Community Health Needs Assessment

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Phase 1 Report
June 2022

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Phase 1 of the Wellspring Foundation's assessment focuses on studying numbers within the four-county region that may identify health and related topics that are found to be different than state statistics. The Foundation will review these topics and, in subsequent phases, interact with organizations and communities to gain others' interpretations about why these statistical differences exist.

Objectives

1. To review existing sources of data and generate a list of topics that document how the Foundation region (Grayson, Russell, Smyth and Washington counties) compares with state or national data.
2. To prepare a report which identifies county-specific and regional health-related factors and health outcomes.

Method

A list of potential issues of concern was generated by the Foundation staff and the consultant. County-level secondary data from publicly accessible local, state and national sources were identified. Data was clustered by topics and related subtopics and expressed within multiple measures. Data is displayed in tables to provide county-to-county and counties-to-state comparisons. County indicators which are divergent from state numbers/rates by 20% (higher or lower) are highlighted in the 13 data tables included at the end of the report.

Summary of Data Tables (included at the end of the report)

Number	Category	Data Indicators	Potential Topics
1.1.1	Census demographics	Population counts, Education, Poverty, Health, Housing	Influential population characteristics and trends
1.1.2	Infants and children's health	Births and infant health, younger population characteristics, early childhood services, adverse childhood experiences	Healthy pregnancies and early childhood services

1.1.3	Education	Student enrollment, graduation rate, college and career readiness, preschool preparation, student achievement by proficiency level, student attendance, finance, teachers	Student achievement differences across counties, local school financing
1.1.4	Adult behaviors	Chronic illnesses, health insurance, use of preventive services, physical inactivity, sexually transmitted diseases	Availability and use of effective services for smoking and obesity reduction, diabetes control programs
1.1.5	Causes of death	Causes associated with chronic diseases, diseases of despair and accidents; length of life	Differentiate causes of death by county, explore personal and community factors, identify availability and gaps in services
1.1.6	Behavioral and mental health	Adolescent statistics, adult statistics	Prevalence of behavioral issues and use of care
1.1.7	Drug overdoses	Mortality rate from all drugs, numbers of deaths, mortality rates over time, neonatal abstinence syndrome, emergency department visits	Substance abuse trends
1.1.8	Health professionals	Professional to population ratios	Availability and access to different types of care
1.1.9	Other social and environmental data	Public Safety, transportation, housing, homelessness, environmental factors	Factors seen as related to quality of life
1.1.10	Household income and benefits	Personal income and transfer payments, transfer payments by type	Regional low personal per capita income and high reliance on benefit payments
1.1.11	Employment and related statistics	Employment, businesses, firms by ownership type, broadband access	Relationship of economic development and health
1.1.12	County health ranking indexes	Virginia Department of Health Health Opportunity Index, RWJ county health rankings	County health outcomes relative to state

1.1.13	Food insecurity	Individuals, participation in federal programs, food access	Prevalence of population that is food insecure but does not qualify for nutrition assistance, availability and access to quality food stores

Observations based upon secondary data review

1. Describing the four-county demographics:
    a. All counties have a higher percentage of persons age 65+, a lower percentage of persons under age 18, and a lower percentage of non-whites than the state population.
    b. All counties have a declining population from 2010 to 2020, with a parallel reduction in live births from 2011-2020.
    c. All counties have a lower percentage of high school graduates and residents with college degrees.
2. Data review using the appended 13 topical tables:
    a. Measures of sub-topics are separated by rows and displayed as counts, percentages, ratios or rates in rows.
    b. County- and state-level summary data are recorded in columns. Note that for some tables, county-level data could not be found and the data cells are blank. With certain measures, multi-county-level data is reported (e.g., table 1.1.9 homeless data).
    c. For each data table, a comparative analysis of county-versus-state values was conducted.
    d. Cells are color-coded by county to identify that county values were 20% or greater or less than the corresponding state measure.

Using the Robert Wood Johnson Foundation's County Health Rankings model (https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model), subtopic measures were categorized as health factors or health outcomes. Using these categories, regional patterns of measures are reported.

The table below identifies measures for which all four counties were similarly either higher or lower than state values. Measures which are **bolded** indicate that the values for all four counties were at least 20% higher or lower than state values. This analysis identifies two Health Outcome measures were better than the state and nine Health Outcome measures which were worse. For Health Factors,

four were better than the state, while nine were worse. Note that all nine of the health factors which were lower or worse than the state met or exceeded the 20% threshold.

	Health Outcomes	Health Factors
Higher/ Better	• **Drug overdose mortality rate (2015-2019)** • Overdose death rate 2019	• **Air quality index** • **Per capita transfer receipts** • **Traffic volume on major roadways** • % owner-occupied housing
Lower/ Worse	• Infant deaths per 1,000 live births • NAS birth rate per 1,000 birth hospitalizations • % adults with diagnoses of diabetes • **Cancer death rate** • **Suicide death rate** • **Deaths due to firearms rate** • **Years of potential life lost before age 75 per 100,000 population** • **Drug overdose mortality rate (2010-2014)** • Life expectancy in years	• **Children under 18 below poverty level** • **% disabled under age 65** • **% adults reporting no leisure-time physical activity** • **Payroll per employee** • **Ratio of dentists to population** • **Ratio of primary care physicians to population** • **% adult population fully vaccinated for COVID** • **% total school financial support from local source** • **Per capita income**

Further analysis identified an additional 13 measures for which at least three counties exceeded the state value by at least 20%. Of these, five measures were better than state values. These included Health Factors such as watershed quality, low severe housing problems and high use of pre-kindergarten services. Positive Health Outcomes were identified in improvements in overdose death rates and reductions in emergency department visits for overdoses. However, perinatal measures (first trimester prenatal care, infant deaths and neonatal abstinence syndrome birth rates) and death rates due to accidents and traffic crashes were Health Outcomes that compared unfavorably with state values in three of four counties.

3. The review also uncovered a number of specific measures for which a single county varied in the opposite direction from the regional pattern.

a. These counties might be considered **Bright Spots**, where the county's measure was better than both the state's and other regional counties' measures. Health Outcome examples include use of first trimester prenatal care, low-birthweight births and percentage of neonatal abstinence syndrome-related births. Health Factor measures include foster care entry, adults with adequate access to exercise opportunities, cardiovascular death rates and drug overdose mortality improvements.

b. Alternatively, single counties were identified as **Challenges.** In these cases, only one of the four counties' values was not better than state values. These examples included high preventable Medicare hospital stays for ambulatory-sensitive conditions, low labor force participation for age 16+ and women and percentage of adults without health insurance.

Operations and Planning Committee Review

On June 2, 2022, the Operations and Planning Committee conducted a two-hour working session to review the data sheets. By the end of the session, numerous requests were made to clarify the presented data and its sources. Members proposed potential alternative sub-topic measures. In some cases, they expressed concerns that the data did not seem to reflect the realities in the region. Local explanations of individual measures and regional patterns emerged.

The Committee also began developing questions for further study. Local interpretations enriched how different measures were interrelated and combined to impact the broadly framed topics. These questions will be used to identify which organizations and community representatives should be invited to the Phase 2 Parade of Assessments and Plans to provide additional data or understanding of issues of interest to the Foundation. Among the questions generated were:

- Shortages of **health professionals** prevail across the entire region. Do these statistical shortages actually reflect gaps in availability of services? Are there additional access-to-care barriers that lead to the poor health outcomes of the region? It seems that health professionals are leaving this region. For what reasons? How does this trend impact how we can provide care to those who can't afford it? How can we attract more physicians and dentists?
- **Smoking** is higher in the region's counties. Is there any data documenting a trend toward vaping? Are people switching from smoking to vaping, thereby lowering the smoking rates?
- The pattern of **births and infant health** statistics varies slightly by county, but overall, the statistics are poor. Low use of first trimester prenatal care may be associated with lack of availability of care or OBGYNs, and higher rates of low-birth-weight births, NAS births and infant deaths. Are there other measures or patterns of medical practice that might explain the issues? How can these indicators be changed?
- Is data available to document **mental health** issues in the region? Do service counts from area providers (e.g., the Community Service Boards) represent an adequate assessment of need? How can any need versus regional capacity issue be documented? What community and patient

education issues influence use of mental healthcare? Would additional robust studies on mental health medications help?

- That the counties' **overdose death rate** has improved and is lower than the state rate was surprising. Was it because opioids became more readily available in Appalachia earlier? What events have been influential, such as regulatory rescheduling of hydrocodone, the surge in deaths associated with Fentanyl, the introduction of education for first responders in the use of Narcan and the prevalence of suboxone clinics? Is anyone prepared to conduct a study on another policy change, decriminalization of marijuana use?
- Overall, **students** in the region perform well on achievement tests with scores higher compared to state standards. This accomplishment may appear contradictory to the high percentages of children living in poverty, a high percentage of public-school students with free or reduced lunches, lower county per-pupil expenditures and lower percentages of local contributions to county schools. How can this sense of regional success in education become a building block for other regional improvements? If our children are doing relatively well in school, why do we have such a low proportion of college graduates in our region?
- There are fewer **females in the workforce**. Is that due to the burden of childcare typically falling to mothers? Is this influenced by the costs of childcare and availability of early childhood education program slots? What are the factors that contribute to the presumed pay disparity between genders? Does it have to do with education? Does the high number of teen births mean young women are not able to finish school or are not supported to go to college like their male counterparts?
- The percentage of **home ownership** is also high. The percent of households with severe housing problems is lower in the region compared to the state. Service organizations indicate difficulties in finding adequate housing for the area's homeless. What are the factors that make finding affordable homes for the homeless so difficult?

Conclusion

The Wellspring Foundation Phase 1 Secondary Data Review displayed 159 measures comparing data from the four counties within the Commonwealth of Virginia across 13 topical categories. The Foundation staff and Operations and Planning Committee reviewed the data, seeking clarification on data measures, providing local explanations or interpretation of patterns of data and generating questions for further study. The review successfully demonstrated the benefits of secondary data to guide the Foundation's inquiry toward or away from topics. This process will help guide invitations to regional organizations and groups for Phase 2 Parade of Assessments and Plans and Phase 3 Panels of Experts.

At the conclusion of its meeting, committee members identified several broadly stated topics of concern and interest for further study:

- Lack of health professionals, including nursing, with a focus on recruitment and retention

- Perinatal issues, including use of prenatal care and neonatal abstinence syndrome issues
- Services for older citizens, particularly around medications
- Support for education, including early childhood care and public-school student achievement

WARNING LABEL about using data to describe topics

Secondary data assessments tap existing publicly accessible data sources. Several cautions should be noted whenever reviewing secondary data.

Indicators in this report are presented using many types of data, expressed as counts (numbers), percentages and rates (expressed as a number per 1,000 or 10,000 standard population). Rates are a traditional public health approach to statistically compare an indicator across populations of varied sizes such as, for example, comparing indicators between counties and the state.

Timeliness of data can be problematic due to time lags between an incident (e.g., death) and the subsequent reporting and publication. Data is collected from many sources, which often report using different timeframes and data collection methods. Each topic and indicator may have multiple measures that report related and often complementary indicators. Be aware of comparing indicators and trends with different reporting dates. Consider what events may have impacted the numbers.

Secondary data reviews are prone to two common interpretation pitfalls. The first is generalization: Just because some people in a county have a particular characteristic or issue, it does not extend to the whole population. The second is the ecological fallacy: Just because a whole county may have a poor rate or percentage of a particular indicator, it does not necessarily apply to all individuals in the county.

Phase 2 Report

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Prepared by: Bruce Behringer, MPH

Phase 2 of the Wellspring Foundation's assessment focuses on learning about organizations and from programs that address the health and related topics identified as potential issues of interest to the Foundation, defined from reviewing secondary data in Phase 1. A total of 18 presentations were included in the Parade of Assessments and Plans. The sessions were designed to learn from, not duplicate, already-completed health-related community assessments and/or established region plans. In total, 16 speakers addressed 18 topics over five days. Hundreds of ideas were shared. A summary of those ideas, formatted in planning pyramids, were shared with the board at its August 2, 2022, meeting. Input from the discussion helped frame next steps for the Phase 3 Panels of Experts.

Objectives

2.1 Use an issue-focused approach to identify organizations to explore the causes and profile current solutions related to selected topics.

2.2 Invite representatives of organizations to present their perspectives about the problems, goals for change and alternative strategies used to address the topic.

2.3 Use the collected ideas to begin to narrow the list of potential issues.

Method

Staff identified a list of organizations and individuals who were knowledgeable about each topic drawn from the Phase 1 list. Letters and calls of invitation were forwarded to a subset of these organizations. All invitations to participate were accepted; due to unforeseen circumstances, three presenters were unable to attend, and a substitute speaker was found for one of those topics. Correspondence to the organizations included a description of the topic, specific questions about aspects of the topic to be addressed and a preformatted PDF form to be completed and used as a guide for a 30-minute presentation.

Presentations were scheduled for one-hour blocks to accommodate time for questions and answers.

At least one member of the Wellspring Foundation board attended each of the 18 presentations. All speakers either used the PDF form or another PowerPoint presentation. Most presenters left additional supplemental information packages about their assessments and/or plans. Board and staff actively engaged speakers in clarifying assessment findings, describing the processes and intentions of their plans, and details about their service programs.

Ideas were collected from three sources. These included completed organizational PDF forms, field notes taken by staff and submitted supplemental materials. Each idea was associated with one or more of the original 13 Phase 1 topics. The consultant then inputted each idea into a tool entitled the Planning Pyramid (Behringer, 1975), with one pyramid constructed for each topic. Ideas were categorized as problem statements, goals for change, alternative strategies or best/effective practices.

Planning pyramids demonstrate three values:

- Enable categorizing and reporting of a large number of ideas using generally recognized terminology
- Align ideas in a logical flow, from problems to goals to strategies
- Highlight existing best practices

Thirteen LONG planning pyramids contain all ideas associated with the original 13 Phase 1 topics. Three-page SHORT planning pyramids combine and recategorize ideas displayed in sentence and chart formats.

Finally, the ideas were further synthesized into a one-page planning pyramid FIGURE. Idea descriptors became more generic with each step, while retaining the logical flow between the categories. SHORT and FIGURES were generated for the five most highly prioritized topics, from staff and board discussions. These five sets of planning pyramids are found in the Appendix (pp. 19-42).

Consultant's Phase 2 Observations

- Many regional assessments and plans already exist, and have documented that numerous issues have long histories and deep roots. A common list of root causes could be extracted from assessments. Data reported in Phase 1 confirmed the rates, percentages and numbers of some issues are improving, while other issues remain static.
- There are a lot of resources already being invested in the selected topics in the four-county area. Descriptions of these efforts indicate that many of the programs utilize monies that require matching resources. There are positive evidences of the presence and long-term work of social entrepreneurs who create social value (versus profit) by designing innovative approaches and pursuing opportunities that address social needs.
- There are many evidences of coordination, cooperation and collaboration. These take two forms. One is formal organizational relationships, such as the work of the Health Wagon, Feeding Southwest VA services, regional Workforce Development Board and the Accountable Care Community. The second are topically driven task oriented working groups like the Trauma Informed Community Network and Childhood Success Leadership Council.
- One common success theme is the work of people who directly link services to clients/patients. These employees have a variety of titles, such as case managers, care coordinators, peer specialists and navigators. There are also numerous examples of organizations sharing personnel as helpful resource coordinators for cooperative events.

- Regional infrastructure and frameworks exist, but they rely on local implementation. Many examples were encountered: United Way's Cradle to Career approach working through local childcare providers, the STRONG Accountable Care Community with a membership of 350 organizations and the Ballad Health Cooperative Agreement (CA) investments made through local organizations. Several examples of large-scale frameworks that encompass program designs and evaluations included the Universal Benefit, continuum of care and Community Impact model.
- Many intervention programs heavily rely on local contributions. These include cash funding as well as other resources in the forms of volunteers and donations.

An additional output from Phase 1 and 2 board discussions is an evolving set of beliefs about the purpose of the Foundation and the directions in which the board wishes to steer. As more exposure to the issues is gained, the beliefs will become clearer.

- The primary interest of the Foundation is in making a difference in the four-county region.
- We are concerned about measuring outcomes (short-term) and impact (long-term) from our investments.
- Finding good partners that share the Foundation's mission and can effectively use financial support to bring about change is an important task.
- The Foundation seeks to promote creative thinking and local problem solving.
- In order to advance the mission of a healthier community, some upstream health- and social-related factors will have to be considered.
- Single investments can be found to address multiple priority issues.

Phase 2 Findings

Meetings with Organizations

Presentations of assessments and plans were organized over five days. Meetings were conducted at the Wellspring Foundation office. Of the 21 invitations extended, 16 organizations accepted and attended. Ten organizations used the PDF form provided to guide their presentations; others provided information about their assessments and plans in alternative forms. The following is the final schedule of organizations, speakers and primary topics addressed:

June 15

Appalachian Substance Abuse Coalition – Linda Austin – substance abuse
United Way of Southwest Virginia – Travis Staton, Dr. Susan Patrick, Marcia Dempsey, Jenee Wright – early childhood education
Virginia Opioid Abatement Authority – Tyler Lester (Sen. Pillion's office) – substance abuse

July 13

Feeding SWVA – Joan Hawsey – food insecurity
ETSU Substance Abuse Research Team – Dr. Robert Pack – substance abuse
STRONG Accountable Care Community – Mark Cruise – county health rankings
Virginia Highlands Community College – Dr. Adam Hutchison – education
GO Virginia – Kalen Hunter – regional economic development and jobs with livable wages

July 14

Health Wagon – Dr. Teresa Tyson – availability, access and use of health services

Virginia State Office of Rural Health – Clarissa Noble – county health rankings
Virginia State Office of Rural Health – Clarissa Noble – health workforce

July 20

VA Career Works – Marty Holliday – regional economic development and jobs with livable wages
Mount Rogers Health District – Breanne Forbes Hubbard – community health assessments
Mount Rogers Health District – Breanne Forbes Hubbard – neonatal abstinence syndrome

July 21

Ballad Health – Cooperative Agreement Population Health Plan – Tony Keck – county health rankings and availability, access and use of health services
People Incorporated – Bryan Phipps and Kelli Smith – homelessness and housing
Smyth County Public Schools – Dr. Dennis Carter – education
Center for Family Involvement – Lisa Richard – children's health

Board Data Collection Sheets: Ideas from 18 Phase 2 sessions

Board members recorded their thoughts about each Phase 2 presentation on data collection sheets. Two sets of ideas were collected. Members identified characteristics of the organizations or programs that align with the Foundation's mission. Alternatively, characteristics were also identified that might be seen as unhelpful in promoting the Foundation's mission. Board members also recorded additional concerns and questions that emerged from presentations to explore in the future.

Identified characteristics that might support the Foundation mission were:

- Mission statements that are similar to the Wellspring Foundation
- Organizations formed to include large networks of organizations
- A reliable vehicle to reach other nonprofits and community groups
- Organizations with strong, pre-existing operational partnerships
- Demonstrated history of collaborations that expand availability and quality of services (e.g., contracts, shared location and shared services, personnel and events)
- Integrated services at an operational level with other organizations
- Programs understood to have impacts on multiple issues
- Ability to innovate: Demonstrations of support for practical, low-cost, locally developed action
- Ability to engage community members in assessment and planning functions
- Records regarding how grants and donations were used for programs or campaigns with documentable outcomes

Among the characteristics identified that might not blend with the Foundation mission were:

- Did not recognize or adapt well to impacts of current crises (COVID, inflation, supply chain disruptions)
- Fixed on one strategy to address a topical problem that seems to be evolving or changing
- Trying to address too many issues, taking too big a bite of the apple

- Uncertainty about evaluation and measuring impact
- Having difficulties in identifying potential clients or patients
- Questions about continuity of services and integrated systems thinking
- Uncertainties about accuracy of existing data
- Insufficient research about issues, particularly how the issues affect the four Wellspring Foundation counties
- Seemingly constrained by changes in state and federal grant policies and regulations
- Lack of awareness of other service programs or discussed few operational linkages
- Treating symptoms and uncertain of cures

Additional inputs, the changing environment, and existing regional resources

The consultant and staff met with other individuals and organizations to gather additional information about other regional issues and activities beyond the Parade of Assessments and Plans. These include other assessments and/or plans and new programmatic activities.

- The Medication Assistance Program enables free or low-cost medicines for residents who either lack prescription coverage or are in the Medicare Coverage Gap "donut hole." Several application locations are available in the four-county region.
- The Southwest Virginia Health Authority created a Blueprint (plan) for Health Improvement and Health-Enabled Prosperity (2016), which established regional goals and strategies for population health improvement.
- One Care of Southwest Virginia, Inc. is a consortium of 16 substance abuse coalitions working throughout the region. The consortium created an assessment, developed a regional plan and is seen to be a coordinating force in the area for substance abuse issues.
- Two organizing efforts are underway for the development of housing for women in addiction recovery programs, one in Washington County and one in Smyth County.
- The Virginia Health Care Foundation issued a statewide Assessment of the Capacity of Virginia's Licensed Behavioral Health Workforce that documented shortages of five different types of mental and behavioral health professionals and proposed strategies to address the shortages.
- Regional planning district commissions (PDCs) assist communities to develop projects and tap multiple sources of state and federal funding. Several major PDC-assisted efforts are currently underway.
- Southwest Virginia is benefiting from federal pandemic relief funds through the Virginia Telecommunications Initiative to expand "last mile" broadband coverage to connect households to high-speed internet.
- New Medicaid regulations enabled new coverage of adult dental services in July 2021. Medicaid reimbursement for these services increased 30% beginning July 2022.

- Bristol TN approved, and Bristol VA municipal governments are considering, ordinances that may result in dislocating homeless individuals and families from their jurisdictions, actions may impact the Wellspring Foundation area.
- New County Health Rankings were published by the Robert Wood Johnson Foundation in 2022. Comparing 2021 to 2022, two counties improved their Health Outcomes rankings (Russell and Washington), while two (Grayson and Smyth) counites worsened slightly in rankings. For Health Factors, Russell and Washington improved, while Grayson and Smyth had small drop in rankings. The findings are important because they included some first-available COVID-19 years data sets.

The presentations and meetings also uncovered a number of organizations that invest in or receive a significant amount of financial support for programs that address the issues of interest for the Wellspring Foundation. This list is appended (p. 9).

These discoveries are important from three standpoints:

- First, they represent opportunities for potential Foundation collaboration as funding partners.
- Second, learning of others' investments might lead to a recognition that additional resources are either not needed or, alternatively, that new resources might be used to address a different dimension of the same issue, an alternative or complementary strategy or replication of effective programs in different communities.
- Third, the Foundation discovered strong evidence of the abilities of some regional service providers to attract and effectively use major funding, a factor potentially helpful in considering those organizations as potential funding partners.

Identifying priority topics for future Foundation consideration

Board members responded to a survey to prioritize topics following the completion of the Phase 2 Parade of Assessments and Plans. Seventeen re-worded topics were included. Each topic was rated (scale of 1-3: High = 3, Medium = 2, Low = 1) Two criteria were measured: the topic's importance to the region and the topic as a potential Foundation priority. Four additional topics were added by board members.

Importance to region	Topics	Foundation priority
3.0	Childcare and early childhood education	2.8
2.6	Health professions shortages	2.8
3.0	Substance abuse disorder prevention, treatment and recovery	2.6
2.6	Availability, access and use of health services	2.6
2.3	NAS and children affected by parental substance use	2.5
2.8	Mental and behavioral health	2.3
2.6	Regional economic development and jobs with livable wages	2.3
2.5	Infant mortality, infant health and adverse childhood experiences (ACEs)	2.3
2.2	Schools' student achievement including technical education	2.0
2.5	Regional population health outcomes: deaths, illnesses, disabilities	2.0

2.3	Teacher shortages in public schools	1.6
1.8	Regional community health assessments/county health rankings	1.6
2.5	Food insecurity	1.5
2.2	Population health: Ballad Health Cooperative Agreement	1.5
2.0	Homelessness and housing	1.5
2.0	Children's genetic disabilities	1.3
2.0	Post-secondary education opportunities and effect of student debt	1.3
1.6	Workforce participation among women	1.3
Community factors impacting where families choose to live and work, such as outdoor activities, the arts, entertainment, healthcare, etc.		
Prevention and/or treatment of health issues (i.e., trails, art programs, food from local farmers)		
Developmental pediatrics clinic — would address NAS children, infant health, early childhood education, children's genetic disabilities		
Reward public schools for good work/positive outcomes with low regional investment		

Board members used the same scale to rate topics for regional importance and priorities for Foundation interest. While the rankings of topics displayed in the chart above are not identical, they are very similar. The board prioritized topics that cluster in interrelated issues. These are issues related to children; mental health; behavioral health, including substance abuse; the shortage and availability of many types of health professionals; and access and use of health services.

During discussion at the August 2, 2022, meeting, the board recognized that the causal factors and outcomes of many issues are interconnected. Likewise, support for interventions to address one issue will certainly deliver impacts for several other related issues. For example, efforts to reduce neonatal abstinence syndrome (NAS), should also impact larger substance abuse and addiction issues, along with subsequent children's health and school achievement issues. The ultimate choice of the Foundation's focus then becomes which part(s) of these complex issues does it want to focus on first? What is the Foundation's "lead card" in an intervention process with its grantees?

For example, the Foundation can choose to:

- Prevent NAS by reducing substance misuse among pregnant women
- Provide skilled medical and wrap-around behavioral health services for mothers and babies
- Support long-term follow-up care for substance-impacted babies, or
- Assist schools on how to educate children with long-term intellectual and behavioral effects from NAS

Board discussion also reflected a sense of importance for creating long-term, evolving relationships with key organizations. Relationships would be built on interactions based on mutual respect and trust. This developmental process could apply to any single or interrelated set of focus issues. This trust would enable the Foundation to find partners through which its resources can create a growing impact in addressing priority issues.

Considerations of lessons learned from presenters about implementing initiatives in the region

The presenting organizations have responsibilities to conduct formal and informal assessments and develop and implement region-wide plans for services. The speakers were asked to share some lessons learned from their efforts as helpful advice to the Foundation. Below are some of the perceptive comments.

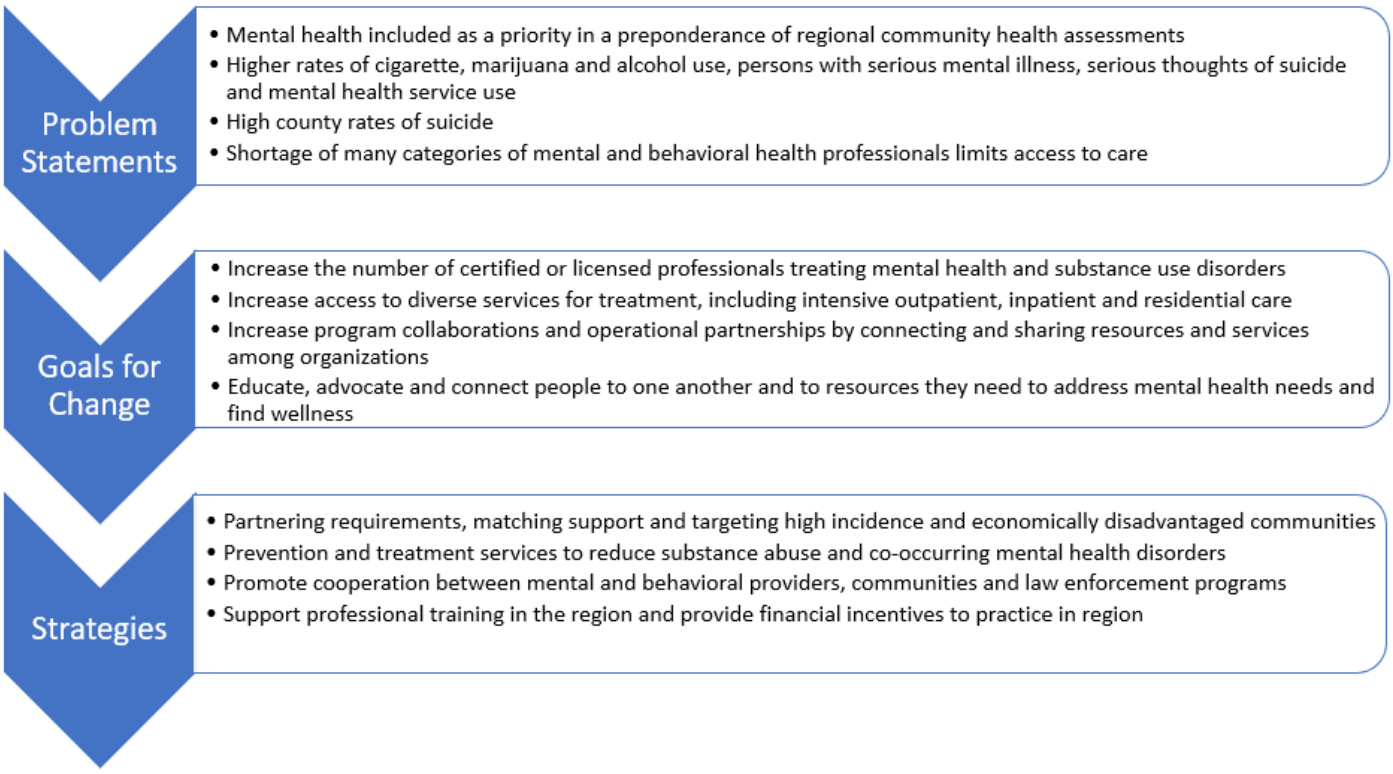
- Invest early in an improvement initiative. The earlier the investment, the greater the return toward the Foundation's goal.
- Recognize how an issue (e.g., early education) is everyone's problem that cuts across several sectors. Success in one issue will impact the community as a whole.
- No one person, government agency or organization can solve any problem alone. Promote and support public-private partnerships built upon cooperation and encourage support from multiple sources.
- Many issues require long-term, generational change. Results are not always easy to see at the end of a one-year grant cycle.
- Regional issues need funding that isn't tied to restrictions that prevent innovation or trying new strategies.
- Cultural competency AND cultural humility are musts.
- Become intentional about engaging different communities. For example, faith-based organizations and voices of those in recovery communities play a major role in the success of substance abuse coalitions.
- Avoid involving judgmental individuals who refer to people or communities as "those" people.
- Social norms and individual behaviors are not easily changed. Much patience is required.
- Health improvement is an important theme that should be integrated into many issues, such as housing, hunger, work and education.
- Some organizations can provide resources for an initiative, while others have positive experience in delivering services through partnerships at the local level. Success is based upon involving both.
- Resources include people (like volunteers), donations, agreement and cooperation, as well as money.
- Some problems are common to all efforts – the pandemic, inflation and supply chain disruptions.
- People don't use services just because they are free. There are many other factors to be considered.
- Set and maintain a regional focus. It helps diminish organizational silos and promotes a common cause.
- Engage those who are to be served in their communities. Expend the effort to hear from them.
- With the current job market, many nonprofits and government agencies struggle to compete for the best employees. Regional improvements in big issues like housing and career development are needed.

Appendix

Organizations with Significant Financial Resources Now Investing in the Region

Organization	Purpose	Amount	Priorities
Opioid Abatement Authority	Opioid and related substance abuse issues	• Estimated total of $530 to $560 M over 18 to 20 years, with $200 M given directly to participating localities	Treatment, recovery, criminal justice, drug courts, overprescribing and NAS
Ballad Health and the Cooperative Agreement	Regional health and healthcare services improvement	• Ballad to spend $75 million over 10 years on population health • $233 million to be spent on behavioral, children's and rural health access, along with other issues	Long list of Ballad infrastructure and capacity investments ACC focus on behavioral health, including substance misuse and infant mortality to reduce years of productive life lost
GO Virginia	Regional economic and workforce development promoting collaboration	• $1 million annual allocation • Requires matching grants	Talent development (including health professions), sites and infrastructure development, innovation, scale-up support
United Way of Southwest VA	Early childhood education	• $5M yearly mixed portfolio of funders for projects for 21 counties • $3.5 M state budget appropriation to increase childcare capacity in SWVA	Increase regional capacity, womb-to-career framework, workforce enhancements and quality
Tobacco Regional Development Commission	Distribution of monies to revitalize tobacco-dependent communities	• In 2021, 14 Southwest Virginia grants for $2,779,325 (including $315,000 Virginia Highlands Community College Educational Foundation 2021 - 22 and Workforce Financial Aid)	Funding priorities: Business and community lending, education and workforce development, agribusiness, Tobacco Region Opportunity Fund, industrial and business infrastructure
Appalachian Regional Commission	Regional development through local development districts	• $165 M national competitive grant allocation • $10 million New Substance Abuse Disorder Recovery Ecosystem grants	Locally developed economic development projects with broad scope (tourism, broadband, workforce improvements, etc.)
Workforce Investment	Economic development, workforce development	• $1.86 M DOL dislocated workers, adult and youth operations grants • $3.5 M Community College discretionary	Intensive case management with wrap-around services
Health Professions Recruitment	Recruit and retain professionals in designated shortage areas	• State/federal funding for eight programs through State Office of Rural Health • $2.6 M Tobacco Commission to SORH	Repayment through service in designated need counties

Mental and Behavioral Health Planning Pyramid



Planning Pyramid for Mental and Behavioral Health

INPUT	**Phase 1**	**Behavioral health characteristics secondary data**
	Phase 2	**Virginia Highlands Community College**
		STRONG Accountable Care Community
		Health Wagon
		Mount Rogers Health District Community Health Assessment
	Phase 3	**Panel of Experts for Mental Health**
		Panel of Experts for Substance-Exposed Infants, including neonatal abstinence syndrome
	Phase 4	**Community meetings**
	Other	**VHCF Behavioral Health Workforce Assessment**
		Southwest Virginia Health Authority Blueprint
		Cardinal News on Virginia General Assembly JLARC study on student mental health

Problem Statements

Mental health is included as a priority in a preponderance of regional community health assessments: Smyth County Health Department; Johnston Memorial, Smyth County and Russell County hospital assessments; Ballad Health Cooperative Agreement; and the Virginia Health Authority Blueprint for Health Improvement.

The impact of the COVID-19 pandemic has brought about a tsunami of stressors, resulting in a mental health crisis. Most behavioral health (BH) professionals indicate the various related traumas and their after-effects will continue far into the future.

The region has higher averages than the state for cigarette, marijuana and alcohol use among persons age 12 and above. Vaping has become a major problem for children in Grayson County, as early as in 5th grade.

Counties have a higher self-reported percentage of persons with serious mental illness (SMI), use of mental health services and reported serious thoughts of suicide.

Counties have a high rate of deaths due to suicide.

Recognize that substance abuse and mental health are directly related and combined attention is required for individuals with a dual diagnosis and children with neonatal abstinence syndrome.

Regional mental health crisis stems from a social breakdown with many root causes: multigenerational trauma, perceived lack of opportunities for improvement, lack of educational achievement and deeply rooted social determinants of health. Household and regional poverty and stigmatization of mental health issues are continuing factors that limit access to and use of preventive services.

Several factors are cited that relate to mental and behavioral health service needs: shortage of affordable housing; lack of transportation impacts on employment; and numbers of children removed from drug-addicted homes.

There is a shortage of mental health professionals serving the region. Today's mental health workforce is stretched and stressed. Many occupations in communities are confronted daily by those with mental health problems, and they often lack training or support to provide assistance. The resulting outcomes are turnover, absenteeism and staff concerns about safety. Confrontations have emerged from negative social media images and messages.

Behavioral health (BH) professionals are overwhelmed by the demand for services and Virginians are unable to get the help they need. Demand is expected to continue to outpace the capacity.

Virginia localities with no or a few BH professionals have poorer outcomes on key BH indicators than those with more BH professionals.

Availability of new telehealth services is helpful but not a panacea because of broadband access issues. Seventy-five percent or fewer households have broadband internet service.

While telehealth has expanded mental health service availability during COVID, it has also created new job opportunities for currently employed BH workers that compete with traditional mental health services organizations (Community Service Boards).

Virginia ranks 39th in the U.S. for access to mental healthcare and 41st for availability of its BH workforce.

All four Wellspring counties are designated as Mental Health Professional Shortage Areas.

Community-based mental health services in Virginia are underfunded, ranking 46th among all states. Seventy percent of state mental health budgets are used in operation of state hospital inpatient facilities.

While primary care providers can prescribe behavioral health medicines, most have little training in psychopharmacology and many feel uncomfortable doing so.

A full continuum of BH services is lacking, resulting in a lack of timely access to key or missing services for children and adults. This results in inappropriate use of hospital emergency departments and high use of law enforcement resources.

Additional resources are needed to address overloaded pediatric services and childhood trauma; appropriate emergency adult services, including residential treatment and transitional care centers; and counseling/therapy for grief, loss and isolation. A clear referral system for professional assessment and care services from non-health care provider community members is lacking.

Two brain dysfunction categories that mimic mental health issues, brain injury and geriatric dementia, are encountered through emergency departments and now referred to Community Service Boards (CSBs) for assessment and care.

The number of unsheltered homeless in Abingdon is increasing. Some of those persons have physical and mental health issues, including a dual diagnosis of mental health and substance abuse.

Sixty percent of psychiatrists are 55 or older; there are not enough people in the pipeline to replace them.

Public colleges all had their best practices for student BH services. A challenge remains in that many students coming to college are very fragile.

Virginia Secretary of Health and Human Resources indicate the BH crisis ultimately means a new way of thinking about mental health services is needed.

All social ills have roots in underlying trauma. Patients in mental health crisis have some unaddressed trauma.

There have been large increases in Smyth County in public expenditures for mental health care for the incarcerated: from $675,000 in 2010 to $2.9 million in 2019.

Stigma around seeking mental health services still exists.

Handling mental health crises in hospital emergency departments (EDs) with police as guards is inappropriate. Once in EDs, patients are not always treated in a timely manner. The ED is not the right environment for persons in mental health or substance use disorder crises.

Many patients lack transportation for appointments.

Sending patients back to their old environments after treatment recreates the same cycle.

Many who deal with individuals suffering from mental health problems do not have formal training.

Pay levels for mental health workers is very low. These are very difficult jobs and it is hard to retain new professionals in their first jobs.

New health professionals entering the workforce need more support (i.e., childcare, other services) than in the past. New professionals in many careers who face emotionally trying jobs with high ideals (want to change the world) frequently burn out quickly within 18 months and leave their professions.

Many mental health issues are generational. Focus is needed to find ways to break the cycle.

A clearinghouse listing services and resources is needed, including for persons not in acute mental health crisis. New and more convenient ways are needed to connect persons with available care services.

The length of time to help stabilize patients before discharge often exceeds traditional 90-day service limits.

More mental health services for incarcerated individuals would be helpful. The likelihood of using services is higher when persons are incarcerated long enough to engage voluntarily or as a result of court-ordered services.

Half of all middle school students and two-thirds of high school students report being nervous, anxious, or on edge.

Ten percent of middle school students and thirteen percent of high school students indicated that they had seriously considered suicide in the last 12 months.

More than half of school divisions in Southwest Virginia were notified that their community mental health provider (CSB) was ending their partnership beginning December 12, 2022, due to lapsing of funding from federal COVID funds.

One in every five students across the Commonwealth was chronically absent (missing 18 days of school or more) last year.

Goals for Change (what participants want to change)

Increase the number of certified or licensed professionals treating mental health and substance use disorders. Core mental health professionals include psychiatrists, clinical psychologists, clinical social workers, psychiatric nurse specialists and marriage and family therapists.

Educate, advocate and connect people to one another and to the resources they need to address mental health needs and find wellness.

Decrease suicide rates in regional counties.

Increase access to diverse services for treatment, including intensive outpatient, inpatient and residential care.

Support enhanced cooperation and communication by engaging organizations and communities in systems development discussions. Increase program collaborations and operational partnerships that connect and share resources and services among organizations.

Improve communication and cooperation among mental health services and with communities through discussions of mental health systems development.

Make access to care available to persons when first in crisis a regional goal. Promote a safety net focus by recognizing services available in locations where persons in need are generally identified: adolescents in schools, adults in workplaces and other community locations for parents and the elderly.

Attend to and support help for mental health personnel to survive in their positions.

Migrate to a broader, more cohesive mental health systems approach with performance evaluation measures for long-term, interorganizational and systems outcomes.

Re-orient the mental health system to adopt a long-term philosophy for treating a parent and child together as one unit for services.

Address root causes of mental health issues to reduce use of jails filled with persons with mental health problems.

Increase access for mental health care for children not in crisis by reducing two- to three-week waiting period.

Adopt approaches to address mental health issues earlier in communities and intervene before a crisis occurs.

Help children with disabilities who have resulting mental health issues.

Strategies (approaches for how to address goals)

Deploy matching support for targeted priorities in high-incidence and economically disadvantaged communities by expanding available resources, incentivizing collaborations and forming community partnerships.

Support a continuum of prevention and treatment to reduce substance use disorder and co-occurring substance use disorder and mental health conditions.

Support coalitions that mobilize community awareness and education and leverage social capital through mental health and substance abuse coalitions.

Promote cooperation between mental and behavioral prevention providers and law enforcement programs.

Build on the valuable commitment of key community members and organizations as part of the mental health workforce, including schools, primary care providers, law enforcement and faith-based sectors. Then adopt a family-focused, long-term scope of services, which include necessary wrap-around services that contribute to successful parent care outcomes.

Fund initiatives that prioritize efforts from multiple organizations. Proposals should include needs statements, commitments to operational cooperation, a mix of prevention and treatment services, attention to services sustainability and a strong evaluation plan.

Organize a database of mental health services, framed as a regional interconnecting network, between service providers and community members to enable more timely and standardized referral processes.

Expand services of experienced care coordinators to provide those in need with services that link with both public and private hospitals' discharge planning units.

Organize and provide regional training for community members who interact with those in need to facilitate communication avenues between mental health providers and law enforcement, schools, employment and faith-based sectors.

Expand school-based health services in schools, including mental health services. Include training for all school personnel to recognize and refer children in need. Organize professional development training for school systems and aides that eliminates the difficulties of freeing staff up for two-week intensive courses.

Support development and maintenance of community coalitions that bring communities and service organizations together to network for cooperating and coordinating services. Coalitions bring varied community interests together to assess, plan and support relevant mental health activities.

Provide regional training for community members who interact with persons with BH needs.

Facilitate open communication avenues between mental health providers, law enforcement and schools.

Allow psychologists from other fields to be provisionally licensed to work in schools and assist school divisions in making partnerships with community health providers.

Backfill lapsing federal COVID funding that supports CSBs for student mental health services in schools.

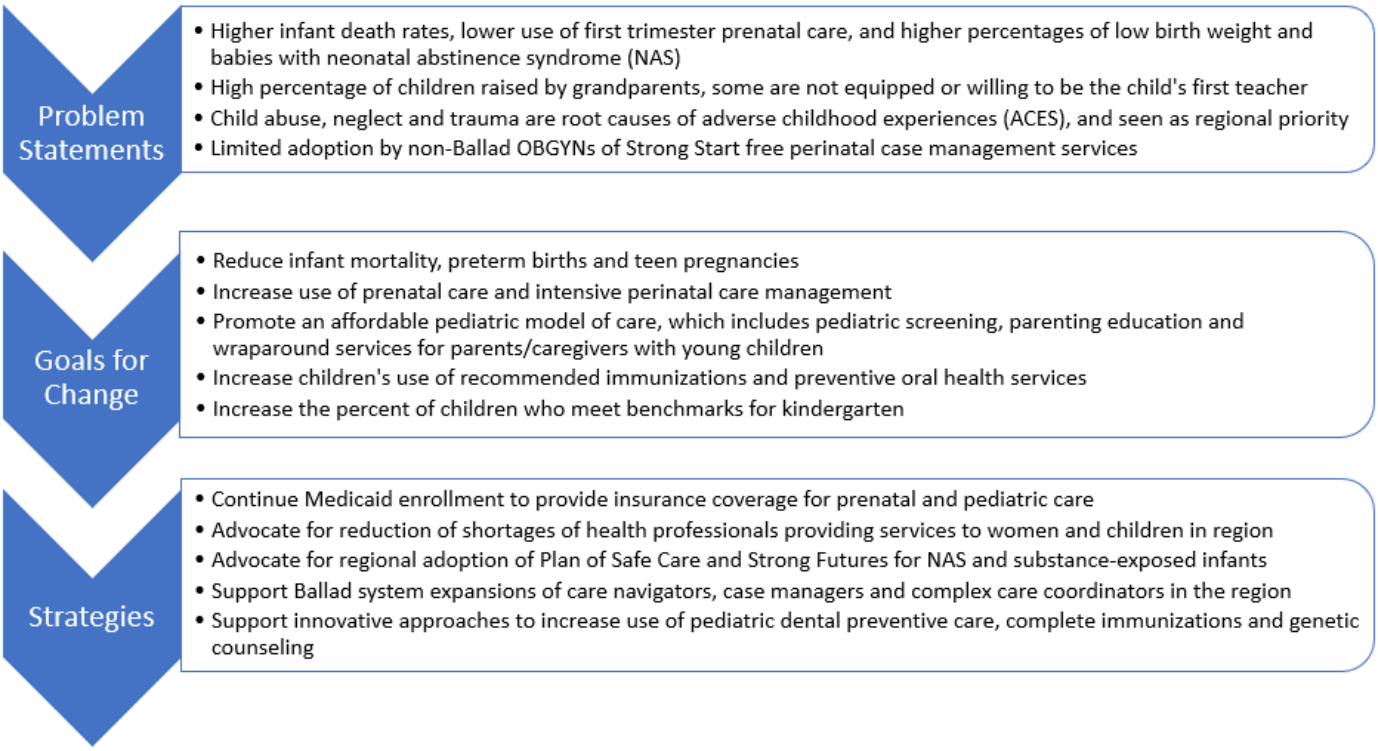
Develop programs that promote personal connections. The single greatest determinant of resilience is having someone who cares about you.

Develop and support local clinical training tracks for LCSWs to address shortages, fill openings and keep graduates here.

Fund simple infrastructure improvements, such as soundproof booths to allow residents to have confidential conversations with mental health providers.

Promote use of simple screening (SBIRT – Screening, Brief Interventions, Referral and Treatment).

Maternal and Children's Health Planning Pyramid



Planning Pyramid for Maternal and Children's Health

INPUT	**Phase 1**	**Data Tables**
	Phase 2	**STRONG Accountable Care Organization**
		Health Wagon
		Virginia Department of Health State Office of Rural Health
		Southwest VA Health Authority
		Mount Rogers Health District Community Health Assessment
		Ballad Health Cooperative Agreement
		Center for Family Engagement
	Phase 3	**Panel of Experts for Substance-Exposed Infants including neonatal abstinence syndrome**
	Phase 4	**Community meetings Washington and Grayson counties**

Problem Statements

Birth rates for all counties are in line with the state rate. However, three of four counties have higher infant death rates, lower use of first trimester prenatal care, and higher percentages of low birth weight and babies born with neonatal abstinence syndrome.

There are difficulties with engaging non-Ballad OBGYNs to make referrals to free perinatal case management services.

Access to prenatal care is a problem since health departments stopped the service. Services are now left to private and nonprofit providers to offer it.

Some parents/caregivers are not equipped or willing to be their child's first teacher and provide a safe, stable, nurturing environment.

Fifty-four percent of children enrolled in Coeburn schools are raised by grandparents.

The percent of children under 18 under the poverty level is much higher in all four counties. The percentage of public-school students enrolled in free or reduced lunch is high in three of four counties.

Child abuse, neglect and trauma are root causes of adverse childhood experiences (ACEs).

The rate of foster care entry is high in three counties.

Russell County has a different pattern from the other counties, with a lower percentage of teen births (17 years old or younger), children living with one parent, and children entering kindergarten not meeting kindergarten readiness benchmarks.

Smyth County community health assessment identified child abuse as a priority.

There are too few early intervention resources to address substance-exposed infants (SEI), including neonatal abstinence syndrome (NAS), so the continuing focus is on acute crisis interventions.

The use of marijuana among pregnant women is rapidly increasing.

The long-term effects of SEI and NAS on family dynamics and a child's health and education are unknown. More consideration is needed in recognizing problems faced by teachers dealing with students with a SEI diagnosis.

Methods to assess the immediate and ongoing protective capacities of parents or family members are lacking. Effective configuration of resources to build family capacity are uncertain for addressing childcare/ parenting classes, counseling and substance abuse services needs related to SEI and NAS.

There are too few early intervention resources to address SEI and NAS, so the continuing focus is on acute crisis interventions, including medical assistance therapy clinics for mothers who work. There are too few recovery centers.

Too many patients are showing up in hospital emergency departments for delivery with no prenatal care. They avoid care because of being addicted. Many women in abusive relationships don't use prenatal care because of pressure.

Shortages of obstetrical providers hinder access to early delivery of prenatal care.

Twenty to twenty-five percent of Johnston Memorial Hospital patients are affected with SEI/NAS. Care for these patients requires extensive resources that place a significant burden on pediatric providers and hospitals.

Early brain development is critical for life success. SEI and children with NAS are at higher risk for developing a variety of mental health outcomes, including developmental disabilities, learning disabilities, childhood behavior issues, difficulties with bonding, poor social skills and interactions and a general failure to thrive.

Common family characteristics associated with SEI and NAS include poverty, high food insecurity, housing and transportation needs. Families display environmental, behavioral (e.g., child abuse) and multi-generational cultural lifestyle problems. These exposures lead to confused views of what is right and wrong, safe and unsafe. Family problems often include having more than one member having substance use issues.

SEI is the single issue that affects all agencies (health, mental health, other).

Goals for Change (what participants want to change)

Improve the rate of healthy births by reducing infant mortality, preterm births and teen pregnancies through increased use of early prenatal care and intensive perinatal care management.

Promote access to and use of family planning care to prevent pregnancy for those who struggle with addiction.

Increase percent of enrolled pregnant women seeing an obstetrics provider in the first trimester.

Promote a pediatric model of care that includes screening, parenting education and wrap-around services for parents/caregivers with young children.

Increase available, quality and affordable childcare.

Increase the percent of young children who receive recommended immunizations and preventive oral health service.

Increase the percent of children who meet established benchmarks for enrollment in kindergarten.

Improve regional awareness of SEI and NAS with public education about short-term effects of SEI on infants and long-term impacts on children with NAS.

Increase the general availability of prenatal and postnatal care, and include counseling about SEI, including NAS as part of pre- and postnatal care services.

Mandate referrals for therapy from OBGYNs for pregnant women who are using drugs.

Develop education campaigns with better messaging to address these SEI and NAS issues. This would help get back to community-based healthcare.

Strategies (approaches to address goals)

Continue to enroll children in Medicaid and continue insurance coverage for women for access to prenatal care.

Advocate for establishing new official government shortage area definitions to reduce shortage of women's and children's healthcare providers.

Increase Pre-K and Head Start enrollment.

Increase daycares with Star Quality Program Certification.

Improve percentage of children who receive immunization by using reporting and tracking linked to electronic medical records and statewide registries.

Increase access to vaccine in primary care and school-based clinics.

Increase dental visits for children ages 1-4 using multiple strategies:

- Train medical providers to provide fluoride varnish
- Increase the number of dentists who will see children as young as age 1
- Increase number of Federally Qualified Health Center (FQHC) locations who provide oral health services integrated with primary care
- Increase number of dental hygienists working under remote supervision in VDH, FQHCs, school-based clinics and Head Start programs
- Increase number of school-based oral health services to include dental sealants

Expand children's health-related services in the region, including children's resource centers, pediatric subspecialty physician coverage for the entire region, child passenger safety trainer classes, healthy food programs within elementary schools and complex care coordinators to focus on patients with complex medical conditions.

Support Ballad's planned investments in ACEs, trauma-informed community and treatment, Strong Futures.

Support parenting classes linked to substance abuse treatment.

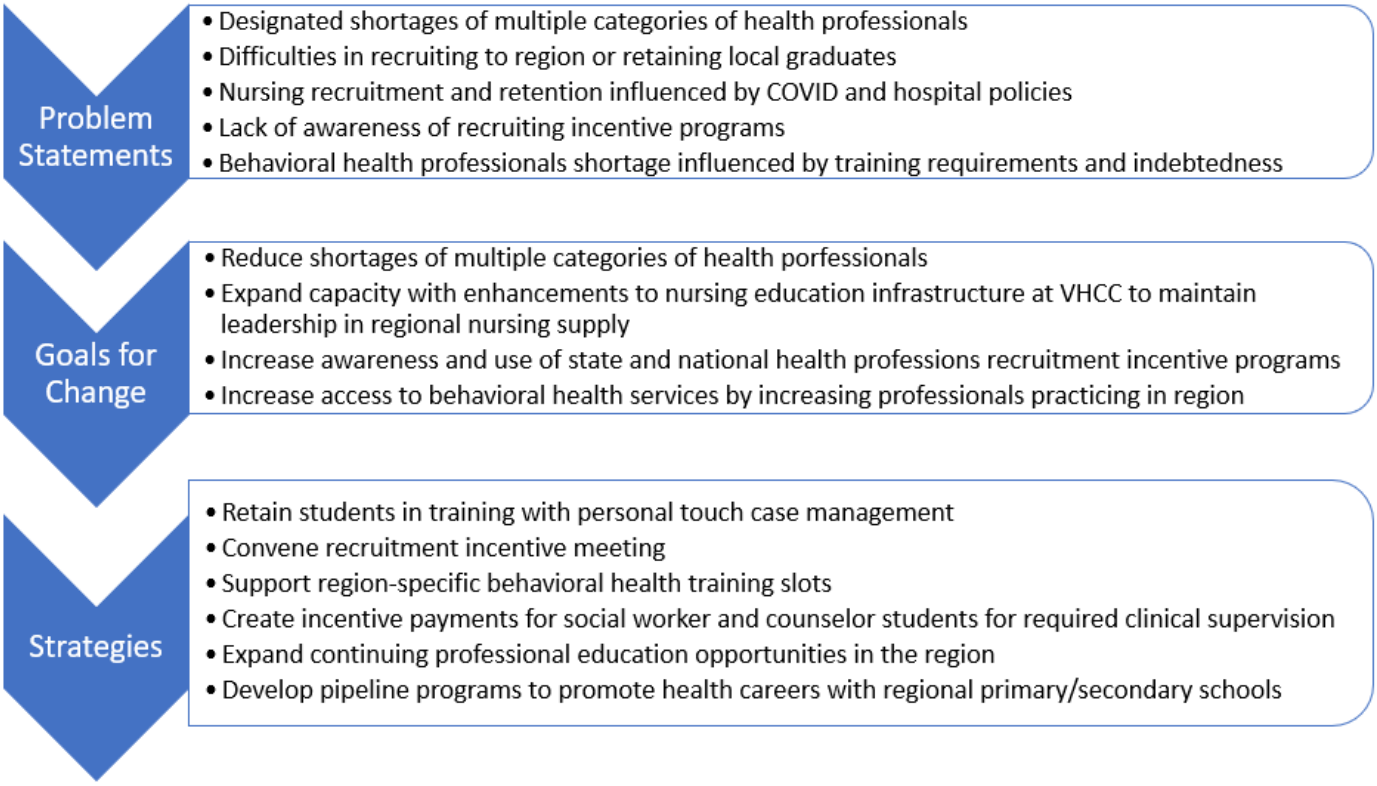
Link all incidents of SEI and NAS deliveries to systematic early intervention, including home visitation programs to promote compliance with pre- and postnatal care recommendations and continuous use of substance abuse treatment.

Organize regional systematic early interventions to improve long-term NAS outcomes, including home visiting services coordinated with continuous pediatric care until age two in order to reduce sudden infant death syndrome and increase proper use of medical services for children with NAS.

Conduct a local continuing education series for multidisciplinary providers about topics related to care for children with NAS diagnosis.

Develop a reporting system that assists with metrics and data collection on the incidence of SEI and NAS regional health outcomes.

Health Workforce Topic Planning Pyramid



Planning Pyramid for Health Workforce

INPUT	**Phase 1**	**Data Tables**
	Phase 2	**Virginia Highlands Community College**
		Virginia Department of Health State Office of Rural Health
		Virginia Health Care Foundation Behavioral Health Workforce Assessment
		Ballad Health Cooperative Agreement
		Center for Family Engagement
	Phase 3	**Panel of Experts for Health Workforce**
	Phase 4	**Community meetings in Smyth, Russell, Washington and Grayson counties**
	Other	**Virginia Tech Report, Primary Care Provider Count for Southwest Virginia, 2020**

Problem Statements

Virginia Highlands Community College (VHCC) does not employ a campus nurse or mental health provider for a population of 3,000+ students. Students are referred to local mental health and primary care providers.

VHCC's capacity to train additional healthcare workers, as well as skilled labor for other technical occupations, is limited primarily by its current facilities.

Shortages of primary care physicians, dentists and behavioral health (BH) professionals are federally designated in all or parts of all four counties. Participants also identified evidences of nursing and other health professional shortages.

Documented shortages in counties in primary care and behavioral health, with newer counts of primary care providers, including nurse practitioners in SWVA. Discussions on issues of health inequity, lack of access, availability and accommodation.

Full-time equivalents of registered nurses grew in state by 8% in past five years, but LPN equivalents decreased by 7%. RNs in far Southwest Virginia counties represent only 4% of state total.

It is difficult to recruit health professionals to the region and retain local residency graduates.

There is a general lack of awareness of federal and state recruiting incentive programs.

Hospital policies have negatively impacted nursing recruitment and retention.

The COVID-19 pandemic has increased stressors on behavioral health professionals, and the increased demand for services outpaces the capacity of the workforce.

There are concerning demographics for licensed BH professionals. A high percentage are nearing retirement age, and the current workforce does not reflect the racial and ethnic diversity.

All four counties are federally designated Mental Health Professional Shortage Areas. All four counties have limits to broadband internet access that currently reduces access to telehealth services.

Virginia's behavioral health programs do not produce enough new graduates in their professions to maintain even the current inadequate supply, let alone address the tremendous growth in demand. The five types of licensed behavioral health professionals include psychiatrists (all types), psychiatric-mental health nurse practitioners, clinical psychologists, licensed clinical social workers and licensed professional counselors.

The four counties have limited numbers of each type of behavioral health professionals, with Grayson and Russell having very small numbers.

Shortages of master's level licensed clinical social workers (LCSW) and licensed professional counselors (LPC) are influenced by licensure regulations that require expensive supervised clinical hours prior to taking licensure exams.

There are no organized region-wide school-based curricular or experiential programs to encourage students to pursue health careers.

Those currently involved in health career training indicate difficulties in identifying position openings.

Some students and residents report regional practice and employment offers are not competitive with opportunities outside the region.

Graduates have encountered regional recruitment processes that lack clarity and flexibility in employment contracts, along with late or prolonged negotiation processes.

Shortages in health professions force residents to leave their counties to get the care they need. This is complicated by other access problems, such as obtaining appointments, arranging travel, etc.

Shortages result in no postnatal care for women and no pediatric care for children in Russell County.

Lack of hospital staffing is preventing full use of beds.

The shortage of professionals is insufficient to meet mental health demands, and also creates a lack of capacity for expanding into additional needed treatment services or focus on preventive services.

Shortages of helping professionals exist beyond health professionals, including in law enforcement, social services and teaching. Helping professions jobs are hard and pay is low, which contribute to turnover.

There is a lack of local healthcare facilities with equipment in the Whitetop Community Center.

Hospital consolidation is not seen as a positive for places like Grayson County. It negatively impacts an ability to recruit professionals to move to the county due to lack of access to local health services.

Goals for Change (what participants want to change)

Expand the capacity of the Virginia Highlands Community College (VHCC) nursing education building through expansion or remodeling to serve additional students and enhance instructional technology.

Increase use of incentives to attract and retain health professionals within the region.

Promote positive exposures to health career opportunities for regional students.

Encourage regional recruiters to actively express interest to students and residents early in their educational process and include competitive salary offers and a range of financial incentives.

Expand workforce recruitment and retention focus to include mental health practitioners, law enforcement personnel, and employees of the Department of Social Services and schools.

Increase access to services and reduce shortages by organizing outreach clinics and services, including a psychiatric residency program in Russell County.

Strategies (approaches for addressing goals)

Retain health professions students in training with personal touch case management (Single Stop) that facilitates wrap-around services and financial aid.

Make regional providers, training programs and students/residents aware of health professions recruitment incentive programs for physicians, behavioral health, nursing and dental professions.

Tap into the national recruitment database through 3RNet.

Increase use of health professional incentive programs for underserved areas:

- Federal Nurse Corps Scholarship Program
- Federal NHSC Loan Repayment Program for medical, dental and medical/behavioral health students in health professions shortage areas
- State of Virginia Loan Repayment Program for medical and dental, including hygienists, nurses, mental health practitioners, alcohol and abuse counselors and pharmacists
- State of Virginia Behavioral Health Student Loan Repayment Program for six categories
- Conrad 30 Waiver Program
- State of Virginia Nursing Preceptor Incentive Program for payments to qualified practicing nurses
- State of Virginia Certified Nurse Assistant with scholarships
- Tobacco Commission for speech/language pathologist, physical or occupational therapist

Explore regional eligibility to tap the Tobacco Commission's contract with the Virginia Department of Health's Student Loan Repayment Program for Healthcare Occupations Program.

Increase funding for more psychiatric residencies and fellowships for child and adolescent psychiatrists.

Initiate a regional incentive payment program for clinical supervision required for licensure of master's-prepared social workers and counselors.

Recruit primary care providers and specialists in rural markets.

Implement a team-based model to support primary care providers, which add clinical pharmacists, care coordinators, and behavioral health navigators.

Develop new clinical training programs in addiction medicine in Wise and Washington counties and behavioral health in Washington and Russell counties.

Grow a research effort in the region through clinical trials, community wellness and social determinants of health.

Expand continuing education available locally for different health professions.

Study strategies to address nursing staffing problems: work redesign; improve nurse-managers-to-nurse ratio; hire more educators; address childcare needs, including nights and weekends; and raise wages.

Encourage dental training programs to add curricular learning experiences for serving patients with special needs in order to address access to care issues and loss of teeth by age 40 among most individuals with some developmental disabilities.

Develop curricular and extracurricular health career educational experiences. Support a regional program to promote positive exposures for local students, including shadowing with healthcare role models.

Support health professions recruitment exposures in regional communities and involve recruits' families in community-based activities.

Encourage more people to be health aware and activated by joining rural EMS services and volunteer rescue squads. Conduct local training and testing. The first responder is the key to a strong rural health workforce.

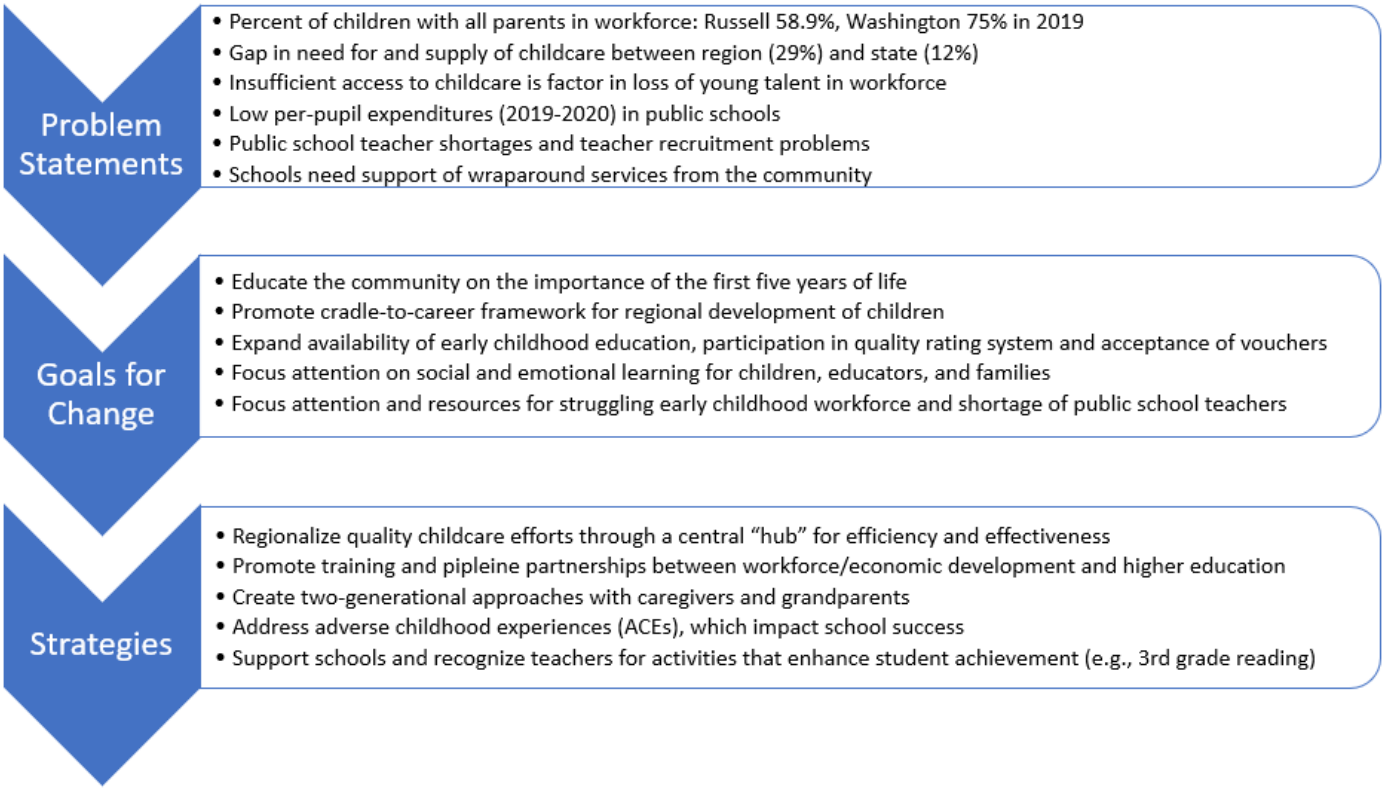
Promote interest in health professions careers through organized outreach to regional high schools. Support health professions recruitment exposures to regional communities and people that involve the recruit's family in community-based activities.

Expand the existing regional Area Health Education Center (AHEC) intervention program to identify and steer children who are strong in math and sciences toward opportunities to learn about health careers. Support health careers pipeline recruitment programs in primary/secondary schools in coordination with the Area Health Education Center (AHEC) of SWVA and Graduate Medical Education Consortium of SWVA.

Support the effective recruiting strategy of partnering with colleges to offer internships and recruit the best interns, then offer interns tuition reimbursement as signing and retention bonuses.

Promote good management practices of focusing retention on attending to individual employee needs (e.g., flexible schedules and telework that accommodate family time), job satisfaction and desire for additional training results in retention.

Children's Education Planning Pyramid



Planning Pyramid for Children's Education

INPUT	**Phase 1**	**Education statistics**
	Phase 2	**United Way of Southwest Virginia**
		Virginia Highlands Community College
		STRONG Accountable Care Community
		Virginia Department of Health State Office of Rural Health
		Smyth County Public Schools
		People, Incorporated
	Phase 4	**Community meetings in Smyth, Russell and Grayson counties**
	Other	**Cardinal News**

Problem Statements

Percent of children with all parents in workforce: Bristol 65%, Russell County 58.9%, Washington County 75% in 2019.

Almost three times larger gap (29.3%) between the supply and need for childcare compared to state average (11.9%). Almost 7,000 children who do not have adequate, affordable, quality childcare.

High out-migration, particularly of the working-age population. Between 2017 & 2018, more than 7,000 prime working-age adults (age 25-64) left SWVA for another state.

Insufficient access to childcare is factor in loss of young talent in workforce.

Childcare is expensive; center-based care for one infant ($14,560) and home-based care for one preschooler ($10,504). Data on charges for different types of early childhood education slots and the percent of family budgets is incomplete.

Only 35% of registered childcare providers accept subsidies.

High levels of families at or below the poverty level (51% regionally compared to 39% for the state of VA).

During the COVID-19 pandemic, 70% of providers reported the need to close or reduce the capacity of classrooms at some time during the year due to lack of staff.

Childcare workers are the lowest-paid skilled job at $12.00 per hour.

Virginia Department of Education and Virginia Early Childhood Foundation are promoting quality early childhood education for economically disadvantaged children through Mixed-Delivery and Preschool Development Grant programs.

Kindergarten Readiness: Entering school ready to learn can have significant long-term benefits for children on future education, employment, earnings, marriage and health.

Three of four counties have high percentages of kindergarten students with public preschool experience and low percentages of children not meeting kindergarten readiness benchmarks.

For the 2019-2020 academic year, 84% of children in Virginia and 83% in southwest Virginia entered kindergarten with appropriate ready levels.

Teacher shortages exist and there are recruitment problems. Primary factors include: desire to become teachers is waning; difficulty paying off college debt at sub-$40,000 salaries; teaching is mission-driven work (not for everyone); and teachers must create relationships that promote “strong schools make strong communities.”

All four counties have lower per-pupil expenditures (2019-2020) and lower percentages of local sources of financial support than state averages. State dictates how much locality must fund for schools. Smyth County is at 101% of the requirement.

Student achievement by proficiency level for all four counties is generally equal to or better than state (2020).

Grayson County and Washington County schools have good student achievement proficiency tests; Smyth County scores are lower.

There is still some stigma attached to career and technical education.

Schools can't do it all; wrap-around services from the community are needed.

Enrollment in higher education is declining faster than regional population decline. All higher education first-time enrollment declined 17% in Virginia and the number of higher education graduates declined 11%. Fewer high school seniors (77% before, 62% now) indicate intention to attend higher education.

Declines in higher education enrollment and graduation is a challenge to the future workforce since only 1% of new jobs since 2008 don't require post-secondary education.

Younger grandparents taking care of children and dropping out of labor market.

Kids are staying in foster care for many years. It is hard to find clean (drug-free) relatives willing to take children of relatives on drugs.

Smyth County has 90 children in foster care and only 30 foster care families. Many children are sent to foster care away from the county, losing local connectedness that is lifesaving.

There is a need to identify and intervene earlier with children who could potentially have problems due to family circumstances and history.

Of 21 children in foster care in Grayson County, 16 are Substance-Exposed Infants (SEI).

It is difficult to recruit foster care parents for SEI children because the babies cry all the time.

Limitations (availability and cost) in daycare and early childhood development centers affect the ability to adequately prepare children for school. These limitations also impact recruitment and retention of professionals. Operation of facilities is not profitable.

Include in the definition of childcare facilities: licensed affordable childcare, daycare and foster care homes

Goals for Change (what regional participants want to change)

Consider health of the family as part of a child's wellbeing.

Develop and support the struggling early childhood workforce.

Educate the community on the importance of the first five years of life.

Promote school readiness at kindergarten as a predictor for lifetime success at early grades.

Expand availability of early childhood education.

Enhance quality of early childhood programs.

Address adverse childhood experiences (ACEs).

Promote efforts that combine education and engagement, equitable access, health and wellbeing and workforce development.

Promote cradle-to-career framework for regional development of children.

Focus attention on social and emotional learning for children, their families and educators.

Address root causes of health and social issues to create more safe and stable environments for kids.

Support the statement "strong schools make strong communities." Encourage teachers to make the connection with students, families and community.

Strategies (approaches for addressing goals)

Build a data dashboard report card of key community indicators that includes fiscal resource maps, connections to community partners and other community factors relevant to early childhood success.

Develop and support early childhood workforce through partnerships with workforce and economic development partners, colleges and universities and online professional development. Work with colleges and universities to strengthen the pipeline for developing highly competent early childhood professionals.

Regionalize efforts through a central "hub" or backbone agency to enhance efficiency, coordinate work, and increase access to shared services that promote an early childcare system that enhances business development.

Focus attention on social and emotional learning for children, educators and families through the work of SWVA Trauma Informed Community Network and its partners.

Encourage involvement of local childcare providers in the state's unified measurement and quality improvement system.

Support the advancement of social-emotional skill building and trauma-informed interaction with children in schools.

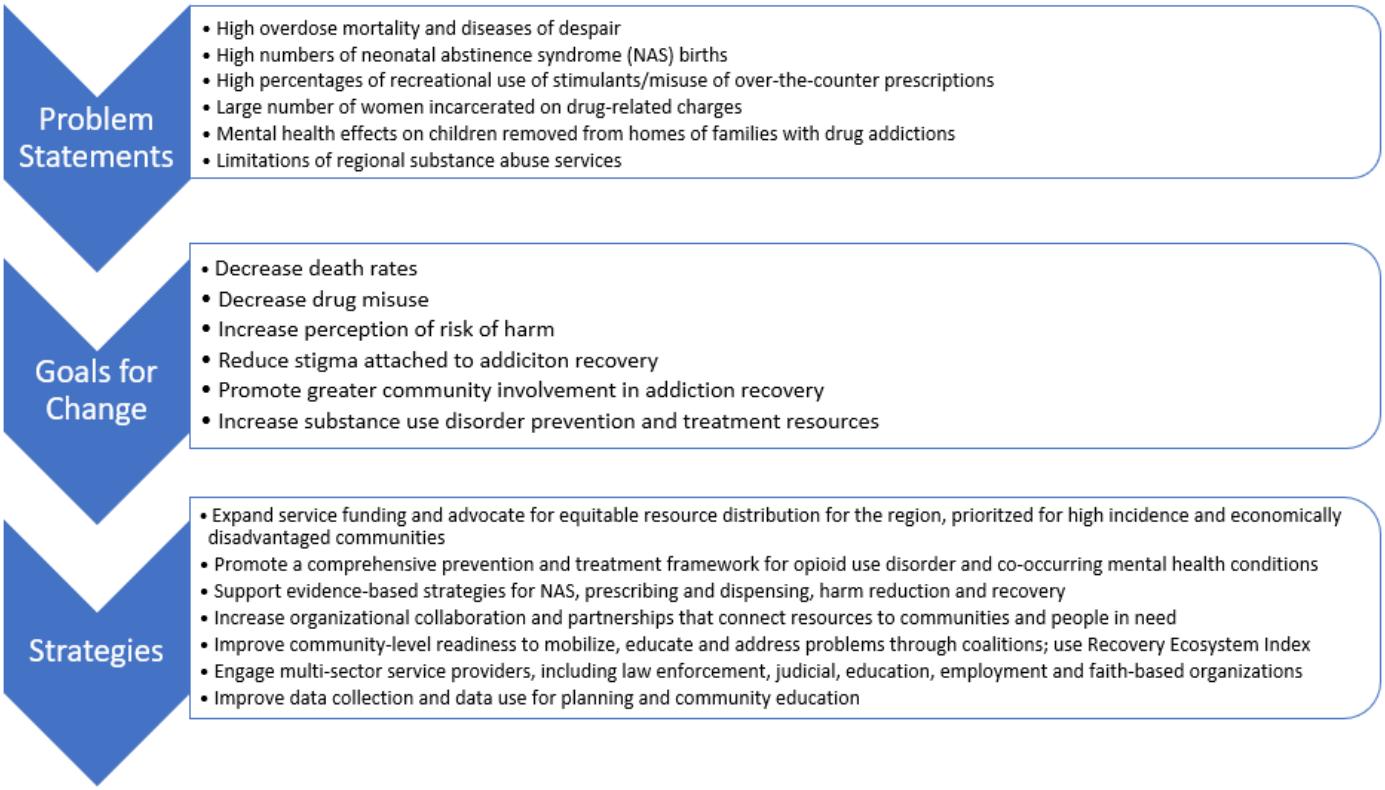
Create two-generational program approaches for caregivers and grandparents.

Assist community college enrollees with sufficient financial aid to enable continued enrollment and graduation.

Recognize Head Start as an important part of early childhood education for disadvantaged youth.

Recognize the potential of repurposing closed and unused school facilities for childcare centers.
Make families aware that the state has reworked a subsidized childcare program through school systems, including lowering the co-pay rate during the pandemic.

Substance Abuse Planning Pyramid



Planning Pyramid for Substance Abuse

INPUT	**Phase 1**	**Drug abuse statistics, Appalachian Substance Abuse Coalition**
	Phase 2	**Opioid Abatement Authority**
		ETSU research group
		Health Wagon
	Phase 3	**Panel of Experts for substance-exposed infants and neonatal abstinence syndrome**
	Phase 4	**Community meetings in Smyth, Russell, and Washington counties**
	Other	**Newspapers**

Problem Statements

High mortality rates from fatal stimulant overdoses.

Overdose visit rates for all drugs in four counties are better than state rate, but the percentage change between reporting years 2016-2020 worsened in three of four counites.

Neonatal abstinence syndrome (NAS) rate per 1,000 birth hospitalizations was significantly higher in three counties, but improvements were documented in two counties from 2016-2020.

High self-reported stimulant and over-the-counter prescription misuse, including recreation use.

Lack of affordable housing and transportation impact employability.

Children removed from drug-addicted homes suffer adverse childhood experiences (ACEs).

Lack of availability of long-term treatment centers and inability to access treatment across state lines.

Large portion of female inmates are incarcerated on drug-related charges.

Twenty to twenty-five percent of Johnston Memorial Hospital patients are affected with SEI/NAS. Care for these patients requires extensive resources that place places a significant burden on pediatric clinics and hospitals.

Early brain development is critical for life success. SEI and children with NAS are at higher risk of developing a variety of mental health outcomes, including developmental disabilities, learning disabilities, childhood behavior issues, difficulties with bonding, poor social skills and interactions, and a general failure to thrive.

Common family characteristics associated with SEI and NAS include poverty, high food insecurity, housing and transportation needs. Families display environmental, behavioral (e.g., child abuse) and multi-generational cultural lifestyle problems. These exposures lead to confused views of what is right and wrong, safe and unsafe. Family problems often include having more than one member with substance-use issues.

Opioids get a lot of attention, but methamphetamines and marijuana are current issues.

Goals for Change (what participants want to change)

Discourage or prevent misuse of opioids.

Decrease opioid and stimulant death rates.

Decrease rates of adult and youth prescription drug misuse.

Reduce the supply of prescribed medications and illegal substances in the region.

Increase perception of risk of harm with use of methamphetamines and prescription drugs.

Decrease the percentage of youth who use meth in their lifetime.

Increase collaborations and partnerships among organizations providing substance use disorder services to improve connecting people in need with resources.

Work together to bring additional resources into our region.

To abate and remediate the opioid epidemic in the Commonwealth.

Strategies (approaches for to addressing goals)

Tap the new Opioid Abatement resources for the region. Advocate for equitable distribution of resources for the Southwest Virginia region by prioritizing high incidence and economically disadvantaged communities.

Oppose use of new funding that supplants current support of existing programs. Encourage monetary matches for grant awards.

Promote organizational collaborations and community partnering.

Reduce stigma, increase understanding of the science of addiction and give persons in recovery a platform for effectively telling their stories and sharing their hope.

Support community coalitions to mobilize community awareness and education and leverage social capital; improve level of substance abuse coalition readiness to address problems.

Collect, monitor, review and share information about needs and examples of successful interventions.

Improve data collection and use for planning.

Define a regional continuum of treatment and develop plans with service organizations and providers to address gaps. Support cooperation between prevention and treatment programs within the continuum. Engage multiple community stakeholders like law enforcement, education and employers in systems planning.

Support treatment of opioid use disorder and co-occurring substance use disorder or mental health conditions. Support use of evidence-based or evidence-informed methods, programs or strategies.

Link people who are at risk for addiction to services.

Support range of services for people in recovery.

Support special efforts to address the needs of pregnant or parenting women with opioid use disorder.

Prevent overprescribing and ensure appropriate prescribing and dispensing.

Provide resources for patients seeking opioid detoxification.

Support drug treatment and recovery courts.

Reduce siloed organizational work and patient services through a regional coordinating task force that improves communication across services delivery.

Develop a regional plan to coordinate access to care for after-hours/weekends, specialists and telehealth services.

Support regional case management services that improve awareness of patient needs, assumption of care responsibility and interorganizational protocols for referrals.

Create a systems approach for SEI/NAS services by engaging support from community entities (faith-based, boys' and girls' clubs, after-school programs, etc.).

Address gaps in residential treatment programs.

Support safe zones for people on drugs, along with a place for women to get away from home and stay away from drug houses to care for basic needs (showering, washing clothes, etc.).

Help those in drug use recovery to get ready for employment and to work. Ballad program coordinates with 40 employers in Smyth and adjacent counties that are willing to hire them.

Assist counties trying to find partners to help use opioid funding; need to move quickly.

Phase 3 Report

October 2022

Prepared by: Bruce Behringer, MPH

The Wellspring Foundation of Southwest Virginia community health needs assessment consists of four phases. This Phase 3 panels of experts' assessment follows the Phase 1 secondary data collection and analysis that resulted in 13 topical data tables, and Phase 2 organizational presentations about their assessments and plans focused on 18 selected regional topics. The Foundation narrowed its interest to three issues as part of Phase 3. Findings from Phase 3 will be presented at community leaders' meetings in each of the four counties in the Foundation service area as part of Phase 4.

Objectives

1. To convene panels of experts to explore specific Foundation-selected issues in greater detail.
2. To engage experts from health and other sectors to confirm and elaborate on region-specific problem statements, discuss potential goals for change, and identify alternative strategies designed to address identified problems.
3. To generate findings and recommendations to be considered by the Foundation for future investments.

Method

This first community health needs assessment was intended to identify regional topics and progressively narrow its scope to a limited number of focused issues. The Foundation's Operations and Planning Committee and staff discussed the Phase 1 and Phase 2 findings and used a ranking process to identify its priorities. The Foundation's consultant produced seven sample ideas for panels of experts. Each idea was summarized with a rationale, meeting and learning objectives and process methods. Three were selected for immediate action, one issue will be considered using an alternative data collection and assessment methodology (personal surveys), and three ideas were postponed and put into a "parking lot" for later consideration.

For Phase 3, staff identified and invited key organizations and representatives for three separate issue-oriented panels of experts' meetings. Between eight and 15 experts were invited and attended the meetings. For one issue (mental health), supplemental calls were conducted with several key organizations who were unable to attend.

Ninety-minute agendas were organized by the consultant. Staff and committee members created questions prior to the meeting, following the meeting theme, "What do we want to learn?" about each issue. Each meeting began with an introduction to the Foundation and its purpose by staff, and ended with an invitation by staff to participate in a specific follow-up action related to the issue. Each meeting included a mix of group process exercises, small break-out groups, written participant input using flip chart pages, full group discussions and written responses to questions using index cards. Interaction between committee members and experts was encouraged to assure input from all participants.

This report includes a summary of the discussions and findings from each of the three selected issues. The narrative below is organized as responses to the questions posed for each issue. Several summary tables are appended to the report to capture the depth of findings, suggestions and recommendations from each panel.

Issue: MENTAL HEALTH

Many behavioral health topics were identified in Phases 1 and 2. The Foundation chose regional mental health issues as its specific area of concern. The Foundation recognizes the importance of broader behavioral health problems, particularly substance abuse. However, it appears that more statewide and federal resources are emerging to be targeted toward addressing substance use disorder, including helping those with dual mental health and substance abuse diagnoses. The Foundation may find future opportunities to complement these other resources to assist with regional initiatives.

This panel included seven regional experts. Attendees included two mental health service providers (one community services board and one community health center with integrated primary care and behavioral health services), three emergency department nurse managers from regional hospitals, one county sheriff and one health system behavioral health administrator. Supplemental phone interviews were conducted with an additional four persons, including a local minister representing faith-based community.

What the experts told us…

- *Community-based mental health services are underfunded.*
- *There are important mental health services lacking in the region, particularly for children and adolescents and emergency services.*
- *The rate-limiting step for regional improvement is the supply of adequately financed behavioral health professionals.*

What is your assessment of the region's mental health needs and services?

Some fundamental understandings emerged. The whole "system" is crisis-oriented, not prevention-oriented. Today's mental health workforce is stretched and stressed. Many occupations in communities are confronted daily by individuals with mental health problems, and they often lack training or support to provide assistance. There is a lack of timely access to key or missing services for children and adults. This results in inappropriate use of hospital emergency departments and law enforcement resources. Services are most successfully accessed when experienced care coordinators become involved.

Experts sensed that the regional (some indicated national) mental health crisis stems from a social breakdown that leads to conditions enabling poor mental health. Contributing factors include multigenerational trauma, perceived limits to future opportunities for improvement, lack of educational achievement and a mix of related factors titled "social determinants of health." Household and regional poverty and stigmatization of mental health issues are continuing factors that limit access to preventive services, which leads to crises and expensive long-term treatments, not in communities but in institutions. State mental health allocations reflect this dilemma. Virginia is ranked 46th in funding for mental health, and 70% of those funds are used to support state hospital inpatient systems.

Participants separated their responses into two broad categories:

Unaddressed Needs or Gaps in Services	Overloaded Services
- Pediatric services and childhood trauma due to neglect, lack of supervision, food insecurities - Geriatric services: behavioral health transitional housing and community dementia education - Care models that acknowledge problems cannot be addressed with short-term services - Readmissions - Lack of training, particularly for community members who interact with those in need - After-care planning - Care management needs and care coordination - Counseling/therapy for grief, loss and isolation - Homelessness and care for dual diagnosis	- Shortage of inpatient beds - Emergency services for children and adolescents with appropriate long-term care options - Medicaid transportation and distance to care for rural residents - Crisis services stemming from insufficient safety net resources to address issue when manageable - Credentialing - Leadership management training

Five pivotal needs were identified: a shortage of inpatient beds specifically for child and adolescents; a shortage of health professionals adequately trained to care for persons with mental health problems; more community-level resources to purposefully engage schools, law enforcement and primary care providers as part of a mental health system; an expanded vision and scope for mental health services (transition to longer-term, family-focused services, while assuring necessary support for transportation, etc.); and financial resources to employ more care coordinators who successfully encourage and guide those in need to and through services.

What coordinating structures and processes now exist between services, organizations, persons and communities in need?

It was agreed that there is no formally organized and structured "mental health system" in the region. No single entity is in charge of or responsible for assuring a continuum of prevention-to-treatment services or accountable for population-level improvement and outcomes. The "system" looks very different in various places, as well as from the distinct perspectives of patients, care providers and others in communities. Finding care for those in need is often reduced to a continuing series of phone call requests for referrals.

However, examples were described of organizations that are now cooperating across services. Coordinating strategies included development of after-care plans, formal meetings between hospital and Community Service Boards (CSB) staff, standardized referral processes, joint participation in community needs assessments and community prevention coalitions, open communication avenues between law enforcement and schools and co-location of staff at points of service. Several new facilities and services were described, all products of the pursuit of grants and sustainable funding sources. Several best practices were identified worthy of consideration for replication in other locations or situations.

The common theme for success was personal connections between staff members of different organizations and with community members. Some connections become formalized and result in organizational partnerships. Experts highlighted key elements of partnerships: awareness of each other's services, trust and mutual respect, ongoing communication and collaborating on common goals. A second common theme was the importance of county/regional coalitions that work to bring many community interests together to assess, plan and support relevant activities.

Much of the discussion centered around the mental health workforce. Many health professional disciplines are engaged as care providers, along with many more unrecognized community members who often interact with those with mental health issues and crises. These include persons in law enforcement and the legal system, all types of school personnel, churches, employers and primary healthcare providers.

A type of systems trauma was described by medical and mental health service providers. They have face-to-face interactions on a daily basis with patients experiencing complex trauma. An outcome is a consistent sense of crisis among these providers, which is reflected in a mass exodus, turnover, absenteeism and staff concerns and attitudes. Experts expressed concerns about their own safety, worries about challenging situations caused by staff shortages and being targets of rude patients or families. They were particularly perturbed about confrontations emerging from negative social media images and messages.

The mental health workforce crisis is seen as a perfect storm of shortages created by retirements, professional weariness from the stress of the COVID era, new technologies, and increasing service demands and societal expectations. Experts recommended attention and support to help personnel survive in their positions.

What recommendations would you have for Foundation investments to address mental health needs?

Recommendations fell into six categories. Two categories suggested adding services. Another focused on enhancing school-based and school-connected services. Several recommendations urged capital investments. Two categories aimed at systems-focused strategies, promoting more interorganizational service connections and expanding the mental health workforce.

Improved outcomes would result from making mental health services available in locations that are more easily accessible by those in need, and more timely in response to when those in need seek care. However, these two factors would require more partnerships. While all experts acknowledged that Southwest Virginia as a region is good at creating coalitions and collaborating across organizations, a challenge was presented about how to migrate to a broader, more cohesive mental health systems approach. Currently, many organizations and services appear to be operating successfully, but in their own silos. Performance evaluation measures are now service- and patient-specific, but without long-term, interorganizational or systems outcomes.

Specific recommendations are found on page 54. Additional discussions were suggested to further explore how to connect formally organized and separately funded services with other parts of communities affected by mental health issues. Strategies are required to better communicate, coordinate, and mutually support broad improvements. A case study approach was suggested to better understand how the system now works and uncover a fuller understanding of system-oriented development strategies.

In summary, the panel of experts recognized the need to focus on four distinct and related areas:

- Address missing and overloaded services, including adding new beds and staffing for selected services, particularly for children and adolescents
- Recognize the shortage of mental health professionals and support workforce development
- Acknowledge the importance and value of other key community members as part of the mental health workforce, then adopt a family-focused and long-term scope of services, which includes necessary wrap-around services that contribute to successful patient care outcomes
- Back efforts to identify and address systems-building strategies to improve regional mental health

Issue: HEALTHY BABIES, INCLUDING SUBSTANCE-EXPOSED INFANTS

AND NEONATAL ABSTINENCE SYNDROME

Many statistical indicators discovered in Phase 1 and testimony presented in Phase 2 verified the substance abuse difficulties faced throughout the region. A broad array of risk, morbidity, and mortality figures showed Southwest Virginia counties compared unfavorably to the entire state and nation. The entirety of the substance use disorder issue was seen as too broad for the Foundation to approach in this, its first community health needs assessment. However, one indicator, babies born with neonatal abstinence syndrome (NAS), drew sustained concern and interest from Phase 2 professional and community presenters. One presenter helped to clarify its definitional elements — the focus should be on the more broadly defined substance-exposed infants (SEI), of which a medical diagnosis of NAS is a significant part.

Fourteen regional experts participated in the panel. Attendees included obstetric and pediatric physicians, public health program personnel, hospital and health system services coordinators, school representatives, a social services official, a university professor and a regional United Way executive. The mix was intentional to help provide a view of the history, prevalence, costs and existing strategic approaches from a multi-sector perspective. As pointed out, however, the true experts — mothers and families experiencing SEI and NAS — were not directly involved.

What the experts told us…

- *This issue is a product of multigenerational problems, and should be addressed with families as a unit of service and practice.*
- *One important focus should be to encourage many organizations to form a working system of prevention and treatment services delivered across many sectors in the community.*

Committee members recognized that SEI including NAS is an overwhelming and emotional subject focused on the health of babies. It has multiple layers of causes and outcomes. Many organizations support interventions addressing parts of the issue. Data and descriptions about the true prevalence of SEI including NAS diagnoses seem lacking. Each provider can cite its numbers and percentages, but true regional rates, along with unduplicated counts of babies and now young children, are not available.

Being a member of a strong interactive community is broadly seen as a protective factor against drug abuse and related mental health problems. However, the panel of experts thought the general sense of community is being lost across the country. For example, schools were once seen as an important hub of communities, connectors to disseminate information, locations for delivery of many education and supportive services, and places of employment for caring professionals in communities. Now, however, schools are increasingly being challenged with educating children who suffered from NAS and its continuing behavior complications. A range of school personnel must daily address students' and families' social- and health-related trauma problems. Many personnel, including teachers, have not been trained to address these problems and sometimes become targets of abuse when trying to help.

The general sense was that many organizations, services, and resources are trying to prevent and adequately address the impacts of SEI including NAS, but services and communication are just not connected. The panel of experts suggested forming a focused system, one that begins with attention and services on parents and child together as a unit. Services need to be coordinated. Finally, the whole system should adopt approaches to connect with people "where they are at," and provide enabling services like transportation to improve chances of improved service outcomes.

What do we know and don't know about SEI including NAS in the region?

Participants shared their awareness and knowledge of SEI including NAS problems and related services through a small group exercise. Because of the breadth of organizations and professional disciplines represented, a wealth of detail was collected about "Knowns." A surprising amount of agreement was found about "Unknowns."

It was made clear that there have been an insufficient number of longitudinal studies to document key dimensions of the issue (e.g., long-term medical and behavioral impacts on infants and children, efficacious clinical and pharmaceutical practices, etc.). This gap in knowledge leads to questions about effective service interventions and content of individual and community educational messages. This prompted discussion about what would represent an effective configuration of coordinated services across a continuum of care for the child and family. Responses to this question are appended on page 56.

What are realistic goals for change and effective strategies to address the problems?

Through a second group exercise, experts identified a range of actions organized into seven steps of a continuum of care. Participants recorded ideas for changes they thought were required to address SEI including NAS, as well as their preferred approaches to enact those changes. A table with the full input is contained in the Appendix on page 58.

a. Primary prevention (preventing SEI and NAS). True prevention of SEI including NAS means preventing substance abuse among women of childbearing age, and assisting women who are using drugs to access and use family planning services. A series of educational and service improvement strategies were discussed. New localized research was suggested to compare protective factors of families with and without substance-exposed infants.

b. Prenatal and postnatal care. Access to timely prenatal care services for these complicated deliveries is limited. Several prenatal and postnatal care coordination and home visiting services are available. Engaging and encouraging participation in these educational interventions is challenging.

c. Pediatric care. There does not appear to be a standard regional team-based protocol for services for children with an NAS diagnosis. Continuing education involving staff across several organizations and from multiple professions is needed to promote adoption of best practices.

d. Family interventions. Families can be a pivotal barrier or become a resource to care for children with an NAS diagnosis. Interventions should focus on the child's whole support system, including male and multigenerational household members. Experts suggested introducing role models to families to provide exposure to something better and promote positive lifestyle changes.

e. School interventions. Like law enforcement and other community sectors, schools are confronted with addressing long-term NAS issues. Schools can play many roles, serving as a provider of direct services for children, a location for support services for families and a partner in community-wide substance abuse primary prevention activities. Additional training is needed to equip teachers to help children on a daily basis.

f. Service gaps. Many gaps were identified in what would be considered a comprehensive continuum of care. Experts used a lens of understanding that encouraged adoption of a long-term philosophy to treat the parent and child together as a unit.

g. Systems issues. Experts identified many pieces and parts, but acknowledged that there are no system hubs in addressing SEI including NAS. Interorganizational communication and community connections are needed.

What recommendations would you make for Foundation investments to address substance-exposed infants including neonatal abstinence syndrome?

A total of 28 different recommendations were recorded on index cards. These recommendations are in the Appendix on page 61. The responses aligned with the content from continuum of care model discussion.

This panel of experts was drawn from names of members of a previously formed regional NAS task force organized by Johnston Memorial Hospital and the departments of Health and Social Services. The task force ultimately attracted attendance from 50 persons, including representatives from Community Service Boards and obstetric and pediatric care providers. The task force began a regional resources inventory assessment and considered cooperative strategies before COVID-related restrictions stopped its meetings. This group found consensus in the need to formulate regional goals and adopt a new cooperative philosophy of long-term interventions focused on family units. There are plans to resume the meeting in early 2023, and the Foundation will be invited to participate as an interested member.

Two potential interorganizational systems strategies emerged in discussion as potential topics for a task force's consideration and Foundation support.

- First, the lack of research about SEI including NAS was cited several times. Experts noted that many families share similar social, economic, and environmental factors and stressors. Some families experience substance abuse, while others avoid the traps and risks. Studies are needed to identify family strengths and other factors that enable some families to not succumb to drug abuse and associated SEI including babies diagnosed with NAS.

- Second, the task force was seen as an effective networking venue for persons from different organizations to meet, learn about each other's services and share ideas about effective strategies. One task force objective might be to cooperatively organize a regional program of continuing education focused on SEI and NAS, to be conducted locally and designed to meet professional requirements of multiple disciplines. The process of organizing this would reinforce the value of operational coordination, become a vehicle for disseminating best practices, and represent a forward, systems-thinking posture.

Issue: HEALTH WORKFORCE

The Foundation has expressed strong interest in addressing health professional shortages for many disciplines by encouraging bright local youth to choose health careers, train locally when possible, and remain to practice and live in the region. This was stated as an explicit goal to the panels of experts consisting of persons currently enrolled in training in the region. While each individual's circumstances differed, the Foundation sought to identify common themes for strategies that would promote its goal, while also learning about how to avert factors seen as resisters to staying.

Fourteen regional experts participated in the panel. They were enrolled in or were recent graduates of regional medicine, nursing, dental, physical therapy, and behavioral health training programs. The preponderance grew up in the Appalachian region, mostly in small towns. These persons were defined as experts since it was their experiences and considerations from which ideas for Foundation investments could emerge.

What the experts told us…

- *If the goal is to encourage health professionals in training to make their homes and practice here, they should be exposed to and get to know regional communities during their education.*
- *Recruiters should actively express interest to those in training earlier in the education process.*
- *While not the only factor in recruitment and retention, finances, including competitive salary offers and a range of financial incentives, are important.*

What are the forces that promote or resist completing your educational program and staying to live and practice in this region?

A group process exercise was framed by three stages of a workforce development model to capture experts' ideas about influential forces. The stages were experiences during training; elements of the recruitment process, including weighing options and offers; and retention in the region once in practice. Each participant wrote promoting and resisting factors on sticky notes, which were placed on flip charts sheets designating each of the three stages. A wealth of ideas emerged. These ideas are summarized in the Appendix on page 63.

The most common promoting factor during training related to the quality of educational and clinical opportunities linked to availability of exposure to and experiences in regional communities. Curricula should include intentional ways to learn more about the region and its communities. Comments about the recruitment process garnered the most responses. Many of the participants were natives of the mountain region and noted the proximity of home, work and family, along with their already positive views of the region's environment, education and safety as promoting factors. Early and personal contacts by recruiters were suggested, with offers that include scholarships, loan repayment and competitive salaries. Regarding retention in the region, personal and family factors blended with a positive sense of being needed and helpful as a health professional within communities that are seen to be interested in long-term local improvement.

Experts were invited from varied disciplines and at different stages in their educational programs. The responses about resisting factors reflected this diversity. For those with limited previous connections to regional communities, a lack of sponsored social networking activities during training and recruitment was seen as detrimental. Limited regional clinical exposures during training left questions about potential practice limitations or an ability to make sufficient income to repay long-term costs of student loans. Choosing to stay in the region is first contingent upon job and practice openings. Identifying all potential openings is not a simple process. Many commented about a lack of clarity and flexibility in employment contracts and a late or prolonged negotiation process. Other resisting factors included personal/family, job/organizational and community influences. Participants mentioned the nature of rural life, with distance from population centers, having fewer professional colleagues, and a perception of being financially undervalued, when considering staying or moving to other places.

What types of incentives would be meaningful to you and others in your discipline to help choose to stay and practice in the region?

Participants provided many responses describing different types of incentives they consider while weighing decisions about locations for their first employment or practice following training. A committee member who is responsible for a medical residency training program and who assists many persons enrolled in health career tracks provided a three-factor framework to categorize responses.

Location	Job experience/atmosphere	Financial
- The community and its people - Displayed as a nourishing environment - Efforts to involve the family in recruitment activities - Attempts to address spouse's and family's social or employment issues	- Early expressions of interest during the recruitment process - Feeling welcomed during training and recruitment visits - Opportunities for broader and in-depth clinical experience - Ability to practice to the full scope of a professional license - Continuing education support - Organizational sense of professional development	- Competitive salary offers - Payment equity (example: pay for travel and staff nurses) - Access to and assistance with loan repayment - Start-up grants and assistance with small business loans

Participants also responded to a list of different financial incentives created by another committee member who is in daily contact with trainees. The incentives deemed most likely to be attractive were incentive pay, sign-on bonuses, professional license payments, payments to defray malpractice insurance costs and continuing education. Multiple participants had already encumbered very large education debts. For them, a package mixing salary guarantees, practice start-up assistance and loan repayment was critical, with regional packages being compared with those in other locations.

Tell us your story: How did you get interested in a health career?

To uncover old and new pathways to interest local students in health careers, the participants wrote their personal stories about their experiences and motivations for pursuing their careers. The responses fell into five general categories:

- Personal or family encounters with the healthcare system. The encounters of family members or close friends with cancer, heart disease, epilepsy and complex dental needs provided a glimpse of the helping nature of health careers.
- Professional role models. These were mothers and fathers who were health professionals or respected community leaders employed in healthcare.
- Health career educational experiences. These included high school summer courses sponsored by a college to shadow different types of health professionals and co-op positions at local healthcare practices.
- The academic and scientific challenges of health professionals. These stories related that health careers provided an avenue for learning and applying their passion for science.
- A change of profession. Witnessing the effects of trauma and mental health on people through years of working in law enforcement led one participant to pursue a second career in behavioral health.

Summary

The panel of experts method of community health assessment was successful in gaining insights from 35 persons from across the region on three Foundation-selected issues. While additional ideas were collected about the dimensions of each problem, the meetings' purpose was to solicit detailed thoughts about goals for change with suggested associated strategies. A set of sample plans drawn from the ideas generated by the experts, using the Problem Statement, Goals for Change, and Strategies framework, can be found in the Appendix on page 65.

The question and facilitated discussion format of the meetings enabled direct, useful conversations between Foundation committee members, staff and experts. Experts willingly clarified their ideas and interacted on challenges posed about root causes, measures for evaluating effective intervention, and a seeming lack of a plan for services coordination. The output of summary recommendations for Foundation investments, using facilitated discussion and anonymous index card techniques, resulted in a greater depth of understanding about regional problems, goals and strategies.

APPENDIX of Detailed Findings, Suggestions and Recommendations

RECOMMENDATIONS for Foundation investments in MENTAL HEALTH

Youth-oriented suggestions

- Invest/establish a pediatric mental health unit in our area
- Adolescent inpatient facility with staffing
- Additional mental health staff and services in schools

Family-oriented suggestions

- Family residential treatment facility
- Invest in the family unit and family counseling
- Transportation for families to get to primary care provider, dentist, laundromat, etc.
- Housing supports and resources
- Mobile crisis unit

School-focused suggestions

- More school-based healthcare services
- Resources to help build clinical spaces at the schools and provide start-up funding
- Universal screening at school and pediatric visits, care coordinators for responding to identified needs
- Training for school teachers/counselors on mental health issues and interventions
- Put true counselors back into schools to expand prevention

Additional capital investment suggestions

- Community outpatient behavioral health walk-in and crisis receiving day centers
- Brick and mortar investments for expansion of basic capacity across all service types
- Temporary and long-term residential housing in communities rather than institutions
- 23-hour observation unit
- Assure all investments are a product of multiorganizational efforts, and support operational collaboration: a mix of prevention and treatment with strong evaluation plans

Systems connections suggestions

- Ongoing communication among organizations to foster mental health services cooperation
- Coalition development that engages many organizations to foster community involvement
- Investment in expanding care coordination
- Bring mental health counselors to the local urgent care centers and emergency departments for prevention and/or treatment
- Data system to share information between service agencies and make referrals for service easier

Mental health workforce suggestions

- Regional staff development to promote key concepts: mental health as a normal part of taking care of oneself, education about shame and vulnerability at a very early age, individual and family resilience training, how to process emotions (emotional granularity)
- Funds to attract quality staff (hiring bonuses, educational stipends/offsets) and salary increases (have to make sure it's sustainable)

FINDINGS about Knowns and Unknowns for SUBSTANCE-EXPOSED INFANTS INCLUDING NEONATAL ABSTINENCE SYNDROME

What we know

About the babies

- 20-25% of Johnston Memorial Hospital patients are affected with SEI/NAS. Care for these patients requires extensive resources that places a significant burden on pediatrics and hospitals.
- Early brain development is critical for life success.
- Babies/children have an associated high risk for developing a variety of mental health outcomes, including developmental disabilities, learning disabilities, childhood behavior issues, difficulties with bonding, poor social skills and interactions, and a general failure to thrive
- Responding to treatment is not as successful

About the families

- Common family characteristics included poverty, high food insecurity, housing and transportation needs, and smoking
- Families display generational lifestyle, environmental, behavioral (e.g., child abuse) and cultural lifestyle problems. These exposures lead to confused views of what is right and wrong, safe and unsafe.
- Family problems include having more than one member with substance issues.
- Families tend to be noncompliant with standard health maintenance schedules for their children. Providers find many families who choose not to participate in home visiting services.
- General stigma against families continues, which perpetuates increased rates of more drug use.

About services

- With too few early intervention resources, the continuing focus is on acute crisis intervention.
- Medical Assistance Therapy clinics are needed for mothers who work, and there are too few recovery centers.
- Children need special school-based services to address developmental delay, speech and learning impairments.
- Systematic early intervention improves long-term outcomes. Home visiting services, coordinated with continuous pediatric care until age 2, can be followed by school system services. This has resulted in improved outcomes of reduced sudden infant death syndrome and increased proper use of medical services.
- Parenting classes and substance abuse treatment for parents improves outcomes.
- Other factors also contribute, i.e., poverty, smoking, etc.

What we don't know

About children and families

- The effect of vastly increasing maternal and family marijuana use on newborns. THC is known to concentrate in breast milk but what is its impact on an infant?
- The long-term effects of SEI and NAS on family dynamics and children's health.
- Methods of assessing the immediate and ongoing protective capacities of the parents or family members, including a parent's capacity to protect the infant who depends totally on that person for care and the capacity of anyone else who may care for the child (family, other guardians, protective services custody).
- The effective configuration of resources to build family capacity, including Department of Social Services, childcare/parenting classes, counseling and substance abuse services.

About services

- Which interventions could be provided to effectively support brain development?
- Methods of treatment and use of medications are recognized as variable. The side effects of medications in relation to development are unknown.
- How many children have not had their school entrance physicals, seen as an indicator of underuse of needed preventive healthcare for children?
- What early education and prevention services and messages could reduce substance misuse with pregnant women or women wanting to become pregnant?
- How to address people's lack of awareness and knowledge about programs that are available.
- How to integrate other services with the education system to address these missing pieces of family life learning and education.
- The long-term effects, presence and services for SEI including children with NAS on school systems. What resources will they need to address behavioral problems and learning delay?

SUGGESTED realistic goals and appropriated strategies that would address regional issues of SUBSTANCE-EXPOSED INFANTS INCLUDING NEONATAL ABSTINENCE SYNDROME

Step in Continuum	Goals	Strategy	Recommended strategies
Primary prevention	Improve regional awareness of SEI and NAS	To educate	-Develop regional public education campaign about short-term effects of SEI on infants, long-term impacts of NAS on children -Educate about personal and parental responsibility -More education in primary and secondary school systems -More community education about adverse childhood experiences
	Increase education and treatment programs for women of childbearing age	To serve	-Expand access to mental healthcare/education without stigma -Encourage early identification of women at-risk for SEI -Provide mandatory education before giving Subutex/ suboxone -Organize mentor groups for youth who are at risk
		To study	-Identify families with the same set of risk factors who have SEI/NAS and those who avoided SEI/NAS, and study what they did differently
Step in Continuum	**Goals**	**Strategy**	**Recommended strategies**
Prenatal and postnatal care	Increase the general availability of prenatal and postnatal care and counseling about SEI including NAS	To educate	-Assure inclusion of patient education about the causes and effects of SEI and NAS in prenatal and postnatal care services
		To serve	-Promote access to and use of family planning care to prevent pregnancy for those who struggle with addiction and do not desire pregnancy -Support inpatient and residential care during pregnancy and postpartum period with psychologists, obstetrics, pediatrics, nursing and addiction medicine teams -Provide mothers with resume building, life skills, budgeting, etc. that promote economic opportunity -Link all incidents of SEI and NAS deliveries to home visitation programs to promote compliance with prenatal and postnatal care recommendations and continuous use of substance use treatment

Step in Continuum	Goals	Strategy	Recommended strategies
Pediatric care	Improve use of well child visits and immunizations scheduled by pediatric providers	To educate	-Disseminate best practices for psychiatric care of children with NAS -Conduct local multidisciplinary CEU's series for provider about topics related to caring for children with NAS diagnosis
		To serve	-Increase accessibility to early intervention and pediatric care by providing services at locations such as schools or community centers -Integrate programs into pediatric visits that are designed to stimulate early development
		To study	Develop a reporting system that assists with metrics and data collection on regional health outcomes

Step in Continuum	Goals	Strategy	Recommended strategies
Family interventions	Acknowledge that the child's caregiver is not always the biological mom and refocus services	To engage	-Involve fathers and families more in education and services -Include more family members in parenting classes -Create support programs for grandparents, aunts/uncles and foster families to understand and assist with children with NAS
		To educate	-Intervene to break "young mother" cycle with links to role models who expose mothers to other ways of life
		To serve	-Support increased regional use of Baby Care and related home visitation services -Improve regional support for increased referrals of women at all income levels to Strong Starts program

Step in Continuum	Goals	Strategy	Recommended strategies
School interventions	Expand better mental healthcare with less stigma in schools	To educate	-Provide regional schools with education about trauma, anxiety, depression -Expand time given to health education courses (drug abuse, sex education and decision making) -Design/adopt programs that develop coping skills and mental health awareness for students -Promote family life and childcare education for high school students
		To advocate	-Include a mental health focus in Individual Education Plans (IEPs)
	Expand capacity of schools to again become community hubs where people go for help and support	To serve	-Provide on-site health services at schools as an outreach to community
	Support teachers who provide everyday care for children with emotional, financial and educational help	To promote	-Support regional trauma-informed schools and classrooms -Support teacher and other school personnel with professional development about trauma and mental health

Step in Continuum	Goals	Strategy	Recommended strategies
Service gaps	Eliminate gaps in services required for comprehensive care for SEI including children with NAS	To advocate	-Reorient substance abuse programs with a focus on parents as a unit with the child in mind
		To serve	-Increase availability of in-person physical therapy, occupational therapy and speech therapy services -Support recruitment of pediatric developmental specialists -Develop recovery/rehabilitation programs especially for teens

Step in Continuum	Goals	Strategy	Recommended strategies
Systems issues	Improve access to services	To serve	-Develop a regional plan to coordinate access to care for after-hours/weekends, specialists and telehealth services -Address system's capacity issues caused by not enough human capital or financial resources
	Improve coordination of services	To organize	-Reduce siloed organizational work and patient services through a regional coordinating task force -Improve methods of communication across service delivery -Support regional case management that improves awareness of patient needs, assumption of care responsibility, and interorganizational protocols for referrals -Adopt a partnering approach to cooperate in identifying potential clients: DSS applicants, schools and parents for children with IEPs, and Community Service Board clients
		To advocate	-"Think outside the box" beyond mental health/medical community partners to create a systems approach to SEI/NAS -Engage support from other community entities (faith-based, boys' and girls' clubs, after-school programs, etc.)
		To adopt	-Adopt a philosophy of no judgement on mothers/families -Reduce bias and stigma about SEI/NAS in communities and in healthcare system -Build trauma-informed communities -Eliminate barriers that enable holistic family care

RECOMMENDATIONS for Foundation investments to address SUBSTANCE-EXPOSED INFANTS INCLUDING NEONATAL ABSTINENCE SYNDROME regional issues

If flexible money were available, what or how you would recommend the Foundation consider investing in addressing the region's mental health issues?

Education-oriented suggestions – community

- Increased access to counseling services and treatment programs
- Trauma-informed community stigma reduction
- Provide community education about ACEs
- Education in the following areas:
    - Prevention
    - All resources available for families, individuals
    - Strengthen and expand mental health services in schools and communities
    - Tap into families who have been successful in breaking the cycle
    - Expand/educate in the area of ACEs
- Improve education of students on personal decision making in primary and secondary schools

Education-oriented suggestions – providers and patient-provider interactions

- Treat the family
- Education on addiction/substance abuse and contraception
- Early education to improve awareness of
    - Birth control
    - Substance use
    - Mental health

Program interventions

- Incentives for new moms to enroll in programs (diapers, pack and play, children's books, baby items)
- Provide support to current programs and initiatives – Baby Care, Healthy Families, Bristol's Promise, Ballad Health Population Health programs
- Provide services through churches and funding through churches' services (encourage faith-based programs)
- Regional public awareness day to offer resource information
- Mental healthcare and family therapies, including programs to address trauma and mental health (90% of addiction is poorly treated mental health)

- Incentives for parents of babies with NAS diagnosis who make progress with their substance abuse issues (e.g., gift/gas cards, etc.)
- Programs assisting pregnant women who are at risk due to drug use during pregnancy and the post-partum period

Support services

- Transportation
- Internet accessibility

Systems suggestions

- Funding programs to connect families/students to appropriate service providers
- Create cross-communication between agencies, including active involvement in monitoring through designated agency representatives
- Create online hub for Plans of Safe Care with all agencies' "buy-in" to participate
- Putting groups together to tackle this issue with counseling (settings not indicated)
- Increase collaboration between services
- Invest in a program that captures data in EHRs for individuals with NAS (in conjunction with a longitudinal study)
- Address gaps in residential treatment programs
- Promote systems building before investing by:
    - Studying gaps and opportunities
    - Identifying who are the key players
    - Identifying the key problems
    - Deciding how a system of services and care can best be coordinated
    - Addressing what is learned from research and gaps analysis
- We have many services, but how do we communicate? Make services accessible, get the word out and help people who agree to participate.
- Provide trainings and education to different individuals who may interact with NAS and substance use cases

FINDINGS about factors the HEALTH WORKFORCE faces that promote or resist completing education and staying to live and practice in this region

Promoting factors

	During training	Recruitment process	Retention in region
Location	-Positive rural clinical exposures -Experiences to get to know community -Training is close to home	-Proximity of home and work and to family -Positive view of region's environment, education and safety -Opportunities for extra activities for family and children	-Sense of community interest in long-term local sustainability/ improvement -This is home, close to family -Low cost of living -Good education systems -Sense that community promotes school-age children to choose fulfilling careers
Job experience	-Range of experiential learning opportunities beyond observation	-Opportunities that promote expansion of professional skill set -Work setting with family atmosphere -Vision of full range of possible regional job options	-Patients here are less high-maintenance than in large cities -Helping communities address their dire need for healthcare workers
Money or financials	-Early recognition of interest from potential employers and communities	-Early and personal contacts by recruiters -Opportunities for loan forgiveness -Scholarships associated with working in rural areas -Competitive salary offers	-Grants for practice start-up, low-interest business loans -Competitive salaries

Resisting factors

	During training	Recruitment process	Retention in region
Location	-Distance between home and training sites/classes - No connection with community, lack of sponsored social networking activities	-Little exposure to potential employers during training -Ties or commitments to out-of-region family -Perceived lack of interest/ favor toward people from region	-Lack of outside stimulation for those who are young and without children -The rising opioid problem in the area -Region is years behind in racial equality
Job experience	-Lack of clinical training sites -Limited exposure to broad range of cases, lack of diversity in patient population	-Lack of available jobs – no open positions -Limited positions in specific departments related to training -No/low pay incentives to pursue higher levels of training	-Unable to practice at full scope of license -Staffing ratios that compromise perceived quality of care and add to professional stress -Insufficient number of specialty practice areas

Money or financials	-Costs of school -Long-term costs of student loans -Lack of scholarships, loan forgiveness opportunities	-Salary offers much lower than national averages -Lack of flexibility in contracts and practice operations -Lack of clarity in contracts and prolonged negotiations -No stipends (incentives) offered during residency to stay in region	-Lower salaries -Sense of underappreciation and value of work and loyalty when comparing wages (i.e., travel nurses)

SAMPLE Recommendations for Actions in three issue areas from Panels of Experts Meetings

Mental Health	Substance-Exposed Infants - Neonatal Abstinence Syndrome	Health Workforce
Problems: -Loss of community connectedness reduces protective factors and contributes to increasing mental health difficulties -School personnel interact daily with student and family mental health problems, but are an underused resource in identifying and addressing mental health issues	**Problems:** - No sense of central hub - Lack of awareness of best practices - Lack of personal and programmatic connections to facilitate system referrals -Many children with NAS are being raised by grandparents/ guardians who lack awareness of NAS	**Problems**: -Health professions shortages in many disciplines -Trainees do not get exposure to many practice sites and communities in the region
Goal: Demonstrate how schools can become an actor in coordinating, delivering and supporting actions that positively contribute to a community's mental health	**Goal:** Promote a regional approach for addressing NAS through efforts of interorganizational task force	**Goal:** Recruit persons in training from local health professions education and training programs
Strategy 1 Complete several case studies, including site visits to regional locations, that illustrate how schools act as a hub of their community and add value to community mental health	**Strategy 1** Incentivize interorganizational activities with small grants that progressively promote networking, cooperating and coordinating activities	**Strategy 1** Support community-based recruitment activities in multiple sites in region for health professionals in training and their families, mixing healthcare systems and social exposures
Strategy 2 Collaborate with selected community groups (coalitions) to demonstrate, document and evaluate school-based and related prevention strategies and activities that promote mental health	**Strategy 2** Develop and sponsor regional multi-discipline continuing education series that includes best practice dissemination and diffusion	**Strategy 2** Assist training programs to include curricular experiences and clinical exposures in additional locations in the Wellspring Foundation region
	Strategy 3 Study the special issues of children being raised in intergenerational families	

Phase 4 Report

November 2022

Prepared by: Bruce Behringer, MPH

The Wellspring Foundation of Southwest Virginia community health needs assessment consists of four phases. Phase 4 reports on meetings conducted with community leaders in each of the region's four counties. Foundation staff and board members presented a summary of the assessment process and findings regarding three regional issues. These issues were selected following a review of secondary data (Phase 1), hearing descriptions of other assessments and plans from 16 organizations (Phase 2), and conversations with panels of experts (Phase 3). The Phase 4 meetings were intended to confirm that the selected issues were indeed significant to the counties, and to explore local interpretations of their causes and discuss effective approaches for foundation consideration.

Objectives

4.1 Communicate the purpose, vision and mission of Wellspring Foundation of Southwest Virginia.

4.2 Establish relationships with community leaders.

4.3 Hear and learn from community reactions to the community health needs assessment findings and how their communities are impacted.

Method

Foundation staff and board members identified community leaders in each county. Multiple board members tapped current or previous connections within each county (place of residence or employment) and facilitated staff communications and invitations. Invitations were extended to formal leaders from county and municipal governments, local schools, law enforcement and social services. Invitations were also extended to selected healthcare organizations (hospitals and community health centers). An average of seven community representatives and three Foundation board members attended each meeting. A staff presentation followed by facilitated discussion occurred at each meeting.

Smyth County meeting, Marion, November 9, 2022

Eight people from county and municipal governments and the county sheriff, school superintendent and hospital administrator attended. Participants viewed the three issues as interrelated. They acknowledged the presence of each issue and described experience gained through ongoing discussions about potential longer-term solutions that address root causes. Leaders were very aware of local statistics, state and regional programs, and opportunities to secure and use external resources for their county. Discussion focused on problems faced daily by leaders, but easily transitioned into thoughts of potential goals and strategies. Several local innovative projects evidenced a high degree of cooperation among leaders. Participants viewed the Foundation as potentially valuable in several ways: as a new source of matching funding support for community-designed programs; as a convener for organizing issue-specific stakeholder groups from across regional counties; and as providing targeted, more flexible support focused on local needs to fill gaps left by traditional governmental programs.

Russell County meeting, Lebanon, November 10, 2022

Six community members attended. These included the county administrator and chair of the board of supervisors, the sheriff, DSS director, hospital administrator and the planning district commission director. Three board members also attended, two of whom had lived or worked in Russell County. Attendees reviewed each issue separately. Leaders cited local data, and provided stories to describe the scope and intensity of individual problems, as well as services system shortages and complications. Participants underscored ongoing personnel shortages and overloaded demands on professionals. Beyond physicians and hospital staff, there are constant openings in mental health case workers, law enforcement and school personnel. Participants described dysfunctions within the services system seen to be driven by regulations for persons with mental health problems, substance-exposed infants and children with NAS. Poor outcomes were traced to service gaps in the county. Distance to and lack of transportation to go to out-of-county providers is a problem. SEI was seen as the single, very difficult issue that affects all agencies. Despite good working networking among all the major stakeholder agencies, the need and demand for services is overwhelming the shorthanded system of services.

Washington County meeting, Abingdon, November 14, 2022

Six community leaders attended, including a town administrator, the chief deputy sheriff, hospital administrator, social services director, community health center director and a local minister. Six Wellspring board members also attended, all residents of the county. Each of the three issues were discussed separately. There is a need for additional mental health workers. Mental health including NAS issues were seen as multilayered, not restricted to specific age groups and having multigenerational roots. Patterns of trauma were described and reinforced through interconnected observations from social services, law enforcement and the ministry. Gaps in services are related to shortages of trained personnel, which in turn lead to poor health statistics. New workers need to be trained and greater support for retaining existing professionals is needed. A great deal of attention was paid to recruiting professionals, including not only in health fields, but in other helping professions. The COVID pandemic had effects not only on patients and the broader population, but also on service providers who encountered excessive demands for delivering more services.

Grayson County meeting, Independence, November 16, 2022

Eight community leaders attended, including the county administrator, several county supervisors, the sheriff and two Department of Social Services representatives. One Wellspring board member, a former county supervisor, also attended. A continuing theme across responses to the Foundation-selected issues was the controlling influence and impact of being rural. Rural was characterized by stories of problems, shortages of resources and local gaps in services, all of which highlighted the effects of distance and travel time to access available services. Isolation and limits of formal resources make reliance on informal community-organized responses to individuals' and families' problems a norm. Rurality also elevated the need for local solutions for transportation and housing issues for many categories of residents. Leaders willingly tapped external resources to support local solutions, but also expressed the need to be part of broader regional networks.

Review of input on the Foundation's three selected issues

Mental Health

What was confirmed:

- Many mental health issues are generational. Solutions are needed to break the cycle.
- Gaps in services are specific to each county. Current waiting times are detrimental to getting timely care, for individuals in crisis and for non-acute problems. Distance to care is a real problem for people living in rural parts of counties.
- There is a regional shortage of mental health professionals. There are difficulties in retaining new employees because of the difficulty of jobs. Shortages lead not only to not having enough personnel to meet mental health demands, but also to an inability to expand into additional needed services.
- People with mental health problems appear in settings and situations that are not the right environments for appropriate treatment (e.g., schools, emergency departments, with police).
- School personnel, law enforcement officers, EMTs, primary care providers and clergy interact daily with people and families with behavioral health problems. They could benefit from additional training to be more effective and be seen as part of local mental health systems.
- Healthcare practices that integrate medical and behavioral health services in primary care settings are seen as practical and effective.
- Communities and agencies need to figure out how to prevent or identify mental health issues earlier. Intervention before crisis is preferred. Screening tools already exist for that purpose.
- Effective long-term treatment solutions often cannot be accomplished within traditional 90-day limits. Assuring continuity of care across multiple services and providers is critical.

New ideas and interpretations:

- Recognize and appreciate how much of mental health problems can be traced to the effects of unaddressed trauma. Many social ills have roots in underlying trauma.
- There is a huge gradient in mental health issues. For example, many people suffer from behavioral health problems but still contribute to society.
- The shortage of foster care homes, and avoidance of caring for children of drug-dependent relatives, contributes to the insecurity and long-term needs of foster children.
- A clearinghouse is needed to list services and resources, including for persons not in acute mental health crisis. This should become a convenient channel to connect people with care.
- Organizations are creating workarounds to address mental health professional shortages. One hires new masters-level social workers and provides training opportunities to become a Licensed Clinical Social Worker as part of employment.
- Emphasize preventive, not reactive action. Early intervention reduces the need for residential care.
- A national shift in mental health policy reduced emphasis on long-term hospitals and shifted care to community-based options, but the shift did not properly fund services. Now there are fewer hospital beds and an underfunded community care system. These policies have turned jails and prisons into mental health hospitals without the services.

- Mental health services for incarcerated individuals provided before release would help.

What was refuted or suggested for broader thought:

- Expand the scope of the Foundation's interest in mental health to include a focus on trauma, and for children, a focus on adverse childhood experiences (ACEs).
- View the homeless as unsheltered persons with food insecurities, mental health and medical service needs, and lacking basic daily needs (showering, washing clothes) in safe environments.
- Opioids get a lot of attention, but methamphetamines and marijuana are the current problems.
- Societal reliance on government organizations to fix their problems has grown. This leads to a loss of sense of personal independence and responsibility.

Substance-Exposed Infants (SEI) including Neonatal Abstinence Syndrome (NAS)

What was confirmed:

- Regional counites have had high rates of NAS, child abuse and neglect, and childhood trauma.
- Too many pregnant women are presenting for delivery at hospital emergency departments with no prenatal care. They avoided care because of being substance-addicted.
- A range of effective prevention strategies exists to address SEI and long-term negative impacts of NAS: promote family planning for women using substances, encourage use of early prenatal care, coordinate support services for families and work to aggressively identify child abusers.
- Regional shortages of obstetrical prenatal care and pediatric services are barriers to access.
- Many children are being raised by grandparents who may or may not be prepared or able to care for and support children with NAS. Locating foster care for children with a NAS diagnosis is difficult.
- Good relationships between law enforcement and Child Advocacy Center help get families into services and care.
- There is support for mandating therapy and care coordination programs (health department's Baby Care programs) referrals by OBGYNS for pregnant women who are using drugs to improve SEI outcomes and reduce problems for children with NAS.

New ideas and interpretations:

- Create "pipelines of connectivity" for SEI babies identified early to channel them to services.
- One contributing factor to low regional workforce participation rates is that younger grandparents are dropping out of the labor market to care for children with NAS.
- New services need to be designed and offered for mothers and children for substance abuse recovery. The health of her baby is a motivator for improving mom's behaviors.
- Many women in abusive relationships don't use care because of pressure from abusing partners.

What was refuted or suggested for broader thought:

- The problems discussed go far beyond SEI and NAS. Consider trauma-informed care and adverse childhood experiences (ACEs).

- More education needs to take place in schools about right and wrong and how to promote elements of a safe, healthy and productive family lifestyle.
- Find or develop educational campaigns with better messaging to address these issues. This would help get back to community-based healthcare.

Health Workforce

What was confirmed:

- There are many evidences of shortages of regional health professionals. Some hospitals even lack staffing that prevents the full use of available beds.
- Recruitment to the region is difficult for many reasons. Factors cited include: impressions about quality of life (flourishing place, distance to expected amenities, rural lifestyle), imagined effects of population decline, costs of housing, physical school infrastructures that need to be updated, and local political positions taken that might be seen as contrary to health professionals' beliefs.
- Professionals working in helping professions need broader-based personal and community support to continue in their jobs.
- In the daily chaos, it's hard to see what is going well for professionals who often struggle to provide services, providers who encounter a consistent parade of medical and mental health disasters, and helpers who have a hard time finding resources to address individual and family problems.

New ideas and interpretations:

- First responders are a key to a strong rural health workforce. Help stabilize rural EMS services and volunteer rescue squads by encouraging more people to join through local training and testing.
- Address health workforce with "grow your own strategies." Offer internships, then recruit the best interns. Offer graduates tuition reimbursement as signing and retention bonuses.
- Insufficient numbers of providers lead to a lack of focus on prevention because personnel must attend to acute treatment needs.
- There are tested models for reducing rural shortages: organizing outreach clinics and services (psychiatry, obstetrics, pediatrics), and integrating behavioral health with primary care practice.
- New professionals with high ideals in many helping professions face emotionally trying jobs and frequently burn out quickly (18 months), leaving their professions and contributing to shortages.
- The COVID pandemic created some systems demands that overwhelm service capacity (e.g., DSS and the upcoming Medicaid unwind).
- Reimbursement for some health services is poor. Securing federal/state designations is important.
- Availability and cost limitations for daycare and early childhood development centers affect children being ready for school. These also impact recruitment and retention of professionals.

What was refuted or suggested for broader thought:

- A very underfunded regional Area Health Education Center (AHEC) program exists to identify and steer children strong in math and sciences into learning about health careers.
- Regional professional shortages exist in law enforcement, social services and schools.

- Recruitment efforts might be improved by offers of financial assistance for student housing costs at regional training programs, and to professionals if they move to or stay in the region.
- Traditional successful recruitment strategies should not be forgotten: word-of-mouth position recruiting through friends and work acquaintances, and attracting people to the region through tourism, while highlighting the region as a place to live for those with options for remote work.

Additional issues identified for consideration for the Foundation

Participants were invited to identify topics for consideration that were not included in the Foundation's initial three issues. Index cards were used to anonymously collect ideas.

Grayson	Russell
-Expand local healthcare facilities, including equipment costs -Locate mental health and substance abuse treatment and recovery facilities in counties -Community-based urgent care rescue squads -Access to dental/oral health services -Housing and transportation services for elderly -Workforce development support services: childcare, housing, resource recruiters, transportation -Healthy food access -Licensed affordable childcare, daycare and foster care homes -Community communication infrastructure	-Basic financial support for vulnerable individuals and families (housing, water/sewer services) -Expand workforce recruitment and retention with focus on more careers (mental health, law enforcement, dental, teachers) -Outreach medical clinics for multiple disciplines -Psychiatric services, including residency program -Shadowing programs to promote health careers -Mental health telehealth in our schools -Substance abuse disorder recovery -Deal with root causes of problems consuming all of our time and resources -Recover our communities, build on socialization
Smyth	**Washington**
-Multiple aspects of housing -Child and juvenile behavioral health problems -Support conversations that encourage coordination of resources and services -Re-entry services, including education and employment assistance for those returning to community from jails and prisons -Services for children of felons to combat trauma -Expand medical and mental health services through schools	-Support child recreation and fund scholarships for costs to allow all children to participate -Transportation is a barrier to access to healthcare and other services -Mommy and Me substance abuse programs -Develop safe spaces, including housing and support services, for the unsheltered (a place to shower, receive basic healthcare services, clean clothes, food and counseling services). The unsheltered population intersects with mental health and substance abuse issues in region.

Summary

Meetings with leaders in the four counties enabled Foundation staff and board members to confirm the presence and relevance of its three selected issues. Qualitative data, framed by local stories and descriptions of approaches to deal with pervasive problems, was collected that complemented the quantitative number findings from Phase 1 and Phase 2. The Phase 4 meetings provided local interpretation of root causes, and service and system issues discussed by the Phase 3 panels of experts.

Community leaders' recommendations blended suggestions of additional topics to be considered, along with requests for Foundation assistance to promote new processes for addressing issues and topics. These focused on community-building efforts, mechanisms to promote interorganizational communication and development of cooperative systems leading to continuums of care to fill gaps in services.

Every meeting described the negative impacts of health professional shortages. There were reminders about the importance of traditional recruitment strategies, such as encouraging local students to consider health careers, creating locally sponsored internships for students as part of long-term recruitment, and considering financial incentives beyond loan repayment (housing support, for example). Every county encouraged the Foundation to consider professional shortages beyond health careers.

Geography (being rural) was seen as impactful with all three issues selected by the Foundation. The region's rural isolation contributes to and realistically restricts potential strategies to address mental health, SEI including NAS and health professional shortage issues. However, examples were discovered of locally developed and regional health and other organizations already cooperating. Many of these efforts focused on the regional substance abuse crisis, recognized as a fundamental cause for many mental health and SEI and NAS issues.

In their own unique ways, the cases made by community leaders for promoting a healthy, thriving region involved a level of self-acknowledgement of community problems, coming together to reduce siloed thinking and seeing new resources as opportunities to develop cooperative efforts that might then lead to collaborative partnerships. These discussions reinforced the tenets of the Foundation's vision and mission.

There was unanimous support for the Foundation finding roles to provide flexible, complementary resources to take "the long view" for dealing with causes of regional problems, and to help organize new configurations for multi-organizational partnerships for implementing strategies to address community-defined goals for change. While support for organizations was seen as important, the idea of helping to rebuild communities and their culture was viewed as equally significant. As one leader said, we can't recover anything without drilling down to the core issues, then re-learning how to recreate our culture by bringing everyone back together through socialization in communities.

This summarizes the Foundation's challenge as learned from the community meetings — taking the long view while assisting with short steps, at both the service system and community-building levels. A sense of double vision is required, and continued interaction with community leaders can supply the incentive and feedback of its utility.

Final Report

December 2022

Prepared by: Bruce Behringer, MPH

A brief summary of the process

The four-phase community health needs assessment was designed to provide depth and breadth to the identification and description (including numbers and stories) of regional health and health-related issues in the Wellspring Foundation four-county service area.

This process was characterized by:

- Regional engagement of a wide variety of stakeholders
- Direct review of findings by board members as a knowledgeable group
- Input summarized in planning pyramids (problems, goals and strategies)
- A prioritizing process that narrowed many topics into a smaller set of selected issues

The four phases deployed multiple community assessment methods. These included:

- Secondary data review (Phase 1)
- In-depth agency analysis (Phase 2)
- Panels of experts (Phase 3)
- Community meetings (Phase 4)

Phase and Objectives	Process	Board/Staff Actions
1.1 To review existing sources of data by topics that compare the region with state or national data 1.2 To produce data reports to identify county-specific and regional health-related factors and health outcomes	Collected existing data on 13 topics	Review data sheets and select topics desired for additional input
2.1 To gather existing topical assessments and plans 2.2 To discuss regional perspectives of problems, goals for change and alternative strategies for each topic 2.3 To use ideas to narrow the topics list to potential issues	Presentations about existing assessments and plans by 16 regional organizations	Enter findings into planning pyramids and prioritize three issues
3.1 To convene panels of experts to explore root causes and availability of services for foundation-selected issues 3.2 To elaborate region-specific problem statements, discuss potential goals for change and identify alternative strategies 3.3 To generate findings and recommendations to be considered by the Foundation for future investments	Three issue-focused meetings with regional panels of experts	Summarize observations and discuss potential Foundation approaches to address issues

4.1 To share the vision and mission of Wellspring Foundation 4.2 To establish relationships with community leaders 4.3 To hear community reactions to assessment findings, identify how counties are impacted and find opportunities for potential connections	Meetings with formal community leaders in four counties	Integrate assessment findings into strategic plan; consider approaches for grant priorities

One purpose of this consultation was to introduce and demonstrate multiple community health needs assessment (CHNA) methods. The consultant employed process consultation techniques (see Edgar Schein, Process Consultation, 1999) to introduce methods, which were selected to assure a comprehensive view of issues, engage many stakeholders in providing input and perspectives from the four-county region, and facilitate group process exercises to summarize findings. Assessment is a skill set which will be continuously used by the Foundation. This first CHNA demonstrated multiple methods. The more traditional consulting expert approach, which diagnoses problems and recommends actions, was avoided.

The overall process began by identifying a large number of topics and gradually moved to selection of a more limited number of general issues. Board members actively narrowed the assessment's focus through reviewing and discussing reports for each phase. The ideas collected were presented in a Planning Pyramid format (problem statements, goals for change and alternative strategies). This tool is designed to assist in future Foundation strategic planning and consideration of issue-specific grant priorities. In total, nearly 800 ideas were collected in 13 separate pyramids.

Three assessment phases intentionally engaged the Foundation with organizational representatives and community leaders. In total, facilitated meetings engaged more than 100 persons (Phase 2, 16 persons; Phase 3, 49; Phase 4, 39). Many more were subsequently involved through individual phone calls and meetings. In addition to gaining their perspectives and input, some participants were identified as potential partners for involvement in next steps of Foundation activities.

Through discussions, the board and staff also identified operational principles to be shared with external audiences. Key words from board and staff planning meetings and discussions were turned into phases, then into declarative statements.

Five clear principles were adopted:

- Partnerships
- A specific geographic service area
- A long-term focus using substantial resources for investments
- An operating model rooted in convening people and providing support, especially as matching funding
- Pursuit of long-term solutions to build a healthy, thriving region

Embedded in each principle is a thoughtful understanding of the region, its needs and assets, current trends and a range of ideas for solutions.

Considerations: Themes about the current environment

This assessment was conducted during a period seen as "coming out from the COVID pandemic." Input gathered about many issues referenced incredible stress on regional residents and families, as well as the services, organizations and systems that serve them. Interpreting the assessment results should recognize the influence of this timing and consider the transitory or permanence of the intensity of problems. Several

examples were found in which organizations cemented new pragmatic connections in order to meet the changing service demands.

Many of the explored problems were seen to have deep-seated root causes. They have persisted over time and throughout changing regional circumstances. While leaders cited the need for additional financial support, some also recognized the necessity to create new vehicles to help reorganize their communities and realign organizations to set new long-term goals and move forward using different strategies. Several symbolic images of local personal commitment to action and change emerged (e.g., the tomato sauce on the sleeve of one sheriff earned by voluntarily cooking weekly meals for prisoners).

Many local problems are outcomes of state and national trends. One example discovered was the shift in mental health policy that led to the state putting less resources into mental health hospitals and promoting community-based care options. However, those options are grossly underfunded, resulting in fewer hospital beds and limited community care services. As noted in one county, these policies have turned local jails into mental health hospitals without adequate services.

Participants in the different CHNA phases appropriately pointed to locally organized best practices with pride. This points out two important factors. First, there are clear acknowledgments of local problems, shortages in personnel and gaps in systems of services. Second, the best practices display a sense of cooperative hopefulness born out of necessity. There is a clear appreciation for further opportunities for the Foundation that may enable building on this type of cooperation and desire for change.

This is also a dynamic time. Regional and state organizations identified big new initiatives with money coming available to address some of the topics of interest to the Foundation. It will take time to organize the centralized authorities for funding and the local responsibilities for programming and services. The Foundation can choose to intervene early in discussions and funding, or wait and allow others to set goals and strategies.

This same challenge is present in reconsidering existing needs, resources and structures. A sense of disconnectedness exists now. Input was given that the Foundation could be helpful in convening groups to discuss how to organize needs and resources for improving accessibility and effectiveness. Participation in the CHNA phases indicates local cooperation is possible, but an engagement process is needed.

A final observation is about the choices of the three issues selected by the Foundation for community leaders' discussions. All agreed these issues were correct and present in the counties. Local interpretations of the issues indicated that many causes were interrelated. Leaders suggested the Foundation consider broadening some parts of the issues. For example, the impacts of mental health and SEI including NAS could be viewed across the whole community services infrastructure. Counties encouraged assisting shortages in many helping professions beyond healthcare careers.

Considerations: Future Foundation actions

- Begin development of relationships in places and with issues that acknowledge problems and show evidence of a desire for change. Diagnose the differences between adding more resources to eliminate gaps and hopes for innovation around new goals and strategies.
- Seek to encourage, not control or own, actions in communities. Accomplish this by overtly recognizing the instrumental contributions made to and benefits derived from partnerships from both the Foundation and the communities or organizations being funded.

- Promote team processes, products and services. Draw on the wisdom of multi-member groups. Complement their efforts when helpful with Foundation support of external expertise. Encourage new ways of thinking and different configurations for cooperative operations.
- Create internal Foundation processes through which new ideas can emerge, through which new ideas can emerge and be considered and potentially cultivated.
- Emphasize continuous reassessment of issues, including evaluation of Foundation-supported and other community interventions.
- Build in permeable organizational membranes through trips to communities for listening sessions, periodic presentations and conversations similar to the discussions held by the panels of experts.
- Update planning pyramids to align new ideas for problems, goals and strategies, and create a library for regional best practices.
- Use the innate flexibility of the Foundation's structure and mission statement as the basis for a regionally unique investment approach.
- Organize and support both community-level and issues-focused actions. Assure networking, cooperation and coordination between communities and issues investments.
- Build long-term relationship with partners. Commit to continuing issues-focused grantmaking using sequentially developed accountable logic models, including discussions about "next steps."
- Recognize the input from residents, organizations and communities that encouraged the Foundation to assist in reassessing and reforming systems of services and continuums of care.

TOPIC 1.1.1: Population Characteristics, 2020

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Population	Total population	8,631,393	15,333	25,781	28,800	53,935
	Percent population change, 2010-2020	+7%	-1%	-11%	-8%	-2%
	Percent persons under age 18	21.9%	16.5%	18.7%	19.1%	18.0%
	Percent persons 65 years and older	15.9%	25.3%	22.5%	22.6%	22.2%
	Percent non-white	31%	7%	2%	4%	3%
Education	Percent high school graduates	90.3%	83.1%	81.1%	83.4%	86.2%
	Percent with college degrees	39.5%	16.0%	10.2%	14.9%	24.2%
Poverty	Per capita income	$41,255	$24,770	$22,030	$23,016	$28,987
	Percent below poverty level	9.2%	16.2%	16.2%	15.2%	13.2%
Health	Percent disabled under age 65	8.0%	13.9%	21.6%	19.2%	15.3%
	Percent without insurance under age 65	9.3%	11.6%	9.8%	9.3%	10.6%
Housing	Percent owner-occupied, 2016-20	66.7%	84.0%	74.8%	70.1%	76.1%
	Median value of owner-occupied housing units, 2016-20	$282,800	$109,800	$89,200	$99,500	$159,000

Source: U.S. Census Bureau, U.S. Census Bureau Quick Facts, https://www.census.gov/quickfacts/.

TOPIC 1.1.2: Infant and children's health

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Births and infant health 2018	Total live births, 2020		107	217	268	485
	Percent with first trimester prenatal care	78.4%	83.1%	42.5%	57.4%	29.2%
	Percent of live births with low birthweight (< 2,500 grams)	8.2%	3.8%	8.7%	7.2%	10.4%
	Infant deaths under one year of age per 1,000 live births	5.6	7.7	7.9	10.1	5.7
	NAS births rate per 1,000 birth hospitalizations, 2020	5.7	0	40.8	12.0	7.1
	Teen births (age 17 or younger) per 1,000 births	5.7	Unavailable	2.2	18.8	11.4
Population characteristics 2015-19	Percent children under 18 under poverty level	13.3%	25.5%	22.7%	37.2%	17.2%
	Percent children under 19 without health insurance	5.0	6.4	5.5	4.7	5.3
	Percent children living with only one parent	31.3	29.5	26.4	37.2	31.4
	Percent public school students free or reduced lunch	41.8%	61.8%	55.6%	56.1%	46.5%
*FY2020	*Children with benefits (0-17) SNAP, TANF, Medicaid		1,742	3,526	3,833	5,408
Early childhood education services 2021	Total childcare programs, 2021		3	15	17	29
	Total licensee capacity		43	200	295	731
	Weekly cost of center care (infant, 4-5 years old)		$105, $85	$60	$100, $90	$115, $115
Adverse childhood experiences FY2020	Rate of foster care entry per 1,000 children	1.4	4.8	3.8	2.5	1.3
	Number of founded child abuse and neglect cases		13	94	94	85
	Children in Child Protective Services referrals, 2020		285	864	905	1,148

Sources: Virginia Department of Health, https://apps.vdh.virginia.gov/HealthStats/documents/pdf/birth_1-1_2020.pdf. Anne E. Casey Foundation, 2021 Kids Count Data Book, https://datacenter.kidscount.org/data/. March of Dimes, https://www.marchofdimes.org/peristats/. Childcare Aware of Virginia 2021 county needs assessments. Virginia Department of Social Services, Local Department of Social Services Profile Report, State Fiscal Year 2020, Https://www.dss.virginia.gov/geninfo/reports/agency_wide/ldss_profile.cgi. National Center for Health Statistics - Natality files 2012-18.

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Births by place of residence	Total – 2011	102,525	117	263	327	539
	Total – 2012	102,811	142	277	287	513
	Total – 2013	101,977	166	297	324	488
	Total – 2014	102,795	140	240	260	524
	Total – 2015	103,074	139	257	299	490
	Total – 2016	100,243	118	253	291	482
	Total – 2017	99,635	122	234	291	457
	Total – 2018	99,629	130	252	290	524
	Total – 2019	97,434	117	271	233	461
	Total – 2020	94,666	107	217	268	485
	Ten Year Change (2011-2020)	7.7%	8.5%	17.5%	18.0%	10.0%

Source: https://apps.vdh.virginia.gov/HealthStats/documents/2010/pdfs/BirthsByRace11.pdf

TOPIC 1.1.3: Education Statistics, 2020-21

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Students	Public school enrollment, 2021-22		1,517	3,552	4,110	6,760
	Grade 12 enrollment		126	275	309	537
Graduation rate	Percent on-time (four years) graduation rate, all students	93.0%	99.2%	90.3%	96.7%	93.6%
College and career readiness	Number of students enrolled in dual enrollment		134	279	285	424
	Number of career and technical education completers		127	217	199	398
Preschool preparation 2019-20	Percent of kindergarten students with public preschool experience	33%	32%	74%	54%	51%
	Percent of children not meeting kindergarten readiness benchmarks	5.3%	5.1%	3.8%	10.7%	2.5%
Student achievement by proficiency level, all students	Percent of students passing English reading	69%	76%	73%	63%	78%
	Percent of students passing English writing	76%	65%	76%	66%	75%
	Percent of students passing Mathematics	54%	68%	58%	46%	68%
	Percent of students passing Science	59%	72%	67%	54%	65%
	Percent of students passing History	80%	81%	87%	80%	82%
Student characteristics attendance	Chronic absence (measured on last day of school), 2018-19		6.0%	13.3%	15.8%	13.1%
	Percent of children who receive special education services, ages 0-22, 2020	13.5%	17.2%	13.3%	14.4%	16.2%
Finance 2019-20	Per pupil expenditures (direct personnel and non-personnel costs only)	$ 11,895	$ 10,425	$ 9,491	$ 9,201	$ 9,860
	Percent of total financial support from local source	51%	30.7%	17.2%	21.5%	35%

Sources: Virginia Department of Education, https://schoolquality.virginia.gov/divisions/. Chronic Absence Report https://www.unitedwayswva.org/files/assets/chronic-absence-report2019-10-07.pdf.

TOPIC 1.1.4: Adult Health Behaviors

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Chronic illnesses	Percent adults age 20 and older who are obese, 2016	30%	33%	38%	31%	39%
	Percent adults age 20 and older who are active smokers, 2017	16%	19%	19%	19%	18%
	Percent of adults with diagnoses of diabetes, 2016	11%	11%	19%	16%	19%
Health Insurance	Adults under 65 without health insurance, 2017	12%	16%	13%	13%	13%
Use of preventive services	Percent fee for service Medicare enrollees with flu shot, 2017	50%	45%	44%	42%	46%
	Percent of female Medicare enrollees ages 65-74 that received an annual mammography screening, 2017	44%	41%	40%	42%	45%
	Percent pregnant women with first trimester prenatal care, 2019	78.3%	74.4%	38.4%	59.7%	32.1%
	Rate of preventable Medicare hospital stays for ambulatory sensitive conditions, 2017	4,269	3,969	7,080	4,663	4,294
	Percent of adult population fully vaccinated for Covid, 2022	83.2%	54.7%	58.5%	60.8%	61.6%
Physical inactivity	Percent of adults reporting no leisure-time physical activity, 2017 (running, calisthenics, golf, gardening, or walking for exercise)	22%	29%	38%	37%	30%
	Percent of adults with adequate access to exercise opportunities, 2019	82%	70%	44%	93%	63%

Sources: Behavioral Risk Factor Surveillance System, United States Diabetes Surveillance System, Small Area Health Insurance Estimates, Kids Count 2021, https://datacenter.kidscount.org/data/tables/3234-prenatal-care-beginning-in-the-first-trimester. United States Diabetes Surveillance System, Centers for Medicare & Medicaid Services Office of Minority Health Mapping Medicare Disparities (MMD) Tool. Virginia Department of Health COVID-19 Vaccine Summary (accessed May 5, 2022). Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files. Behavioral Risk Factor Surveillance System 2017. United States Diabetes Surveillance System 2016.

TOPIC 1.1.5: Causes of Deaths per 100,000 population, 2020

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Causes associated with chronic diseases	Cardiovascular death rate, 2017-19	392	367	520	543	420
	Cancer death rate, 2015-19	152	172	185	194	160
	Diabetes death rate	24.74	27.68	26.61	29.66	27.23
	Cerebrovascular death rate, 2017-19	74	73	72	72	74
Causes associated with diseases of despair	Suicide death rate, 2016-2020	13	24	16	17	24
	Drug overdose death rate, 2021	30.5	12.0	15.0	33.2	35.4
Causes associated with accidents	Rate injury deaths, 2015-19	65	69	80	91	83
	Number of deaths due to firearms per 100,000 population, 2016-2020	12	19	15	16	20
	Death rate due to car crashes, 2014-2020	10	13	18	12	10
Length of life	Life expectancy in years, 2017-19	79.5	77.9	74.7	73.6	76.7
	Years of potential life lost before age 75 per 100,000 population (age-adjusted), 2016-18	320	410	520	550	410

Sources: CDC Interactive Atlas for Heart Disease and Stroke, https://nccd.cdc.gov/DHDSPAtlas/Default.aspx?state=VA. CDC and National Institute of Health, https://statecancerprofiles.cancer.gov/. World Life Expectancy, https://www.worldlifeexpectancy.com/usa/virginia-diabetes. National Center for Health Statistics - Mortality Files. Virginia Department of Health, https://www.vdh.virginia.gov/opioid-data/overdose-deaths/#rate. National Center for Health Statistics.

TOPIC 1.1.6: Behavioral health population characteristics

Factor/Outcome	Measure	United States	Virginia	Virginia substate *
Adolescent statistics, 2018-20	Average percent past month with Marijuana Use, All persons age 12 and older	17.12%	12.56%	11.33%
	Average percent past month with Cigarette Use, All persons age 12 and older	20.41%	20.23%	28.80%
	Average percent past month with Alcohol Use, All persons age 12 and older	17.83%	20.10%	19.23%
	Average percent in past year with Major Depressive Episode, All persons age 12 and older	7.82%	7.52%	7.25%
	Average percent in past year with Treatment for Depression with Major Depressive Episode, All persons age 12 and older			
Adult statistics	Average annual percent in past year with Serious Thoughts of Suicide Among Adults Aged 18 or Older in Virginia 2014-2015	4.67%	4.48%	4.83%
	Average annual percent in past year with Serious Mental Illness (SMI) Among Adults Aged 18 or Older 2014-15	5.15%	4.62%	5.41%
	Average annual percent past year Mental Health Service Use Among Adults Aged 18 or Older with Any Mental Illness (AMI) in Virginia (Annual Average, 2011–2015	16.03%	17.00%	18.25%
Use of behavioral health services	Washington County and Bristol City Russell County Mount Rogers (Grayson and Smyth with Bland, Carroll, Galax City and Wythe counties)		4,944 unduplicated count of users 1,147 unduplicated count of users 8,890 unduplicated count of users	

Source: Substance Abuse and Mental Health Administration, National Survey on Drug Use and Health, https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.samhsa.gov.

*Virginia substate region includes all of Southwest and Southside Virginia counties.

TOPIC 1.1.7: Drug abuse statistics

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Mortality rate from all drugs ages 15-64	Drug overdose mortality rate per 100,000, 2010-2014	13.7	20.8	54.5	22.6	25.2
	Drug overdose mortality rate per 100,000, 2015-2019	24.0	18.6	24.1	29.4	24.2
	Percent of state rate, 2010-2014		52%	298%	65%	84%
	Percent of state rate, 2015-2019		23%	1%	23%	1%
	Percent change between periods 2010-14 and 2015-19	Worsen 75%	Improve 11%	Improve 56%	Worsen 30%	Improve 4%
Number of deaths	Total number of deaths, 2010-2014		10	49	21	43
	Total number of deaths, 2015-2019		>10	20	27	39
Neonatal Abstinence Syndrome	Rate per 1,000 birth hospitalizations, 2016	6.4	0	22.4	54.9	52.4
	Rate per 1,000 birth hospitalizations, 2020	5.7	0	40.8	12.0	7.1
	Percent change between reporting years	-11%	Same	Worsen 82%	Improve 78%	Improve 86%
Emergency department visits	Overdose visit rate, all drugs, per 100,000 ED visits, 2016	43.4	51.4	39.6	38.1	28.5
	Overdose visit rate, all drugs, per 100,000 ED visits, 2020	64.4	52.1	39.6	46.4	36.6
	Percent change between reporting years	Worsen 48.4%	Worsen 1.4%	Same	Worsen 21.8%	Worsen 28.4%

Sources: Drug Overdose deaths in Appalachia, NORC, https://overdosemappingtool.norc.org/. Overdose Deaths - Opioid Data (virginia.gov), https://www.vdh.virginia.gov/opioid-data/.

TOPIC 1.1.8: Health professionals, 2019

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Ratios of professionals by types	Ratio of primary care physicians to population, 2017	1:1,320	1:3,920	1:3,860	1:1,610	1: 1,470
	Ratio of dentists to population, 2018	1:1,460	1:5,210	1:8,920	1:1,900	1:1,880
	Ratio of mental health providers to population, 2019	1:570	1:3,910	1:1,220	1: 660	1:620
	Ratio of other professionals, including nurse practitioners (NP), physician assistants (PA), and clinical nurse specialists to population, 2019		1: 2,605	1:787	1:743	1:800
Nursing workforce 2021	Registered nurses full-time equivalents (FTEs) per 1,000 residents	9.79 Increase 8% over 5 years	9.37-10.71 per 1,000 4% of state RN workforce			
	Licensed practical nurses full-time equivalents (FTEs) per 1,000 residents	2.71 Decrease 7% over 5 years	4.76-5.29 per 1,000 9% of state LPN workforce			

Sources: From 2021 RWJ Foundation County Health Rankings. Area Health Resource File/American Medical Association, Area Health Resource File/National Provider Identification file, CMS, National Provider Identification, Virginia Department of Health Virginia's Registered Nurse Workforce: 2021, https://www.dhp.virginia.gov/PublicResources/HealthcareWorkforceDataCenter/ProfessionReports/.

TOPIC 1.1.9: Other social and environmental data

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Public Safety	Violent crime rate, 2014, 2016	207	119	185	203	155
	Rate of delinquency cases per 1,000 juveniles, 2019	31	33	35	44	22
Transportation	Percent commute driving alone 30 minutes, 2015-19	41%	35%	45%	29%	32%
	Traffic volume per meter on major roadways, 2019	573	11	38	41	151
	Percent of households with no vehicle available, 2018	6.2%	6.3%	6.1%	9.3%	4.8%
Housing	Percent households with severe housing problems (cost burden, overcrowding, inadequate facilities), 2014-18	15%	12%	13%	11%	10%
	Percent of households moved in the last 12 months below Federal Poverty Level, 2014-2018	24.8%		16.0%		20.9%
Homelessness	Households contacting Coordinated Entry for Homeless Services, 2021			97		272
	Point-in-time survey of number of homeless individuals, 2021-22		230*	15	230*	40**
Environmental factors (score 100 for best national locations)	Watershed quality	55	100	60	85	89
	Superfund sites index	87	93	99	42	97
	Air quality index (respiratory illness and cancer risks), 2019	58	85	77	83	76

*Homeless figures for Grayson and Smyth include Wythe, Bland, Carroll and Galax.

** Homeless figures include Bristol City.

Sources: US Census American Community Survey 2014-18 Estimates. Homeless data from People, Inc and HOPE. Comprehensive Housing Affordability Strategy (CHAS) data. CDC Environmental Public Health Tracking Network. US News and World, https://www.bestplaces.net/health/county/virginia/.

TOPIC 1.1.10: Personal current transfer payments (benefits), 2020

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Total transfer receipts by type 2020	Per capita transfer receipts 2020	$10,599	$14,393	$13,809	$17,738	$18,491
	Percent change 2010-2020	Up 43%	Up 33%	Up 30%	Up 48%	Up 37%
	Retirement and disability insurance benefits (Social Security)		$77.062m	$147.573m	$150.847m	$360.181m
	Medical benefits (Medicare, public assistance, military)		$95.150m	$165.485m	$191.582m	$378.230m
	Income maintenance benefits (SSI, Earned Income Tax Credit, SNAP, other)		$13.261m	$32.644m	$35.129m	$64.594m
	Unemployment insurance compensation (state payments)		$9.661m	$21.971m	$26.548m	$59.471m
	Veterans' benefits		$6.628m	$11.352m	$15,.91m	$40.721m
	Education and training assistance		$1.908m	$3.466m	$3,876 m	$15.961m
Households in poverty and Asset Limited, Income Constrained, Employed (ALICE)	Total number of households		6,542	10,965	12,881	22,331
	Percent households with ALICE and poverty 2018	39%	61%	53%	50%	46%

Sources: U.S. Department of Commerce, Bureau of Economic Analysis, Local Area Personal Income, https://www.bea.gov/data/income-saving/personal-income-county-metro-and-other-areas/. United Way data sourced from American Community Survey 2018, https://unitedforalice.org/all-reports.

TOPIC 1.1.11: Employment and related statistics, 2020

Factor/Outcome	Measure	Virginia	Grayson	Russell	Smyth	Washington
Employment	Percent aged 16+ in civilian labor force	64.1%	51.0%	43.9%	51.7%	54.9%
	Percent females in civilian labor force	65.0%	52.4%	39.7%	47.7%	51.3%
Businesses	Total employment	3,455,993	1403	6136	9280	17,299
	Total annual payroll	$197,418,070,000	$42,749,000	$249,832,000	$ 328,998,000	$664,343,000
	Payroll per employee	$57,123	$30,470	$ 40,716	$35,452	$38,404
Firms by ownership type (2012)	Total firms (non-farm)	653,193	1,476	1,627	2,013	4,551
	Women-owned firms	236,290	387	439	644	1,204
	Minority-owned firms	185,033	<25	46	44	189
	Veteran-owned firms	76,434	113	58	294	542
Broadband	Percent broadband access, 2015-2019	84%	69%	60%	70%	75%
Employment by industry	Listed by sectors with greatest percent of employees, over age 16, 2017		Local govt.	Govt.	Manufacturing	Manufacturing
			Manufacturing	Health care and social assistance	Health care and social assistance	Retail trade
			Other	Transportation Warehousing	Other	Health care and social assistance
			State govt.	Construction	Retail trade	Local govt.
			Health care and social assistance	Professional, scientific and technical	Accommodations and food service	Accommodations and food service

Sources: U.S. Census, County Quick Facts, https://www.census.gov/quickfacts/US. County Health Rankings, https://www.countyhealthrankings.org/. American Community Survey.

TOPIC 1.1.12: County health rankings

Source	Measure	Grayson	Russell	Smyth	Washington
Virginia Department of Health, Health Opportunity Index counties and cities ranking 2022 (# 1 best, #133 worst)	Overall Health Opportunity Index Rank	130	128	103	79
	Economic Opportunity	116	128	98	83
	Consumer Opportunity	107	67	76	61
	Community Environmental	111	132	78	63
	Wellness Disparity	110	11	43	77
Robert Wood Johnson Foundation, U.S. County Health Rankings 2021 and 2011 (# 1 best, #133 worst)	Health Outcomes, 2021	69	113	112	85
	Health Outcomes, 2011	90	123	114	83
	Health Factors, 2021	97	120	102	77
	Health Factors, 2011	75	102	96	40
Ten-year change in relative ranking	Health Outcomes, 2011-2021	Improve 21	Improve 10	Improve 2	Worsen 2
	Health Factors, 2011-2021	Worsen 22	Worsen 18	Worsen 6	Worsen 37

Sources: Virginia Health Opportunity Index, https://apps.vdh.virginia.gov/omhhe/hoi/dashboards/counties. University of Wisconsin and Robert Wood Johnson Foundation, https://www.countyhealthrankings.org/.

Virginia Health Opportunity Index (measures included)

- Economic Opportunity Profile - Employment accessibility, Income inequality, Job participation
- Consumer Opportunity Profile – Affordability, Education, Food accessibility, Towsend material deprivation index (overcrowding, unemployment, % with no vehicle or car, percent persons who rent)
- Community Environmental Profile – Air quality index, Population churning (turnover), Population weighted density, Walkability
- Wellness Disparity Profile - Access to care, Segregation index

County Health Rankings (measures included)

Health outcomes – Length of life (premature deaths), Quality of life (Self-reported health status, Percent of low birth weight newborns)

Health factors

- Health behaviors - Tobacco use, Diet & exercise, Alcohol & drug use, Sexual activity
- Clinical care - Access to care, Quality of care
- Social and economic factors – Education, Employment & income, Family & social support, Community safety
- Physical environment - Air & water quality, Housing & transit

TOPIC 1.1.13: Food Insecurity

Characteristic	Measure	Virginia	Grayson	Russell	Smyth	Washington
Individuals	Percentage of food insecure people	9.4%	14.5%	17.3%	16.2%	13.6%
	Number of food insecure people	799,620	2,280	4,700	4,990	7,350
	Child food insecurity rate	11.5%	21.8%	20.1%	20.1%	16.9%
Participation in federal programs	Percentage of food insecure people that qualify for SNAP	47%	59%	63%	58%	49%
	Percentage of food insecure people INELIGIBLE for nutrition assistance programs	41%	25%	21%	19%	32%
	Free and reduced lunch eligibility		67.4%	64.0%	76.9%	54.9%
	Non-participating eligible students		22.9%	30.4%	28.6%	27.3%
Food access	Percent of population with low access to a grocery store		17.6%	7.3%	8.1%	12.5%

Sources: Virginia Department of Education, https://schoolquality.virginia.gov/divisions/. Feeding Southwest Virginia. USDA Economic Resource Service.