 | 7             | 12.5 | 2             | 3.6  | 4          | 7.1  | 40                  | 29.9 | 43        | 32.1 | 20            | 14.9 | 8             | 6    | 23         | 17.2 |
| Staff training on power outages (n=190)                    | 21                                 | 37.5 | 18        | 32.1 | 12            | 21.4 | 2             | 3.6  | 3          | 5.4  | 37                  | 27.6 | 37        | 27.6 | 24            | 17.9 | 10            | 7.5  | 26         | 19.4 |
| Patient communication strategies (n=190)                   | 15                                 | 26.8 | 22        | 39.3 | 14            | 25   | 3             | 5.4  | 2          | 3.6  | 30                  | 22.4 | 41        | 30.6 | 26            | 19.4 | 9             | 6.7  | 28         | 20.9 |
| Testing and maintenance of power systems (n=190)           | 18                                 | 32.1 | 11        | 19.6 | 11            | 19.6 | 10            | 17.9 | 6          | 10.7 | 30                  | 22.4 | 36        | 26.9 | 14            | 10.5 | 10            | 7.5  | 44         | 32.8 |
| <b>C) Clinic Barriers</b>                                  |                                    |      |           |      |               |      |               |      |            |      |                     |      |           |      |               |      |               |      |            |      |
|                                                            | Director / Administrator Positions |      |           |      |               |      |               |      |            |      | All Other Positions |      |           |      |               |      |               |      |            |      |
|                                                            | High influence                     |      | Medium    |      | Low influence |      | Not a concern |      | Unsure     |      | High influence      |      | Medium    |      | Low influence |      | Not a concern |      | Unsure     |      |
|                                                            | Freq.                              | %    | Freq.     | %    | Freq.         | %    | Freq.         | %    | Freq.      | %    | Freq.               | %    | Freq.     | %    | Freq.         | %    | Freq.         | %    | Freq.      | %    |
| Budget constraints (n=189)                                 | 26                                 | 47.3 | 15        | 27.3 | 5             | 9.1  | 0             | 0    | 9          | 16.4 | 62                  | 46.3 | 31        | 23.1 | 7             | 5.2  | 1             | 0.8  | 33         | 24.6 |
| Climate preparedness is not a high priority (n=188)        | 6                                  | 10.7 | 16        | 28.6 | 21            | 37.5 | 1             | 1.8  | 12         | 21.4 | 24                  | 18.2 | 33        | 25   | 22            | 16.7 | 8             | 6.1  | 45         | 34.1 |
| Insufficient staff to get informed (n=189)                 | 14                                 | 25.5 | 17        | 30.9 | 12            | 21.8 | 5             | 9.1  | 7          | 12.7 | 37                  | 27.6 | 33        | 24.6 | 15            | 11.2 | 12            | 9    | 37         | 27.6 |
| Insufficient staff to address the issue (n=190)            | 10                                 | 17.9 | 24        | 42.9 | 11            | 19.6 | 3             | 5.4  | 8          | 14.3 | 38                  | 28.4 | 30        | 22.4 | 19            | 14.2 | 11            | 8.2  | 36         | 26.9 |
| Science is difficult to understand (n=188)                 | 5                                  | 9.1  | 15        | 27.3 | 15            | 27.3 | 13            | 23.6 | 7          | 12.7 | 13                  | 9.8  | 28        | 21.1 | 26            | 19.6 | 35            | 26.3 | 31         | 23.3 |

Freq=frequency, %= proportion of respondents; N/A = not applicable.

The analytic sample included 199 participants. Item-level sample sizes ranged from 188 to 190 because participants could skip individual survey questions. Percentages were calculated using the number of non-missing responses for each item as the denominator. Missing responses were not imputed; therefore, frequencies do not sum to the full analytic sample of 199 for all items. Percentages may not sum to 100% because of rounding.

# Assessing Climate and Extreme Weather Readiness in North Carolina Community Health Centers and Free Clinics

## Start of Block: About the Respondent

Q1 Please choose the job title that best describes your primary role at your clinic.

- ☐ Administrator (1)
  - ☐ Case Worker, Social Worker, or Case Manager (2)
  - ☐ Provider (e.g. MD or DO, RN, NP, PA, LPN, PharmD, PT or OT, other) (3)
  - ☐ Clinic Staff (4)
  - ☐ Other (please specify) (5)
- 

Q2 How many years have you worked or volunteered for your clinic?

- ☐ Less than 5 years (4)
  - ☐ Between 5 and just less than 10 years (6)
  - ☐ Between 10 and just less than 15 years (7)
  - ☐ Greater than 15 years (8)
-

Q3 What is your gender identity?

- ☐ Woman (1)
- ☐ Man (2)
- ☐ Non-binary (3)
- ☐ Prefer not to answer (4)
- ☐ Other (please specify) (5)

---



Q4 What is your age in years?

---

Q5 What type of organization or health facility is your clinic?

- ☐ Federally Qualified Health Center (FQHC) (4)
- ☐ Federally Qualified Health Center (FQHC) Look-Alike [Community Health Center] (5)
- ☐ Free or Charitable Clinic (6)
- ☐ Other (please specify) (7)

---



Q6 Please enter the 5-digit zip code of the clinic that you work from:

---

## End of Block: About the Respondent

## Start of Block: Climate Change & Health Knowledge and Perceptions



Q7 To what extent do you agree with each of the following statements?

|                                                                                                          | Agree<br>strongly<br>(1) | Agree<br>somewhat<br>(2) | Neither<br>agree or<br>disagree<br>(7) | Disagree<br>somewhat<br>(4) | Disagree<br>strongly<br>(5) | Unsure<br>(6)         |
|----------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|----------------------------------------|-----------------------------|-----------------------------|-----------------------|
| Climate change <b>is occurring</b> . (1)                                                                 | <input type="radio"/>    | <input type="radio"/>    | <input type="radio"/>                  | <input type="radio"/>       | <input type="radio"/>       | <input type="radio"/> |
| NC <b>is experiencing</b> the effects of climate change now. (2)                                         | <input type="radio"/>    | <input type="radio"/>    | <input type="radio"/>                  | <input type="radio"/>       | <input type="radio"/>       | <input type="radio"/> |
| NC <b>will experience</b> the effects of climate change in the next 20 years. (3)                        | <input type="radio"/>    | <input type="radio"/>    | <input type="radio"/>                  | <input type="radio"/>       | <input type="radio"/>       | <input type="radio"/> |
| I am worried about the <b>impact of climate change on the health and well-being</b> of people in NC. (6) | <input type="radio"/>    | <input type="radio"/>    | <input type="radio"/>                  | <input type="radio"/>       | <input type="radio"/>       | <input type="radio"/> |
| I feel I <b>have access to enough information</b> at my workplace about climate change and its potential | <input type="radio"/>    | <input type="radio"/>    | <input type="radio"/>                  | <input type="radio"/>       | <input type="radio"/>       | <input type="radio"/> |

health impacts  
to take action.  
(7)

---

Q8 To what extent do you perceive that climate change will affect the people that your clinic serves?

- ☐ Will definitely not affect (1)
  - ☐ Will likely not affect (2)
  - ☐ May or may not affect (3)
  - ☐ Will likely affect, but not significantly (4)
  - ☐ Will significantly affect (5)
  - ☐ Uncertain / don't know (6)
- 

Page Break

---



Q9 Based on your level of concern, please rate from 'low' to 'high' the top **health concerns that climate change will impact** for the people your clinic serves:

|                                                                                                                               | Not a concern<br>(7)  | Low impact<br>(1)     | Medium impact<br>(5)  | High impact<br>(6)    | Unsure (12)           |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Air pollution-related increases in severity of illness</b><br>(e.g., asthma, COPD, cardiovascular disease) (1)             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Heat-related increases in chronic illnesses</b><br>(e.g. asthma, cardiovascular disease, diabetes) (3)                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Pregnancy and newborn complications</b><br>(e.g. preterm birth, congenital heart defects) (9)                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Sexually transmitted diseases</b> (e.g., chlamydia) (6)                                                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Physical injuries due to extreme weather</b> (e.g. drowning, traumatic injuries) (7)                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Mental health impacts</b> (e.g. post traumatic stress disorder, anxiety, depression, suicidal behavior, substance use) (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**Vector Borne infection** (e.g. *Lyme, West Nile, Dengue Fever, Malaria*) (4)

|                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|

**Diarrhea from food/waterborne illness following downpours or floods** (e.g. *Salmonella, Giardia*) (5)

|                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|

**Increased prevalence and severity of seasonal allergies** (12)

|                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|

**Other** (please specify) (15)

|                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|

Page Break



Q10 Based on your level of concern, please rate from **low** to **high** the top **social determinants of health that climate change will impact** for the people your clinic serves:

|                                                                                                                                     | <b>Not a concern (7)</b> | <b>Low impact (1)</b> | <b>Medium impact (5)</b> | <b>High impact (6)</b> | <b>Unsure (12)</b>    |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------|--------------------------|------------------------|-----------------------|
| <b>Economic stability</b><br>Increased poverty and job loss due to climate-related disasters (1)                                    | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/> |
| <b>Neighborhood and physical environment</b><br>Damage to homes from extreme weather, leading to displacement and homelessness (3)  | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/> |
| <b>Food security</b><br>Disruption of food supplies leading to malnutrition and hunger (9)                                          | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/> |
| <b>Access to healthcare</b><br>Strain on healthcare systems and access to medical services due to climate-related health issues (6) | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/> |
| <b>Education</b><br>School closures and reduced access to education due to climate events (7)                                       | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/> |
| <b>Social and community networks</b>                                                                                                | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/> |

Disruption of social networks and community support systems (8)

**Interpersonal violence**

Increased gun violence and partner violence (4)

**Other**

(please specify) (15)

|                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**End of Block: Climate Change & Health Knowledge and Perceptions**

**Start of Block: Facility Level Resilience and Readiness**



Q11 Please respond to each statement. Is your facility doing the following:

|                                                                                                 | <b>Yes</b> Action Completed (1) | <b>Somewhat</b> Action in progress or incomplete (2) | <b>No</b> No action planned or taken (4) | <b>Don't know</b> Action unknown (5) | <b>N/A</b> Does not apply (6) |
|-------------------------------------------------------------------------------------------------|---------------------------------|------------------------------------------------------|------------------------------------------|--------------------------------------|-------------------------------|
| <b>Assessing climate risks for your building(s)</b> using hazard vulnerability assessments? (1) | <input type="radio"/>           | <input type="radio"/>                                | <input type="radio"/>                    | <input type="radio"/>                | <input type="radio"/>         |
| <b>Prioritizing climate risk reduction strategies</b> with a timeline for action? (2)           | <input type="radio"/>           | <input type="radio"/>                                | <input type="radio"/>                    | <input type="radio"/>                | <input type="radio"/>         |
| <b>Training staff</b> on the regional health impacts of climate change? (5)                     | <input type="radio"/>           | <input type="radio"/>                                | <input type="radio"/>                    | <input type="radio"/>                | <input type="radio"/>         |

**Collaborating with others in your region** to reduce climate change impacts? (6)

☐ ☐ ☐ ☐ ☐

**Assessing its ability to respond** to health conditions linked to climate change? (7)

☐ ☐ ☐ ☐ ☐

**Improving the resilience of its supply chain** to extreme weather impacts? (8)

☐ ☐ ☐ ☐ ☐

**Dedicating sufficient staff** to incorporate climate risks into risk management? (9)

☐ ☐ ☐ ☐ ☐

**Securing funding** for new risk reduction measures for future climate emergencies? (10)

☐ ☐ ☐ ☐ ☐

Q12 How effectively does your clinic manage vaccine spoilage and medication safety during power outages? Please rate the following:

|                                                                                                                 | <b>Not effectively</b><br>(1) | <b>Somewhat effectively</b><br>(2) | <b>Effectively</b><br>(3) | <b>Very effectively</b><br>(4) | <b>Unsure</b> (5)     |
|-----------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------|---------------------------|--------------------------------|-----------------------|
| <b>Backup power systems</b> (e.g., generators) for maintaining vaccine refrigeration and medication storage (1) | <input type="radio"/>         | <input type="radio"/>              | <input type="radio"/>     | <input type="radio"/>          | <input type="radio"/> |
| <b>Protocols for monitoring and responding to</b>                                                               | <input type="radio"/>         | <input type="radio"/>              | <input type="radio"/>     | <input type="radio"/>          | <input type="radio"/> |

**temperature changes** in vaccine and medication storage (2)

**Staff training** on handling power outages and preserving the efficacy of vaccines and medications (3)

**Communication strategies** for informing patients and coordinating with suppliers during power outages (4)

**Regular testing and maintenance of backup power systems** and storage equipment (5)

|                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q13 How much do these factors influence the ability to prepare for climate change at your clinic?

|                                                              | <b>Not a concern (4)</b> | <b>Low influence (1)</b> | <b>Medium influence (2)</b> | <b>High influence (3)</b> | <b>Unsure (9)</b>     |
|--------------------------------------------------------------|--------------------------|--------------------------|-----------------------------|---------------------------|-----------------------|
| Budget constraints (1)                                       | <input type="radio"/>    | <input type="radio"/>    | <input type="radio"/>       | <input type="radio"/>     | <input type="radio"/> |
| Climate preparedness is not a high priority in my clinic (5) | <input type="radio"/>    | <input type="radio"/>    | <input type="radio"/>       | <input type="radio"/>     | <input type="radio"/> |
| Insufficient staff time to get informed about issue (7)      | <input type="radio"/>    | <input type="radio"/>    | <input type="radio"/>       | <input type="radio"/>     | <input type="radio"/> |

|                                                       |                       |                       |                       |                       |                       |
|-------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Insufficient staff expertise to address the issue (8) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Science is difficult to understand (9)                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other (please specify) (10)                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q14 In the next five years, do you anticipate having adequate support in the following areas to improve climate resilience and preparedness at your clinic?

|               | <b>Agree strongly</b><br>(1) | <b>Agree somewhat</b><br>(2) | <b>Neither agree or disagree</b><br>(3) | <b>Disagree somewhat</b><br>(4) | <b>Disagree strongly</b><br>(5) | Unsure (6)            |
|---------------|------------------------------|------------------------------|-----------------------------------------|---------------------------------|---------------------------------|-----------------------|
| Funding (1)   | <input type="radio"/>        | <input type="radio"/>        | <input type="radio"/>                   | <input type="radio"/>           | <input type="radio"/>           | <input type="radio"/> |
| Staffing (2)  | <input type="radio"/>        | <input type="radio"/>        | <input type="radio"/>                   | <input type="radio"/>           | <input type="radio"/>           | <input type="radio"/> |
| Expertise (3) | <input type="radio"/>        | <input type="radio"/>        | <input type="radio"/>                   | <input type="radio"/>           | <input type="radio"/>           | <input type="radio"/> |

Display this question:

If Q14 = 3

Or Q14 = 4

Or Q14 = 5

Or Q14 = 6

Q14a Q14a: Tell us more about the funding, staffing, and/or expertise your clinic needs within the next five years to be more prepared:

---



---

---



---



---

**End of Block: Facility Level Resilience and Readiness**

**Start of Block: Patient level resilience and readiness**

Q15 To what extent do you feel confident in providing anticipatory guidance and support for the following high-risk groups during extreme weather events (such as a heatwave, flooding, or wildfire event)?

|                                             | <b>Very<br/>confident<br/>and fully<br/>prepared (1)</b> | <b>Fairly<br/>confident bu<br/>t need some<br/>additional<br/>resources<br/>(2)</b> | <b>Somewhat<br/>confident bu<br/>t need<br/>significant<br/>additional<br/>resources<br/>(3)</b> | <b>Not<br/>confident<br/>and not<br/>prepared at<br/>all (4)</b> | <b>Unsure (5)</b>     |
|---------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------|
| Pregnant individuals (1)                    | <input type="radio"/>                                    | <input type="radio"/>                                                               | <input type="radio"/>                                                                            | <input type="radio"/>                                            | <input type="radio"/> |
| Children (2)                                | <input type="radio"/>                                    | <input type="radio"/>                                                               | <input type="radio"/>                                                                            | <input type="radio"/>                                            | <input type="radio"/> |
| Older adults (3)                            | <input type="radio"/>                                    | <input type="radio"/>                                                               | <input type="radio"/>                                                                            | <input type="radio"/>                                            | <input type="radio"/> |
| Patients with chronic health conditions (4) | <input type="radio"/>                                    | <input type="radio"/>                                                               | <input type="radio"/>                                                                            | <input type="radio"/>                                            | <input type="radio"/> |
| Patients with disabilities (8)              | <input type="radio"/>                                    | <input type="radio"/>                                                               | <input type="radio"/>                                                                            | <input type="radio"/>                                            | <input type="radio"/> |
| Patients with low health literacy (6)       | <input type="radio"/>                                    | <input type="radio"/>                                                               | <input type="radio"/>                                                                            | <input type="radio"/>                                            | <input type="radio"/> |
| Non-English speaking patients (7)           | <input type="radio"/>                                    | <input type="radio"/>                                                               | <input type="radio"/>                                                                            | <input type="radio"/>                                            | <input type="radio"/> |
| Workers in certain occupations (9)          | <input type="radio"/>                                    | <input type="radio"/>                                                               | <input type="radio"/>                                                                            | <input type="radio"/>                                            | <input type="radio"/> |

Other (please  
specify) (10)

☐☐☐☐☐

---

*Display this question:*

*If Q15 = 3*

*Or Q15 = 4*

*Or Q15 = 2*

Q15a What additional resources or support would enhance your clinic's ability to provide anticipatory guidance?

---

---

Page Break

Q16 How often have you used the following for emergency communication with patients during an extreme weather event?

|                            | Never (1)             | Rarely (4)            | Sometimes (2)         | Often (3)             | Unsure (5)            |
|----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Phone call (1)             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Social media (2)           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Text messaging (3)         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Secure email (4)           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Patient portal (5)         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other (please specify) (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Display this question:

If Q16 = 2

Or Q16 = 3

Or Q16 = 4

Carry Forward Selected Choices from "Q16"



Q16a How effective do you find these ways of communicating with patients in an emergency?

|                     | Not effective (1)     | Somewhat effective (2) | Very effective (3)    | N/A Does not apply (4) |
|---------------------|-----------------------|------------------------|-----------------------|------------------------|
| Phone call (x1)     | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/>  |
| Social media (x2)   | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/>  |
| Text messaging (x3) | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/>  |
| Secure email (x4)   | <input type="radio"/> | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/>  |

Patient portal  
(x5)

☐☐☐☐

Other (please  
specify) (x6)

☐☐☐☐

---

Q17 If there was an emergency communications system for patients of health centers and free clinics in NC, would your clinic be interested in opting in to this?

☐

Yes (1)

☐

No (2)

☐

Maybe (3)

---

Page Break

Q18 Clinician screening for environmental factors involves assessing patients for potential environmental exposures that could impact their health. How often does your clinic screen patients for the following **environmental factors**:

|                                                                                                                                            | Never (1)             | Rarely (2)            | Sometimes<br>(3)      | Routinely (5)         | Unsure (6)            |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Air quality</b><br>Exposure to air pollution, allergens, and toxins in the air (both indoor and outdoors) (1)                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Water quality</b><br>Contaminants in drinking water such as lead, pesticides, and industrial chemicals (2)                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Climate change</b><br>Impact of climate-related factors like extreme heat and flooding (4)                                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Home environment</b><br>Conditions within the home that may affect health such as mold, lead, radon, paint, and household chemicals (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Neighborhood and built environment</b><br>Access to green spaces,                                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

noise pollution,  
traffic, and  
overall  
neighborhood  
safety (3)

**Occupational  
exposures**

Hazards  
related to a  
patient's job  
including  
chemicals,  
dust, and noise  
(7)



---

*Display this question:*

*If Q18 = 3*

*Or Q18 = 5*

Q18a Please provide an example of the type of screening method or tool used for  
environmental screening in your clinic:

---

---

Page Break

Q18b Given that patients' health can be affected by climate hazards such as heat and extreme weather, how beneficial would a screening tool to assess climate-induced health risks be for your clinic?

- ☐ Very beneficial (1)
- ☐ Somewhat beneficial (2)
- ☐ Neutral (3)
- ☐ Not very beneficial (4)
- ☐ Not beneficial at all (5)

---

Page Break

Q19 Social factors often have a greater influence on patients' health than medical care. Screening for social determinants of health, which are the conditions in which people are born, live, learn, work, play, worship, and age, is crucial for comprehensive patient care. How often does your clinic screen patients for the following **social factors**:

|                                                                                                          | Never (1)             | Rarely (2)            | Sometimes (3)         | Routinely (5)         | Unsure (6)            |
|----------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Economic stability</b> (e.g. employment, income, expenses, debt) (5)                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Neighborhood and physical environment</b> (e.g. housing, transportation, safety, parks) (7)           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Education</b> (e.g. access to and quality of education) (9)                                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Food security</b> (e.g. hunger, access to healthy options) (10)                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>Social and community context</b> (e.g. social support, community groups, discrimination, racism) (14) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

*Display this question:*

*If Q19 = 3*

*Or Q19 = 5*

Q19a Please provide an example of the type of screening method or tool used for social screening in your clinic:

---

*Display this question:*

*If Q18 = 1*

*Or Q18 = 2*

*Or Q18 = 3*

*Or Q19 = 1*

*Or Q19 = 2*

*Or Q19 = 3*

Q19b What are barriers your clinic faces in screening for climate-related environmental and social factors affecting patient health? (select all that apply)

- ☐ Time (1)
  - ☐ Lack of available screening tool (2)
  - ☐ Lack of support staff to implement screening tool (3)
  - ☐ Inability to bill for climate-health counseling (4)
  - ☐ Climate change is not an institutional priority (5)
  - ☐ Lack of leadership approval (6)
  - ☐ Lack of programs or services to address these factors (if identified during screenings) (9)
  - ☐ Other (please specify) (8)
- 

---

Page Break

Q20 Which of these factors influence your willingness to discuss climate change and its impact on health with patients?

|                                                                                  | <b>No influence<br/>(1)</b> | <b>Low<br/>influence (2)</b> | <b>Medium<br/>influence (3)</b> | <b>High<br/>influence (4)</b> | <b>Unsure (5)</b>     |
|----------------------------------------------------------------------------------|-----------------------------|------------------------------|---------------------------------|-------------------------------|-----------------------|
| Time available in a clinical encounter (1)                                       | <input type="radio"/>       | <input type="radio"/>        | <input type="radio"/>           | <input type="radio"/>         | <input type="radio"/> |
| How much I know about climate and health (2)                                     | <input type="radio"/>       | <input type="radio"/>        | <input type="radio"/>           | <input type="radio"/>         | <input type="radio"/> |
| How familiar I am with solutions to offer (3)                                    | <input type="radio"/>       | <input type="radio"/>        | <input type="radio"/>           | <input type="radio"/>         | <input type="radio"/> |
| The availability of educational materials to offer (4)                           | <input type="radio"/>       | <input type="radio"/>        | <input type="radio"/>           | <input type="radio"/>         | <input type="radio"/> |
| The availability of professional guidance (6)                                    | <input type="radio"/>       | <input type="radio"/>        | <input type="radio"/>           | <input type="radio"/>         | <input type="radio"/> |
| There are more pressing topics (7)                                               | <input type="radio"/>       | <input type="radio"/>        | <input type="radio"/>           | <input type="radio"/>         | <input type="radio"/> |
| Climate change and health are not part of what I do in a clinical encounter (11) | <input type="radio"/>       | <input type="radio"/>        | <input type="radio"/>           | <input type="radio"/>         | <input type="radio"/> |
| Other (please specify) (12)                                                      | <input type="radio"/>       | <input type="radio"/>        | <input type="radio"/>           | <input type="radio"/>         | <input type="radio"/> |

End of Block: Patient level resilience and readiness

---

Start of Block: Final questions and interest in incentive

Q21 What climate change and health topics are you interested in learning more about?

---

---

Q22 Climate resilience in healthcare involves improving infrastructure, planning for community needs, and forming partnerships to protect vulnerable populations. What resources would be most helpful for clinics, providers, and patients to improve climate resilience?

---