



Community Health Needs Assessment 2022

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Letter from President & CEO

June 30, 2022

Dear Community Member,

On behalf of National Jewish Health, we are proud to present our 2022 Community Health Needs Assessment. National Jewish Health has been committed to serving the health needs of our community since we opened our doors in 1899 as a free hospital for indigent tuberculosis patients. For the first 70 years of our existence, we did not charge for care that we provided to thousands of adults and children.

Though we began charging patients for care after 1970, our commitment to serving our communities has continued to be a foundational concept of our existence. For example, the Morgridge Academy, a free kindergarten through eighth grade (K-8) school for about 90 chronically ill students, serves families across Denver. We have provided millions of dollars in charity care over the years and serve all patients on a first-come, first-served basis. We have no quotas or limits on Medicaid patients. Our robust research enterprise makes discoveries and helps deliver new treatments and medications that benefit both our nearby and national communities.

During the pandemic, we have been at the forefront of developing new testing options, delivering vaccine once it was available, and researching the virus and how it impacts people who contract it. We have quickly pivoted to care for those patients with emergent issues from the virus as well as those who have had ongoing needs resulting from COVID. We have treated adults and children and continue to focus on our community and those who need care.

As communities change, it continues to be important to reach out and connect with community members to learn how we can better evolve to meet health needs. Our 2022 Community Health Needs Assessment shares the details of that outreach. We have scrutinized published health data, held community meetings, surveyed community health providers and consulted with our own faculty who have extensive contacts and experience within the community.

This process has provided valuable insights, which will guide our future efforts to develop new programs that address those needs and improve the health of our community. We thank all who have contributed to this report and welcome any comments and feedback to help us better serve our community's health needs.

Sincerely,



Michael Salem, MD
President & CEO
National Jewish Health

Executive Summary

Introduction

National Jewish Health is an academic, specialty care hospital headquartered in Denver, Colorado, and the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of patients with heart, lung, immune and related disorders. Founded in 1899 to treat indigent tuberculosis patients, National Jewish Health continues to serve patients in Colorado and across the nation by providing both care and research to improve lives.

The global COVID-19 pandemic created challenges to delivering inpatient care. The pandemic also created novel opportunities to serve the community suffering from this deadly respiratory disease with new and innovative testing, vaccination, education and patient services.

This Community Health Needs Assessment (CHNA) identifies outstanding health needs in our community and describes how National Jewish Health can address those needs.

Community Definition

National Jewish Health sees patients from around the nation and the world. Most Colorado patients, 79.4%, come from Denver and the surrounding counties. For the purposes of this assessment, we have defined our community as Denver County and four contiguous counties — Adams, Arapahoe, Jefferson and Douglas counties — in which a majority of our local patients live. As a tertiary care hospital focused on respiratory health, we have further defined our community as those who will benefit from diagnosis, treatment and prevention of respiratory disease.

Methodology

In order to assess our community's health needs, National Jewish Health scrutinized published health data, held community input sessions, surveyed community health providers and consulted with our own faculty, who have extensive contacts and experience within the community.

Identified Health Needs

Our research identified community health needs that we group into two categories: respiratory health and social and behavioral health.

Respiratory Health. Asthma and chronic obstructive pulmonary disease (COPD) have long been the two most burdensome respiratory diseases in our community. COVID-19 and the rise of people suffering from what is referred to as long COVID have risen to the top in terms of need both in the past two years and for the immediate future.

Social and Behavioral Health. Tobacco use, air pollution, education for patients and providers, access to specialty care and cost of medications and care continue to be the most significant social and behavioral health needs in our community.

Selected Areas of Focus

Based on a combination of community need and National Jewish Health capabilities, the following areas will be the primary focus of additional efforts to address community health needs. Specific strategies and initiatives to address these areas of focus will be included in the Implementation Strategy Report, which will be available in November 2022.

Pediatric Asthma. Rates of asthma and especially rates of emergency room visits and hospitalizations among children living in the National Jewish Health community, along with universal mention of asthma among pediatric community health providers, suggests this is a large unmet community health need.

Education. Providers and patients could benefit significantly from better understanding about respiratory health and ways to protect it, from educating physicians about handling difficult respiratory cases to educating patients about managing their disease and reducing exposure to respiratory irritants.

Access to Specialty Care, Including Ongoing Focus on COVID-19 Health Needs. The high rates of emergency care and hospitalizations for asthma and COPD, high levels of air pollution, and the ongoing COVID-19 pandemic indicate that respiratory patients in our community continue to need better access to the knowledge and expertise of National Jewish Health.

This report is publicly available at the following link:

<https://www.nationaljewish.org/about/community-health-needs-assessment/chna2022>

**Board approval for the 2022 National Jewish Health CHNA was June 29, 2022.

2022 Community Health Needs Assessment

Introduction

National Jewish Health is an academic, specialty care hospital providing research, education and patient care. National Jewish Health is the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of patients with respiratory, cardiac, immune and related disorders. Patients and families come to National Jewish Health from around the world to receive cutting-edge, comprehensive and coordinated care.

National Jewish Health provides community benefit through its patient care, community outreach, patient and physician education and research. All patients, including Medicaid patients, are served on a first-come, first-served basis, with no quotas or limits. National Jewish Health also operates the Morgridge Academy, a free K-8 school for students with chronic illnesses and medical conditions that keep them out of regular school programs. Morgridge Academy is the only school of its kind located on a medical campus. See [Appendix A](#) for a more extensive listing of community benefit activities conducted by National Jewish Health.

With 24 practice locations across Colorado, National Jewish Health serves patients throughout the state. As a tertiary care, specialty center, National Jewish Health receives patient referrals from around the nation, many with conditions so difficult and baffling they could not be successfully treated anywhere else. National Jewish Health also has a joint operating agreement with Saint Joseph Hospital in Denver, a relationship that enables doctors from National Jewish Health to provide continuity of care for their patients when they require hospitalization. This relationship also taps the expertise of the pulmonologists, cardiologists and critical care specialists from National Jewish Health to serve all inpatients at Saint Joseph Hospital.

In addition, National Jewish Health has introduced a Respiratory Institute model of care and research with partners across the country. This model seeks to elevate care and create a network for research through relationships with leading institutions around the country, including Mount Sinai in New York City and Jefferson Health in Philadelphia.

National Jewish Health faculty and staff conduct extensive basic, translational and clinical research that informs local and national communities on a wide variety of respiratory, immune and related diseases, laying the groundwork for discovery and improvement of care. National Jewish Health receives about \$57.9 million in grant revenue annually, primarily from the federal government, especially the National Institutes of Health (NIH) and is in the top 6% of institutions in the country funded by the NIH (in absolute dollars). This is a tremendous achievement for a specialty hospital/research center. National Jewish Health invests another \$20 million of its own funds each year in research.

Educating patients and health care professionals is a central element of the National Jewish Health mission. From educating patients about how to better take care of themselves and manage their conditions, to faculty-led trainings for medical students, postgraduate fellows, education is a primary focus. Additionally, National Jewish Health has a fully developed Professional Education Department that organizes seminars, webinars and hands-on workshops around the country to help health care professionals learn about respiratory-related illnesses and ultimately lead to better patient care.

Background and Purpose of Community Health Needs Assessment

The passage of the Patient Protection and Affordable Care Act (ACA) requires tax-exempt hospitals to conduct Community Health Needs Assessments (CHNA) every three years and to adopt Implementation Strategies to meet the priority health needs identified through the assessment. A CHNA identifies unmet health needs in the hospital's service area, provides information to selection priorities for action and target geographical areas, and serves as the basis for community benefit programs. This assessment incorporates components of primary data collection and secondary data analysis that focus on the health and social needs of people living in the service area.

Service Area

The National Jewish Health main campus is located at the corner of Colorado Boulevard and Colfax Avenue, at 1400 Jackson St., Denver, Colorado 80206. National Jewish Health operates on a primarily outpatient model of care, but is licensed for 40 beds and maintains separate inpatient units for adults and children. About three quarters of outpatients come from Denver and the surrounding counties, as well as from across the state.

Review of Progress 2019 to 2022

In the previous CHNA, National Jewish Health identified three health needs that focused efforts to improve community health: 1) Pediatric Asthma, 2) Education and 3) Access to Specialty Care. While National Jewish Health made progress on meeting these identified needs, especially during 2019, the COVID-19 pandemic created an unprecedented need to refocus attention to address this new and vital community health need. National Jewish Health invested millions of dollars and focused intensely on developing and launching a wide variety of programs to meet this challenge and protect our community's health. These efforts began in early 2020 with the onset of the pandemic, continued throughout 2020 and 2021 and now continues into 2022.

Further, efforts to address pandemic needs span providing short- and long-term care for children and adults, educating providers and the community and helping to address access to care for the new challenges brought about by the pandemic.

Pediatric Asthma

Since the 2019 Community Health Needs Assessment report, work has continued to address pediatric asthma by expanding training of health care providers in community practices to better diagnose and manage asthma in groups with higher risk and by increasing services and programs to protect patients with asthma before and during the global pandemic.

Training Providers. Asthma can often be difficult to diagnose and easy to misdiagnose due to a lack of experience and equipment. The **National Jewish Health for Kids Asthma Toolkit Bootcamp** program has trained general practitioners in Colorado to better diagnose and manage pediatric and adult asthma in communities that are under-resourced. The program has been taken to La Plata, Chaffee, Custer, Fremont, Huerfano, Las Animas, Lake, Park, Pueblo, Teller and El Paso Counties in Colorado as well as provided in the Denver area. Outcomes published in 2021 demonstrated that this program nearly doubled the number of pediatric patients who received an asthma action plan (a key tool in asthma self-management) and 90% received asthma severity assessments that they would not have received before this training helped practices change their care methods. These communities had remarkable outcomes, including a 10% decrease in emergency department visits, a 35% drop in hospital admissions and nearly 30% fewer corticosteroids prescribed.

Expanding Care and Research for Children with Asthma. Research and experience have shown that many families don't completely understand asthma or how asthma medications help keep the illness controlled. In addition, children may have different needs from adults in how asthma is treated and each individual may have different contributing factors to how the disease is expressed. For example, it is known that obesity complicates asthma by restricting airflow and diminishing response to medications.

In response to these and other factors, the **National Jewish Health for Kids [Pediatric Asthma Tune Up and Wellness Program](#)** was created. This intensive program brings asthma under control and improves wellness while increasing asthma knowledge, correcting inhaler technique, instilling asthma self-management skills and changing behaviors that lead to healthy lifestyle choices. This program has already successfully helped many children and their families make healthy lifestyle changes and improve asthma symptoms has helped children become excellent asthma self-managers.

Access to pediatric specialty care can be difficult for families living in rural and mountain areas. The National Jewish Health Department of Pediatrics created a hybrid telehealth program that works closely with community providers to identify patients who can benefit from specialty care for asthma and other chronic diseases that can be provided virtually when travel is difficult.

COVID-19 Needs in Pediatrics. The COVID-19 pandemic brought new health concerns to pediatric patients with asthma and became a focus for the pediatric asthma program over the past two years. National Jewish Health developed testing early in the pandemic to make it accessible for children and adults. Special clinics were developed to care for emerging illnesses, including for those with long-term challenges from what is known as long COVID. See more about these challenges below.

Asthma is one of the most common chronic or long-term diseases in children. In Colorado, 7.3% of children have asthma, but the prevalence among African American children is higher at 10.1% and is 6.4% among Latino children. It accounts for 14 million missed school days each year and is the third leading cause of childhood hospitalizations nationwide. For these reasons, and more, **pediatric researchers** at National Jewish Health are investigating the root causes of asthma by studying children from birth through early childhood to learn how genes and viral infections affect respiratory disease. They also are investigating causes of asthma at the cellular level, identifying the characteristics and patterns of asthma, how to improve asthma treatments and how to target different types of asthma with precision medicine.

Education

Morgridge Academy. National Jewish Health operates the [Morgridge Academy](#), a free K-8 school for children whose chronic disease impedes their ability to attend traditional school. Most of the children suffer from asthma or a variety of other respiratory, allergic or immune-related diseases. The vast majority of students come from low-income families and are eligible for free and reduced-cost lunch. By addressing immediate health needs and providing a safe, nurturing environment for learning, the Morgridge Academy delivers an education that greatly improves not only their health, but also economic and social opportunities for these children. In addition, nurses and staff teach both students and their families how to care for themselves, avoid behaviors that worsen their disease and manage exacerbations of disease, thus reducing the burden of disease. During the pandemic, the school moved to remote learning, which was important in continuing to monitor the health of the children and the needs of the families. The school's teachers worked to deliver daily weekday meals to the children and their families, so that those in need also continued to have access to healthy food.

Provider Education. The Office of Professional Education regularly develops multi-city series of educational seminars at which our expert physicians educate health professionals on current topics concerning the diseases we treat, ranging from the safety and efficacy of inhaled corticosteroids in asthma, emerging medications in asthma and current best practices in care of patients with interstitial lung disease. Seminars changed to a virtual format during the pandemic and are now offered in virtual, online and in-person formats. Online continuing medical education courses are also available on asthma, COPD, COVID-19, nontuberculous mycobacteria and other areas of expertise.

Academic Training. National Jewish Health continually provides an active training program for medical students, interns, residents and postgraduate fellows in allergy, immunology, environmental and occupational health sciences, pulmonology, pediatrics and more. At any given time, about 70 residents and fellows are receiving training at National Jewish Health for future careers in medicine.

Access to Specialty Care

Immediate Care to Meet Emerging, Urgent Needs. At the start of the pandemic, National Jewish Health quickly created **Acute Respiratory Care Clinics** to serve both existing patients and the broader community of children and adults in need of urgent care for suspected and confirmed COVID-19 cases. These clinics provided diagnostic services, medical care and referrals, as needed, to other area hospitals. These clinics helped to reduce demands on overcrowded local emergency rooms and hospitals. As the pandemic came in surges and needs changed, the clinics adapted to meet the evolving needs. These efforts led to the launching of our [Immediate Care Clinic](#), an urgent-care clinic approach available to our patients and community members.

Telehealth. National Jewish Health developed a robust, secure and sustainable telehealth program for patients who could not come for in-person visits and continued to perfect this model to be available for more people and extend care. At the peak of the pandemic, National Jewish Health physicians were seeing more than 750 patients per week via telehealth visits and, while in lower numbers, telehealth continues to be an important resource for Colorado patients.

Responding to the Global COVID-19 Pandemic

COVID-19 Diagnostic Testing. At the outset of the pandemic, National Jewish Health rapidly developed and launched tests for COVID-19 infection, including tests for antibodies that indicate past infection. In addition to purchasing equipment to run the tests and developing protocols to obtain dependable, accurate results, National Jewish Health set up testing tents and built a cottage in campus parking lots for drive-through testing. These programs continued to operate through 2021 and provided publicly available testing capabilities for walk-in patients and for those referred by a doctor. As the need for high quantities of testing lessened, particularly as more people were vaccinated, testing options were moved into regular clinic operations. Each variant that arises presents new challenges for testing and for vaccinations. National Jewish Health maintains the ability to ramp up again in each of these areas, should the need arise.

National Jewish Health also served as a resource and partner for Colorado and neighboring states as a COVID-19 testing laboratory to enable these state-based testing services to serve more people. National Jewish Health provided testing services to help the Colorado Department of Public Health and Environment, and to help meet the needs of public health agencies for testing in Wyoming, Montana, South Dakota and New Mexico, and the University of Denver and other schools and several businesses.

COVID-19 Vaccination. In December 2020, when the first vaccine received Emergency Use Authorization (EUA), National Jewish Health turned its attention to helping distribute vaccine as quickly and as effectively as possible. Beginning with vaccine sessions in conference rooms, the effort moved to hosting vaccine events in parking lots that could vaccinate 3,000 to 3,500 people in a day. These events were staffed entirely by volunteer health care providers and staff, with doctors, nurses and others pulling volunteer shifts in addition to their regular work hours to make the vaccine available.

As the weather turned to days with sub-zero temperatures, National Jewish Health partnered with the University of Denver, which hosted events in its Field House. Again, the events included National Jewish Health medical staff to deliver the doses and a host of volunteers to run the events.

COVID-19 Recovery. Many COVID-19 patients continue to have persistent symptoms and ongoing functional impairment as they recover from the disease. National Jewish Health saw the need to provide ongoing care for these patients and their unique symptoms and quickly developed both adult and pediatric **Respiratory Recovery Clinics**, now operating as the [Center for Post-COVID Care and Recovery](#). This program helps care for patients with functional impairment and persistent symptoms, helping them return to their usual state of health and usual function. The clinics continue to serve both existing National Jewish Health patients and the broader community. The clinics also focus on research to help increase understanding of the unique difficulties that many patients face when recovering from COVID.

COVID-19 and Pediatric Care. We rose to meet those needs by being one of the first nongovernmental institutions and the first hospital in Colorado to launch molecular diagnostic testing and make it easily accessible for adults and children. In addition to testing, we launched the **Acute Respiratory Clinic** to evaluate, test and manage patients with acute respiratory symptoms, many brought on by COVID-19. And as the pandemic slowed, our physicians noticed that many of our young patients who recovered from COVID-19 suffered lingering symptoms long after the virus was gone. Our team acted quickly to open the **Respiratory Recovery Clinic** (now called the [COVID Assessment Program](#)) to provide comprehensive care for those with long COVID symptoms.

COVID-19 Research. In addition to caring for patients, National Jewish Health researchers focused resources on understanding the SARS-CoV-2 virus, how it spreads, how to best detect it, how to treat COVID-19 disease and how the disease impacts lung health. We have more than 80 research projects and clinical trials focused on COVID-19.

COVID-19 Information and Education. In the early weeks of the pandemic, National Jewish Health devoted significant resources to create a robust, accurate and constantly updated [COVID-19 website](#) to provide valuable information about the pandemic to the local, national and worldwide community. In consultation with our own experts and with information gathered from peer-reviewed scientific studies and other authoritative sources, National Jewish Health published extensive information about patient care, testing, prevention, health tips, general COVID information, news, research and links to additional authoritative sources of information. The site also included situation updates, which linked to daily news updates. During 2020 and throughout 2021, this site continues to be managed and populated with fresh content. As the pandemic and the illness evolved, so too has the dedication to provide up-to-date information to help people understand the disease, the risks and their own health.

The National Jewish Health COVID-19 website proved enormously valuable to the community, as evidenced by the number of people who viewed the content. Between March 1 and August 15, 2020, the site recorded 5.3 million page views, more than doubling overall traffic to the National Jewish Health website. During that same time frame, practical pages such as "How to put on a Surgical Mask," "COVID-19 Antibody Testing" and "COVID-19 Symptoms," each received more than 1.3 million page views. Increased traffic to this section of the website continued throughout 2020 and 2021, as did the commitment to continue providing frequent updates to this vital information.

Collaborations to Support Others. During the pandemic, National Jewish Health *for Kids* collaborated with [Clayton Early Learning](#) to educate parents, teachers and children about COVID-19, explore how that virus is transmitted inside and outside the classroom, how it impacts an early childhood educational setting, and to determine if there are any associations between health and later educational outcomes.

National Jewish Health partnered with the [University of Denver](#) (DU) to plan the safe return to campus for students and faculty for the fall 2020 term. National Jewish Health continues to serve as the strategic health care partner for DU. The two organizations worked together to develop and refine monitoring, testing, isolation and contact-tracing protocols, all aimed at preparing for the return of students and expanded staffing on campus and has continued this collaboration throughout 2021 and into 2022.

Other Activities

National Jewish Health participates in numerous additional activities and programs that promote community health, ranging from community outreach programs to tobacco and vaping cessation and scientific research into pressing health issues. These activities are outlined in [Appendix A](#).

Assessment Methodology

In order to understand community health needs, National Jewish Health evaluated its progress for this report and collected quantitative and qualitative community health data. National Jewish Health assembled a multidisciplinary team from within the organization to review the qualitative data gathered from community input sessions and influencer surveys and to review quantitative data.

- Reviewed and analyzed public comments about 2019 Community Health Needs Assessment and Implementation Strategy
- Focused definition of community based on where most of our patients live
- Reviewed published data on community health, social determinants of health, including the Colorado Department of Public Health and Environment's Health Equity Map, County Health Rankings, U.S. Census data and other resources
- Gathered community input
 - Hosted Community Benefit Meetings in 2020, 2021 and 2022 (held virtually due to COVID)
 - Surveyed community health providers annually
 - Surveyed National Jewish Health experts annually
- Prioritized health needs in collaboration with National Jewish Health leadership and quality committees
- Identified areas of focus based on community health needs and our ability as a specialized respiratory hospital to meet those needs. We will seek to address these areas with an Implementation Strategy coming in November 2022.

National Jewish Health posted its 2019 Community Health Needs Assessment and Implementation Strategy on the [National Jewish Health website](#). No written comments were received. The methods for soliciting and receiving public comment for the 2022 National Jewish Health Needs Assessment will be reviewed and improved.

Community Description

As a specialty care hospital focused on respiratory and related diseases, with its main campus in Denver, Colorado, National Jewish Health defines its community according to two factors: geography and respiratory health.

Geographic Community. For the purpose of this Community Health Needs Assessment, National Jewish Health defines its community as residents of Denver, Adams, Arapahoe, Douglas and Jefferson counties.

While National Jewish Health sees patients from across Colorado, the United States and several foreign countries, its research also impacts the care of patients in the United States and beyond. Historically, the percentage of in-state patients was closer to 70%, but the pandemic caused greater need within the community and curtailed patients traveling from other states. However, it is still key to focus on the local Colorado patient population, which during the COVID years has represented more than 70% of all patients seen annually and 91.3% if considering the entire state of Colorado.

NATIONAL JEWISH HEALTH PATIENT COUNT BY STATE 2021		
STATE	PATIENT COUNT	
CO	45,538	91.3%
WY	574	1.2%
TX	360	.7%
NM	352	.7%
KS	318	.6%
CA	296	.6%
FL	266	.5%
NE	259	.5%
42 states, together accounting for 3.9% of all patients		

In order to define a community that National Jewish Health could significantly impact with an Implementation Strategy, records of patients' home locations were consulted.

The main National Jewish Health campus is located in central Denver at 1400 Jackson St., in Denver County. Within Colorado, Denver County and the four contiguous counties (Adams, Arapahoe, Douglas and Jefferson) account for 79.4% of all Colorado patients seen at National Jewish. As indicated, these numbers have shifted somewhat as the pandemic caused people to cease to travel for care, but represent a consistent geography for the largest quantity of patients. Combined, these five counties have a population of 2,935,637, and 36,177 of them came to National Jewish Health for care in FY2021.

NATIONAL JEWISH HEALTH 2021 PATIENT COUNT BY COLORADO COUNTY			
COUNTY	PATIENT COUNT	PERCENT OF CO PATIENTS	
Denver	11,240	24.7%	79.4%
Arapahoe	8,400	18.4%	
Jefferson	7,876	17.3%	
Adams	4,939	10.48%	
Douglas	3,722	8.2%	

Respiratory Health. National Jewish Health opened its doors in 1899 to treat patients with tuberculosis, an epidemic respiratory disease at that time. We have focused on respiratory and related diseases for our entire 123-year history. We have been ranked the #1 or #2 respiratory hospital in the nation for 25 years, according to *U.S. News & World Report*. The community we serve are respiratory patients and potential respiratory patients we can help by preventing, diagnosing, managing and treating respiratory disease.

Secondary Data Collection – Published Public Health Information

Social and Behavioral Health

Demographics and Social Determinants of Health						
	Colorado	Adams	Arapahoe	Denver	Douglas	Jefferson
Population						
Total	5,782,914	535,622	670,969	760,049	375,649	593,348
Percentage 0-18	21.5	25.6	22.9	18.7	24.5	19.1
Percentage 65+	15.1	11.0	14.0	12.2	13.1	17.3
Race/ethnicity (percent)						
Non-Hispanic White	67.4	48.5	58.9	55.2	80.7	77.5
Hispanic	21.9	41.2	20.0	28.9	9.4	15.7
Non-Hispanic Black	4.1	3.3	10.7	8.9	1.5	1.3
Other	6.6	7.0	10.4	7.0	8.4	5.5
Education (percent)						
Less than high school	7.9	15.3	7.7	10.9	2.0	5.2
High school graduate	92.1	84.7	92.3	89.1	98.0	94.8
College graduate	41.6	25.2	43.4	50.3	58.6	56.4
Income:						
Median	\$75,231	\$73,817	\$80,291	\$72,661	\$121,393	\$87,793
Per capita income	\$39,545	\$31,310	\$42,814	\$45,636	\$53,836	\$45,581
Percentage of children in poverty	10.6	12.1	8.4	17.3	2.6	6.6
Percentage of persons at or below federal poverty level	9.0	9.4	7.0	12.0	3.0	6.1
Insurance						
Percent Uninsured	9.4	12.3	9.6	10.1	4.3	7.5
Percent Medicaid	24.3	30.3	23.9	30.2	9.1	17.6
Language (percent)						
Percent not proficient in English	2.7	5.8	3.8	5.0	0.8	1.3
Sources: County Health Rankings , U.S. Census , Colorado Department of Health Care Policy & Financing						

County Health Rankings

Rank Among 64 Colorado Counties

Better than Average: Worse than Average: No difference:

	Adams	Arapahoe	Denver	Douglas	Jefferson
Length of Life	25	18	27	3	16
Life Expectancy (years)	78.6	80.6	78.9	83.4	80.3
Quality of Life	26	15	17	1	6
Health Behaviors	36	18	30	1	9
—Adult smoking	15%	13%	13%	10%	14%
—Adult obesity	31%	25%	22%	21%	25%
Clinical Care	49	26	8	4	7
Social & Economic Factors	49	26	50	1	15
Physical Environment	59	48	36	40	56
Air Pollution (Avg daily ppm, 2.5)	10.4	6.3	9.1	7.0	8.9

Source: [County Health Rankings & Roadmaps](#)

Asthma

Lower than state rate: Higher than state rate: No difference: 						
	Colorado	Adams	Arapahoe	Denver	Douglas	Jefferson
Current Asthma — Adults (%)	8.9	11.3	8.2	8.7	8.4	9.7
Current Asthma — Children (%)	7.3	11.3	7.3	6.7	7.9	8.6
Asthma ER Visits per 10,000 All ages	20.1	29.7	23.7	24.4	10.1	18.9
Pediatric Asthma ER Visits Ages 5-19 Per 10,000	25.6	41.5	28.5	43.0	14.6	24.3
Asthma Hospitalizations per 10,000 All ages	2.3	2.69	2.63	3.15	1.23	1.8
Ages 5-19	3.54	4.57	7.33	7.54	2.03	3.15

Source: [Colorado Department of Public Health and Environment](#)

Chronic Obstructive Pulmonary Disease (COPD)

Lower than state rate Higher than state rate: No difference: 						
	Colorado	Adams	Arapahoe	Denver	Douglas	Jefferson
Adults (% with Disease)	4.4	5.0	3.8	3.7	1.9	3.7
ER Visits per 10,000	23.39	30.69	18.54	22.10	8.50	18.20
Hospitalizations per 10,000	5.48	6.46	3.97	6.00	2.14	3.61

Source: [CDPHE](#)

COVID-19

Lower than state rate Higher than state rate: No difference: 					
	Adams	Arapahoe	Denver	Douglas	Jefferson
COVID-19 Cases per 100,000	25,835	23,502	24,205	22,036	21,573
COVID-19 Deaths per 100,000	246.5	178.0	181.7	113.6	228.0

Source: [CDPHE](#)

Summary of Secondary Public Health Data

Adams County: Adams County has the youngest population of all Colorado counties, the second highest poverty rate, the second highest Medicaid rate and the second highest rate of Medicaid eligible but not enrolled residents. It has the fewest white residents and the most Hispanic residents. Adams County ranks worse than average for health behaviors, which include smoking and obesity, worse than average for social and economic factors, including children in poverty, violent crime, education and access to clinical care. It has the highest rate of COVID-19 cases and deaths, more asthma and COPD and poor air quality.

Arapahoe County. Arapahoe County has the second most people of all Colorado counties, second most people over 65, the highest percentage of Black people and poor air quality.

Denver County. Denver County, the most populous county in our community, has fewer children, the most diverse population, the most people below poverty line and the most uninsured residents. Denver County ranks worse than average for health behaviors, which include smoking and obesity, worse than average for social and economic factors (including children in poverty), violent crime and education. It also has poor air quality, lower rates of asthma and more uncontrolled asthma.

Douglas County. Douglas County is the second healthiest county in the nation according to [U.S. News & World Report](#). Douglas County has the fewest people in our service area, the second most under age 18, fewest number of Black and Hispanic people, highest income, fewest below the poverty line, the most eligible but not enrolled Medicaid residents. It has high rates of asthma and poor air quality.

Jefferson County. Jefferson County has the highest percentage of residents over 65 in our service area, more white residents, the second highest average income and the second lowest poverty rate. It has high asthma rates and poor air quality.

Identification & Prioritization of Significant Health Needs

Primary Data Collection — Community Input

National Jewish Health sought input from the community via three channels

1. Community Input Sessions
2. Survey of Community Health Providers
3. Survey of National Jewish Health faculty with extensive community outreach experience

Community Input Sessions

In each of the past three years, community benefit discussions were held using a virtual format because of the pandemic. The 2020 meeting was held in August of 2020. The 2021 and 2022 meetings were held in June of each of those years.

The meetings included an overview of National Jewish Health community health efforts and created an opportunity for community members – organizations and individuals to ask questions and share their input about priorities, needs and desires for improved community health. National Jewish Health senior leadership and community outreach leadership led an overview of the programs that provide community benefit. Attendees from across the metro area joined the virtual meeting.

Outreach for Attendance

To promote the event each year and to assure that key organizations as well as the general public were invited, National Jewish Health used a variety of approaches. One of the ongoing public facing strategies was to post a pinned event invitation on Facebook several days before the meeting and then use social media to continue to feature the meeting for the days leading up to the event. An email invitation was sent three times prior to the date of the event with reminders the day before and day of the event. For the 2022 event, direct invitations were sent to 139 individuals at various health, public health, government and other related organizations. In addition, each year an advertisement was placed in the *Denver Post* the week before the event, inviting the community to the public meeting.

National Jewish Health community outreach staff directly contacted representatives from several organizations via email and phone. Twenty people registered for and attended the virtual meeting, including individual citizens and representatives of several community organizations and government entities.

Finally, the recorded meeting was posted online within the weeks following the event. The most recent 2022 meeting recording can be found [here](#):

Speakers for the 2022 event:

- Michael Salem, MD, President & CEO
- Steve Frankel, MD, Executive Vice President, Clinical Affairs
- Chris Forkner, Executive Vice President, Corporate Affairs
- Carrie Horn, MD, Chief Medical Officer and Interim Co-Chair DEI Committee
- Lauren Green-Caldwell, Vice President Communications

Agenda:

- Overview and Commitment to our Communities
- Community Benefit Profile
- Our Response to COVID-19 Challenges
- Our Unique Research Mission
- Community Program Highlights
- Next Steps and Questions & Answers

Speakers addressed an overview and history of National Jewish Health, including the organization's first 70 years when all care was free; its ongoing commitment to caring for all regardless of ability to pay; the National Jewish Health mission and vision; current care, research and collaborations; new programs in response to the COVID-19 pandemic; a summary of the most recent Community Health Needs Assessment; and current community benefit programs, activities and expenditures. Questions that came in were then addressed.

Follow-Up Survey

In the weeks following each community session, a brief survey was developed to solicit additional input from those who attended the National Jewish Health community meeting, as well as those who could not attend and others identified as having an interest in the organization's community benefit programs. Results were gathered and will be used to guide our ongoing efforts over the next months, as well as to guide the next Community Health Implementation Plan.

The survey asks participants to rank various social determinants of health that they would most like to see hospitals address. It also asks for input on various health behaviors that participants would most like to have more information about or have services identified, including understanding what services developed during the pandemic may be most helpful to our local communities. From past surveys, we learned that increased access to care, including specialty care; mental health services; and increased information and education about health issues were identified high on the scale of needs. Participants ranked food security, housing and social connection as the social determinants of health they would most like hospitals to address. Overwhelmingly, participants said that anxiety and depression are the health behaviors for which people in the community need more information and/or support.

We continue to analyze new survey results and input (the 2022 survey is in the field now), and will use that data, plus data from past years, to help us fine tune current plans and develop new services.

Survey of Community Health Providers

National Jewish Health surveyed eight community providers to help better understand the needs of their clients and staff. Preliminary results are reported here.

Questions:

- What are the most common and burdensome respiratory diseases among your patients?
- What is the biggest obstacle to effective care for your patients' respiratory diseases?
- Which respiratory patients need the most help?
- What is the greatest opportunity for National Jewish Health to improve the respiratory health of your community?

Community Health Providers Surveyed

Organization	Description	Contact
<u>Colorado Coalition for the Homeless</u>	Works collaboratively toward the prevention of homelessness and the creation of lasting solutions for all experiencing or at risk of homelessness throughout Colorado	Jamal Moloo Medical Director
<u>Every Child Pediatrics</u>	Provides comprehensive, affordable health care to over 22,000 Colorado children at nine locations in the Denver Metro area	Laura Luzietti, MD Medical Director
<u>Denver Health Community Health Clinics — Family Medicine</u>	Denver Health is Denver’s primary safety-net institution. Denver Health has 10 primary care centers across Denver.	Lucy Loomis, MD Director, Family Medicine
<u>Denver Health Community Health Clinics — Pediatrics</u>	Denver Health is Denver’s primary safety-net institution. Community health centers provide pediatric care at five locations in Denver and in numerous Denver Public Schools	Steve Federico, Director General Pediatrics and Community Programs
<u>2040 Partners for Health</u>	Works to develop healthy communities in northeast Denver by creating sustainable community partnerships and by identifying, measuring and applying local community solutions	Griselda Pena-Jackson Executive Director
<u>Clínica Tepeyac</u>	A gateway to health for the underserved that provides low-cost primary and preventive care at its clinic in Central Denver	Jim Garcia CEO
<u>STRIDE Community Health Center</u>	Provides culturally sensitive, affordable and accessible health services among low-income, uninsured and underserved populations at 18 locations in Adams, Arapahoe, Douglas, Jefferson and Park counties	Selina Pena Administrative Assistant for Director of Operations
<u>Salud Family Health Centers</u>	Provides medical, dental, pharmacy and behavioral health care for low-income and medically underserved populations as well as the migrant and seasonal farmworker population at 13 clinics and a mobile unit in northeast and southeast Colorado	Tillman Farley, Medical Director

Key Findings - Community Health Provider Surveys

What are the most common and burdensome respiratory diseases among your patients?

- Asthma, COPD, sleep apnea, chronic cough, COVID, obstructive sleep apnea, interstitial lung disease, pulmonary hypertension and other restrictive processes

What is the biggest obstacle to effective care for your patients' respiratory diseases?

- Patients are uninsured, can't afford care, lack of transparency of pricing
- Complex treatment regimens, understanding which inhaler to use
- Time costs are also an issue
- Accessing studies and specialty care
- Timely sleep studies, access to CPAP machines, cost of inhalers, affordable screening lung CT scans
- Trying to get timely help for patients considered low-income, those in medically underserved populations, including the migrant and seasonal farmworker population
- Trying to get affordable help with uninsured patients
- Transportation difficulties mentioned by three providers
- Social situation, stable housing, co-occurring mental health or substance abuse disorders, insurance
- Consult from visit at National Jewish Health is frequently time consuming
- Continued smoking, also many patients only want to use rescue inhaler and don't use their daily inhalers appropriately, making management of asthma and COPD difficult
- Costs of more effective medications, LDCT screenings, PFTs and pulmonary consults

Which respiratory patients need the most help?

- Uninsured, lesser extent for Medicaid
- Patients with sleep apnea
- Asthma, COPD, ILD, chronic autoimmune diseases individuals on chronic oxygen with poorly controlled COPD
- Poorly controlled asthma and COPD
- Those with poorly controlled COPD and asthma

What is the greatest opportunity for National Jewish Health to improve the respiratory health of your community?

- Appreciate National Jewish Health seeing Medicaid and uninsured patients
- Share medical info more easily
- Ongoing education programs, and programs in other languages can help
- Promoting good air quality
- Access to low dose lung CT scans at affordable costs and accessible
- Increase access for uninsured patients
- Specialty care for uninsured patients who can be managed by primary care
- Consistent faxing back consult notes to primary care providers
- Transparency around public insurance and uninsured patient access
- Overall better support for smoking cessation and better education about using daily inhalers rather than just rescue. Maybe classes for new diagnoses of COPD
- Offer price discounts for self-pay patients

The following comments add updated perspectives on these identified in surveys from previous years

- Asthma, especially among children, chronic obstructive pulmonary disease (COPD) and sleep apnea were the most commonly mentioned diseases.
- Chronic diseases such as asthma and COPD present a challenge with their need for ongoing care, appointments and complexity of treatment regime (i.e., rescue vs. maintenance inhalers).
- Complexity and cost of sleep apnea testing, obtaining equipment and follow-up are obstacles to care.
- Increased hours and appointments for pediatric asthma specialty care would be helpful.
- Cost of appointments and tests are obstacles to care.
- National Jewish Health follow-up with community providers can be a problem.
- Two providers suggested e-consult service, which might help community health center staff better care for patients, especially the severely ill and those with rare diseases.
- Targeted education for providers would be valuable.
- Tools for low literacy, limited-English-proficiency patients were suggested.

Survey of National Jewish Health Faculty with Extensive Community Outreach Experience

Several National Jewish Health faculty and staff have reached beyond National Jewish Health facilities to engage with and improve health care for underserved communities. As part of their work, they have gathered information and gained insight on community health needs and challenges, and how National Jewish Health might address them.

<p>Bruce Bender, PhD Head, Division of Pediatric Behavioral Health Co-Director, Center for Health Promotion</p>	<p>Dr. Bender led the Asthma and COPD Toolkit Bootcamp projects, which taught providers at more than 170 community health clinics how to diagnose and manage COPD and asthma. He is now working on a seven-year program to improve asthma diagnosis and management within the Navajo Nation. Dr. Bender is also an expert on asthma medication adherence, which is a significant problem among children, and on improving asthma-related wellness.</p>
<p>Jennifer McCullough, MA Director of Education Morgridge Academy for Chronically Ill Children</p> <p>Amy Schouten, RN Head Nurse Morgridge Academy for Chronically Ill Children</p>	<p>Morgridge Academy is a free kindergarten through eighth grade school for children who have been diagnosed with a chronic illness. Morgridge Academy is the only school of its kind on a medical campus in the country, and its mission is to provide a safe, friendly and healthy school environment committed to whole-child development. Eighty-five percent of the students are eligible for free and reduced lunch, and nearly all students require medical care during the school day. During the pandemic, classes were online, and school staff delivered meals daily to students and their families.</p>
<p>Lisa Cicutto, PhD, RN Professor of Medicine Director, Community Research</p>	<p>Dr. Cicutto’s work focuses on promoting evidence-based management of asthma in adults and children and COPD by building capacity and partnerships among patients, families, schools, public health and their health care providers. She leads extensive community projects to improve lung health in Colorado’s San Luis Valley and Lower Arkansas Valley and is expanding those efforts into Weld and Morgan counties, which border our service area. Dr. Cicutto also leads a citizen-science air quality project in the Denver neighborhood of Globeville, Elyria and Swansea, and is helping residents understand and reduce their exposure to air pollution.</p>

Cecile Rose, MD, MPH
Professor of Medicine
Director of Division of
Environmental & Occupational
Health Sciences

Dr. Rose’s work has focused on providing free health screenings for current and retired coal, metal/non-metal miners and historic uranium workers through the National Jewish Health Miners Clinic of Colorado. This clinic offers free and confidential screenings are offered in Denver; Pueblo, CO; Montrose, CO; Craig, CO; Casper, WY; and Page, AZ, and includes federal program benefits counseling. Dr. Rose’s team recently reported that the burden of cardiorespiratory diseases, personal and job-related risk factors, and depression in these populations is substantial. In addition to screening for lung scarring, their findings show that screening for lung cancer, cardiovascular disease and mental illness is essential to improving the health of miners in our area.

Key Findings – National Jewish Health Faculty & Staff

- Pediatric asthma, COPD and other respiratory diseases, work-related respiratory illnesses and the impact of air pollution on these diseases and lung health represent the most common and burdensome respiratory diseases in the community.
- Medication adherence, wellness and challenges posed by poverty and transportation are major obstacles to care.

Best opportunities for National Jewish Health to expand its focus on improved community health are:

- Share evidence-based expertise with community health providers so they can better care for their patients with asthma, COPD and other respiratory conditions.
- Continue to improve treatment adherence and wellness through patient education.
- Bring more children in need to the Morgridge Academy at National Jewish Health.
- Increase participants at free health screenings for current and retired miners.
- Continue its pioneering research on all aspects of asthma.

Significant Health Needs Summarized

Asthma and chronic obstructive pulmonary disease (COPD) are the most common and burdensome respiratory diseases among the National Jewish Health community. Air pollution, limited access to specialty health care, inadequate patient and provider education and tobacco use all contribute to poor respiratory health in Colorado.

Social and Behavioral Health

Tobacco Use. Tobacco use is the number one preventable cause of death in the United States, accounting for approximately 480,000 deaths each year from a variety of diseases, including lung and many other forms of cancer; heart disease; and respiratory diseases, including COPD and pneumonia.

In 2022, the U.S. Centers for Disease Control and Prevention (CDC) estimated that 12.5% of all American adults (30.8 million) were current smokers in 2017 (34.3 million people). In Colorado 14.8% of adults currently use tobacco. Smoking is significantly more prevalent among poorer adults and those with less education.

In recent years, the use of electronic cigarettes has risen dramatically, to as high as 27% among teenagers and young adults. While the e-cigarettes may not expose users to as high a concentration of combusted carcinogens as smoking tobacco cigarettes, they deliver highly addictive nicotine. E-cigarettes can addict users to nicotine and increase the risk of later tobacco use. These results are becoming more clear as research continues.

Air Pollution. An article published in the *Journal of Thoracic Disease*, titled “Air pollution and chronic airway diseases, what should people know and do?” succinctly summarizes the hazards of air pollution for people with asthma, COPD and other chronic diseases:

“Exposure to air pollution has many substantial adverse effects on human health. Globally, seven million deaths were attributable to the joint effects of household and ambient air pollution. Subjects with chronic respiratory diseases such as chronic obstructive pulmonary disease (COPD) and asthma are especially vulnerable to the detrimental effects of air pollutants. Air pollution can induce the acute exacerbation of COPD and onset of asthma, increase the respiratory morbidity and mortality. The health effects of air pollution depend on the components and sources of pollutants, which varied with countries, seasons, and times To reduce the detrimental effects of air pollution, people especially those with COPD or asthma should be aware of the air quality and take extra measures such as reducing the time outdoor and wearing masks when necessary.”

Jiang XQ, Mei XD, Feng D. Air pollution and chronic airway diseases: what should people know and do?. *J Thorac Dis.* 2016;8(1):E31-E40. doi:10.3978/j.issn.2072-1439.2015.11.50

The five counties comprising the National Jewish Health community all suffer significant air pollution, worse than most counties in the state, especially ozone and particulate pollution. Population growth has contributed to increased traffic, which increases pollution. Increasing frequency and severity of wildfires has also increased air pollution in recent years.

Education. Patients and providers could benefit from additional education about respiratory diseases, their symptoms and how to diagnose and manage them. National Jewish Health has a wealth of knowledge and expertise on respiratory diseases and the evidence-based strategies to manage them.

Access to Specialty Care. Cost, transportation and time all limit patients' access to specialty care. Health care providers also expressed an interest in better access to National Jewish Health expertise, with two suggesting brief e-consults with National Jewish Health faculty, which could reduce the need for patients to visit in person.

Cost. Cost of care and medications was mentioned frequently as an obstacle to care.

Respiratory Health

COVID-19. COVID-19 continues to be a major public health threat with ongoing infections, hospitalizations and deaths. And now, long-term post-infection symptoms, called long COVID, is challenging nearly a third of patients recovering from COVID-19. The need for patient care, vaccinations, testing and research continues to be robust.

Asthma. Asthma represents the most common diagnosis among National Jewish Health patients. Asthma is the most common chronic disease in children and accounts for the most missed school days. According to the CDC, asthma rates are higher among children, especially those who are poor, male and/or African American.

In Colorado, 9.7% of residents currently have asthma. In the National Jewish Health community, asthma rates are above average in Adams and Jefferson counties. Uncontrolled asthma, as evidenced by emergency room visits and hospitalizations, is highest in Adams, Arapahoe and Denver counties. The Colorado Department of Public Health and Environment notes that prevalence of asthma in children and adults is greater among those on Medicaid.

Surveys of community health providers and National Jewish Health experts noted pediatric asthma as an especially significant health need. Cost of medications and home environments not conducive to respiratory health were mentioned as challenges for pediatric asthma patients.

According to the CDC, the most effective methods of asthma control and management include:

- Reducing exposure to triggers
- Treating patients with appropriate medications such as inhaled corticosteroids
- Educating patients and caregivers
- Improving asthma management in schools
- Identifying and sharing best practices
- Targeting interventions to populations disproportionately affected by asthma

Chronic Obstructive Pulmonary Disease. Chronic Obstructive Pulmonary Disease (COPD) is the third leading cause of death in the United States and the fourth leading cause of death in Colorado. COPD represents the second most common diagnosis at National Jewish Health.

Colorado falls in the top fifth of states with COPD and top fourth for mortality from COPD, according to the COPD Foundation. In 2016 (the most current data), Colorado averaged 46.4 COPD deaths per 100,000 people according to the CDC.

In the National Jewish Health community, Adams County has a higher rate of COPD than the overall state, while the other four counties have lower rates. Adams and Denver Counties have higher rates of uncontrolled COPD as evidenced by ER visits and hospitalizations.

COPD prevalence is highest among older people; people who smoke or have smoked in the past; and in rural and frontier counties (six or fewer people per square mile). Age-adjusted COPD mortality rates are decreasing among men and increasing among women. In Colorado and the U.S. overall, COPD mortality is highest among whites.

Under diagnosis of COPD is a significant concern. While more than 15 million Americans have been diagnosed with COPD, millions more suffer undiagnosed disease, according to the National Heart, Lung and Blood Institute (NHLBI).

In its “COPD National Action Plan,” the National Institutes of Health establishes two goals that are especially applicable to National Jewish Health:

- Empower people with COPD, their families and caregivers to recognize and reduce the burden of COPD. This involves communications campaigns and screening to increase diagnosis of COPD, so that patients can get care to slow progress of the disease and improve quality of life earlier.
- Improve the prevention, diagnosis, treatment and management of COPD by improving the quality of care delivered across the health care continuum.

Sleep Apnea. More than 25 million Americans are estimated to have obstructive sleep apnea (OSA). Because people with sleep apnea don’t usually get restful sleep at night, they may be excessively sleepy during the day, which can lead to difficulties at school and work, and even to car accidents. Untreated severe OSA is associated with a higher risk for insulin resistance, heart attack, high blood pressure and stroke. Many people with these conditions have undiagnosed OSA. Once OSA is diagnosed, it can be treated, which reduces the risk of diseases that often accompany the syndrome.

Selected Areas of Focus

Based on a combination of community need and National Jewish Health capabilities, the following areas will be the primary focus of additional efforts to address community health needs. Specific strategies and initiatives to address these areas of focus will be included in the Implementation Strategy Report, which will be available in November 2022.

Pediatric Asthma

Rates of asthma, and especially rates of emergency room visits and hospitalizations among children living in the National Jewish Health community, along with universal mention of asthma among pediatric community health providers, suggests this is a large unmet community health need. National Jewish Health has the expertise, knowledge, capacity and tools to improve diagnosis and treatment of children with asthma.

Education

Both providers and patients could benefit significantly from better understanding respiratory health and ways to protect it, from educating providers about handling difficult respiratory cases to educating patients about managing their disease and reducing exposure to respiratory irritants. National Jewish Health has an extensive library of patient education materials and professional education programs that could be made available and accessible to more people.

Access to Specialty Care

The high rates of emergency care and hospitalizations for asthma and COPD, high levels of air pollution, and the ongoing COVID-19 pandemic indicate that respiratory patients in our community need better access to the knowledge and expertise of National Jewish Health. National Jewish Health will look for ways to increase enrollment at Morgridge Academy, reach out to more people needing lung function screening and develop programs to bring our care to more community members. National Jewish Health will seek to increase access to our Immediate Care program and continue work to care for COVID-19 patients, deliver vaccines and provide testing for suspected COVID-19 patients.

COVID-19 and Long COVID

In response to the COVID-19 pandemic, National Jewish Health invested millions of dollars and focused intensely on developing and launching a wide variety of programs to meet this challenge and protect our community's health. These efforts began in 2020 with the onset of the pandemic, and continued throughout 2021 and 2022.

At the start of the pandemic, National Jewish Health quickly created Acute Respiratory Care Clinics for both children and adults needing urgent care for suspected and confirmed COVID-19 cases. These clinics provided diagnostic services, medical care and referral, as needed, to area hospitals. These clinics helped to reduce demands on overcrowded local emergency rooms and hospitals. The clinics served both existing National Jewish Health patients and the community at large. As the pandemic came in surges and needs changed, the clinics were adapted to meet the evolving needs.

Many COVID-19 patients continue to have persistent symptoms and ongoing functional impairment as they recover from the disease. National Jewish Health saw the need to provide ongoing care for these patients and their unique symptoms and quickly developed both adult and pediatric Respiratory Recovery Clinics, now working as the Center for Post-COVID Care and Recovery. This program helps care for patients.

In early 2020, we pivoted to mount an all-out, transformational effort to understand, contain and defeat the SARS-CoV-2 virus and the disease it causes. We expanded our research to include more than 80 projects related COVID-19. National Jewish Health faculty and staff have gained tremendous experience and insight into everything from supply chains to testing and care of patients with COVID-19. Many research projects are currently underway to investigate safe treatments, disease transmission, severe disease development, the relationship between COVID and food allergies and more. We will continue leading respiratory research to contribute to the body of COVID knowledge and to protect and improve the health of patients.

Health Needs Not Addressed

All of the identified significant health needs are important to National Jewish Health. However, the institution must focus its leadership, time and resources on the selected needs in order to make a difference in the community's health. The selected needs were ones to which National Jewish Health brings extraordinary expertise and capabilities not widely available in the community. Limitations of funding, staff and expertise at the hospital were considered barriers to effectively addressing the unselected needs. Unselected needs were also ones that could be addressed by other organizations.

Appendix A:

Current National Jewish Health Programs to Address Community Health Needs

Patient Care

In fiscal year 2021, National Jewish Health provided charity care services worth \$1,462,388 and millions more in uncompensated care of Medicaid patients. Unlike many institutions, National Jewish Health places no restrictions on Medicaid patients; they receive the first available appointment with specialists, not the first available Medicaid appointment.

With 24 practice locations across Colorado, National Jewish Health serves patients throughout the state. As a tertiary care center, patients are referred to National Jewish Health from around the nation, many with conditions so difficult and baffling that they could not be successfully treated anywhere else.

Research

National Jewish Health faculty and staff conduct extensive basic, translational and clinical research that serves both the local and national communities suffering from a wide variety of respiratory, immune and related diseases, which is supported by about \$57.9 million in funding received each year, mostly from the National Institutes of Health. National Jewish Health invests another \$20 million of its own funds each year in research. In recent years, research findings have included the most effective treatment yet for cystic fibrosis, origins and course of asthma, the first-ever treatments for idiopathic pulmonary fibrosis, ways to motivate sleep apnea patients to adhere to prescribed therapy and novel therapy for vocal cord dysfunction.

Below is a list of prominent research programs and networks in which National Jewish Health participates:

- **AsthmaNet** is a nationwide clinical research network created by the National Heart, Lung and Blood Institute (NHLBI) in 2009. AsthmaNet develops and conducts multiple clinical trials that explore new approaches in treating asthma from childhood through adulthood. National Jewish Health is currently participating in several trials, including: understanding how microscopic organisms in various organs of the body can improve or worsen asthma; identifying new treatment approaches to recurrent, severe episodes of lower respiratory tract symptoms in young children with asthma; and why Black people commonly have worse asthma less amenable to successful treatment.
- **COPDGene[®]** is one of the largest studies ever to investigate the underlying genetic factors of chronic obstructive pulmonary disease or COPD. Funded through a \$35 million grant from the NHLBI, the COPDGene study is looking for answers to why some smokers develop COPD and others do not. Through the enrollment of more than 10,000 individuals, the COPDGene Study aims to find inherited or genetic factors that make some people more likely than others to develop COPD. With the use of CT scans, COPDGene seeks to better classify COPD and understand how the disease may differ from person to person.
- **Atopic Dermatitis Research Network.** In July 2010, National Jewish Health was awarded \$31 million from the National Institute of Allergy and Infectious Diseases to lead a consortium of academic medical centers seeking to understand skin infections, especially by drug-resistant bacteria and viruses, associated with atopic dermatitis.
- **Consortium of Food Allergy Research.** Ten academic medical centers, including National Jewish Health, are conducting a variety of research projects to foster new approaches to prevent and treat food

allergies and to discover genetic causes underlying food allergy. The group is funded by the National Institute of Allergy and Infectious Diseases.

- **Clinical and Translational Research Center.** Funded by the National Institutes of Health, the center provides an infrastructure for community-based research in collaboration with the University of Colorado.
- **Early Detection of Lung Cancer.** Three separate trials are seeking to detect lung cancer earlier, when chances for successful treatment are much greater. The trials combine CT scans, which have shown promise, with biomarkers that seek to refine results and improve their predictive value. Earlier detection of lung cancer is the most promising tool for increasing survival of patients with this disease, which kills more than 130,000 Americans every year.
- **Military Deployment Lung Disease.** More than 3 million U.S. military personnel have deployed to Southwest Asia over the past 20 years. Researchers at National Jewish Health are investigating why those deployed to Southwest Asia suffer increased rates of respiratory disease and are exploring potential test and treatments. About \$11.5 million in grants from the U.S. Department of Defense has helped determine that those who return from deployment are at risk for a spectrum of chronic respiratory diseases due to exposures from burn pits, sandstorms, combat dust, diesel exhaust and other workplace hazards, and has supported efforts to accurately diagnose and repair the injured lung.
- **COVID Research.** As a renowned academic medical center focused on respiratory disease and intensive care, National Jewish Health is ideally suited to research all facets of COVID-19. National Jewish Health participated in more than a dozen clinical trials of experimental for experimental medications for COVID-19 and conducted extensive clinical, translational and basic research into SARS-CoV-2 and COVID-19. National Jewish Health faculty have published more than 60 peer-reviewed scientific papers on topics ranging from molecular mechanisms to testing, vaccines, pathogenesis, medications, outcomes and social impacts of the pandemic.

Community Outreach

- **Free Lung Testing.** In 2019 and the early months of 2020, National Jewish Health staff participated in 96 free community outreach events in and around Colorado, at which educational materials and free lung testing were offered. Lung testing can help detect lung disease that needs medical attention. National Jewish Health has long provided this free service to reach its local communities, which uses a spirometer to test lung function. Unfortunately, this service was suspended during the COVID-19 pandemic, as health fairs were not held, and spirometry testing could not be conducted safely in a COVID world. National Jewish Health is committed to reviewing how this or a similar service can be added back into its services safely when conditions permit.
- **Tobacco Cessation.** National Jewish Health currently operates tobacco cessation quitlines for 20 states, including Massachusetts, Pennsylvania, Ohio, Michigan and Colorado. National Jewish Health is the nation's largest nonprofit tobacco quitline provider. The Health Initiatives department at National Jewish Health manages these quitlines and also works to develop tobacco cessation protocols for especially impacted populations such as American Indians and the LGBTQ+ community.

On July 1, 2019, National Jewish Health launched an enhanced tobacco cessation program specifically for teens who want to stop using tobacco products, including electronic cigarettes and vapes. The new My Life, My Quit™ program includes educational materials designed for teens and created through focus groups with teens, subject matter experts and community stakeholders. Teens can text or call a

toll-free number (1.855.891.9989) dedicated specifically for teens, or they can visit mylifemyquit.com for real-time coaching. Through the program, teens work with a coach who listens and understands their unique needs, provides personalized support, and helps them build a quit plan to become free from nicotine.

- **The Miners Clinic of Colorado.** This program provides nationally recognized medical screening, diagnosis, treatment, pulmonary rehabilitation, education, counseling and prevention services through free screening programs held at various locations around the state.
- **The Black Lung Clinic.** This clinic offers appointments year-round at National Jewish Health in Denver. It also holds annual outreach clinics in partnership with local hospitals in Craig, Montrose and Pueblo, Colorado, as well as Page, Arizona.
- **The Radiation Exposure Screening and Education Program (RESEP) Clinics.** This program was created by the Radiation Exposure Compensation Act (RECA) Amendments of 2000 to help thousands of workers who were involved in the mining, milling and transport of uranium used to produce atomic weapons for the United States by providing screening for diseases related to radiation exposure, referrals for patients needing further diagnostic or treatment procedures and help with documenting claims under RECA.
- **Walk-with-a-Doc.** The program, led by the National Jewish Health Director of Cardiovascular Prevention and Wellness, Andrew Freeman, MD, was supported and continues to thrive and grow with monthly walks and programs held in parks around Denver. This program, now in its 12th year, has a steady group of 2,000 participants across metro Denver. The program averages 25 walkers a month. Many walks were cancelled or virtual during the pandemic, but the five that occurred in-person had nearly four times the number of participants as walks during 2019.

Education

National Jewish Health faculty and staff provide a wide variety of free educational programs for both consumers and health professionals, which improve care and patient health. Below are some examples:

Patient Education

- **Morgridge Academy.** National Jewish Health operates a free K-8 school for chronically ill children on the organization's main campus in Denver. The school addresses medical and social issues among students who are predominantly low-income and historically marginalized students, then creates a learning environment that allows children to fully participate in academic studies and catch up on lost ground due to absences caused by asthma and other chronic diseases. It is the only school of its kind on a medical campus in the nation. The Colorado Department of Education covers about one-third of the costs, and National Jewish Health funds the remaining two-thirds.
- **Classes.** Until March 2020, National Jewish Health conducted 25 free patient education classes each week for patients, family and community members. Topics include "What Makes Asthma Worse?" "Living with Chronic Disease" and "On the Go with Oxygen." Due to the concerns around COVID-19, all patient education classes were suspended and will resume as soon as possible. Providers continue to educate patients during in-person and telehealth visits.
- **Support Groups.** National Jewish Health hosts, organizes and leads several community support groups for people suffering from various health issues, including diabetes, chronic obstructive pulmonary disease, interstitial lung disease and insomnia. Due to the concerns around COVID-19, some support groups were temporarily suspended, and others became and continue to be offered virtually until it is safe to resume an in-person format.

- **Health Content.** National Jewish Health provides a robust library of health content, authored exclusively by experts at National Jewish Health, both in print and online. The educational material produced ranges from more than 200 MedFacts, TestFacts and Understanding booklets to dozens of instructional videos on topics such as inhaler technique and “What is COPD?” In early 2020, we launched one of the nation’s first COVID-19 websites to provide helpful, authoritative and factual information related to the SARS-CoV-2 virus and COVID-19, the disease it causes. The COVID-19 information brought nearly 4 million visitors who viewed more than 7.1 million pages. The National Jewish Health website is certified by the Health on the Net Foundation Code of Conduct (HONcode) as a trustworthy site for health information.

Professional Education

- **Academic Training.** National Jewish Health provides an active training program for medical students, interns, residents and postgraduate fellows in allergy, immunology, environmental and occupational health sciences, pulmonology, pediatrics and more. At any given time, about 70 residents and fellows are receiving training at National Jewish Health for future careers in medicine.
- **Asthma and COPD Toolkit Initiatives.** Since 2007, National Jewish Health faculty and staff have conducted a series of educational initiatives aimed at increasing health care providers’ ability to assess and manage asthma and COPD. The programs have so far trained caregivers in 170 primary care practices that serve medically underserved populations in eastern Colorado, southern Colorado and the Denver metro area and the Navajo Nation in Arizona.
- **Denver TB Course.** For nearly 60 years, National Jewish Health has hosted the Denver TB Course every year. The course provides a broad overview of active and latent tuberculosis, including its epidemiology, transmission, pathogenesis, diagnosis, treatment and management. This course presents this body of knowledge to any health care providers who will be responsible for the management and care of patients with tuberculosis. This course became virtual in 2021, which allows more providers to participate.
- **Professional Education Seminars.** The Office of Professional Education regularly develops multi-city series of educational seminars at which our expert physicians educate health professionals on current topics concerning the diseases we treat, ranging from the safety and efficacy of inhaled corticosteroids in asthma, emerging medications in asthma and current best practices in care of patients with interstitial lung disease. Seminars changed to a virtual format during the pandemic and are now offered in virtual, online and in-person formats. Online continuing medical education courses are also available on asthma, COPD, COVID-19, nontuberculous mycobacteria and other areas of expertise.

Appendix B:

Survey from Community Input Sessions

Questionnaire for Community Health Benefits Discussion, June 7, 2022

<p>Of the community health priorities represented across health systems, please rank the following in order of importance to you 1 (most important) through 11 (least important).</p> <ul style="list-style-type: none"><input type="checkbox"/> Access to Care<input type="checkbox"/> Air Pollution<input type="checkbox"/> Mental Health<input type="checkbox"/> Substance Use Disorder<input type="checkbox"/> Oral Health<input type="checkbox"/> Pulmonary Disease<input type="checkbox"/> Suicide<input type="checkbox"/> Unintentional Injury<input type="checkbox"/> Cardiovascular Disease/Stroke<input type="checkbox"/> Diabetes<input type="checkbox"/> Social Determinants of Health (e.g., food security, education, safety, housing, etc.)	<p>In which Social Determinants of Health (e.g., food security, education, safety, housing, etc.) would you like to see hospitals be more active? (select top 2)</p> <ul style="list-style-type: none"><input type="checkbox"/> Built Environment (environment in which people live and work)<input type="checkbox"/> Economic Development<input type="checkbox"/> Education<input type="checkbox"/> Food Security<input type="checkbox"/> Housing<input type="checkbox"/> Safety<input type="checkbox"/> Social Connection<input type="checkbox"/> Transportation
<p>Select the top three health behaviors that people in your community need more information about and/or support?</p> <ul style="list-style-type: none"><input type="checkbox"/> Nicotine/Tobacco Cessation<input type="checkbox"/> Weight Management<input type="checkbox"/> Nutrition<input type="checkbox"/> Physical Activity<input type="checkbox"/> Depression, Anxiety<input type="checkbox"/> Falls Prevention<input type="checkbox"/> Sleep<input type="checkbox"/> Oral Health<input type="checkbox"/> Other (please specify)	<p>What is your best idea for improving the health of your community?</p> <hr/> <p>Do you consider Health Equity to be a health priority? (If yes, why?)</p>
<p>How would you prefer to stay engaged with us around community benefit? (select frequency)</p> <ul style="list-style-type: none"><input type="checkbox"/> Newsletter<input type="checkbox"/> Educational Materials<input type="checkbox"/> Website<input type="checkbox"/> Annual Reports<input type="checkbox"/> Social Media<input type="checkbox"/> Partner to Design & Implement Strategies<input type="checkbox"/> Public Meetings (including virtual)	<p>How important is it for local hospitals to offer the following services for COVID-19? (select very important, somewhat important, neutral, not important)</p> <ul style="list-style-type: none"><input type="checkbox"/> Testing Services<input type="checkbox"/> Vaccine Services<input type="checkbox"/> Specialized Care Services <hr/> <p>Is there any additional feedback you would like to share?</p>

Appendix C:

Community-Wide Health Care Resources Available to Address Needs

Adams, Arapahoe, Denver, Douglas and Jefferson counties are served by several large health care systems, multiple community-based health centers and a large network of medical providers. Below is information regarding county public health departments and free or low-cost community clinics where identified health needs can be addressed.

Public Health Departments

Adams, Arapahoe and Douglas counties

[Tri-County Health Department](#): Tri-County Health Department - *The Tri-County Health Department is scheduled to dissolve December 31, 2022, with Adams, Arapahoe and Douglas counties all planning to establish their own public health departments by then.*

6162 S. Willow Drive, Suite 100
Greenwood Village, CO 80111
303-220-9200

Denver County

[Denver Department of Public Health and Environment](#)

101 W. Colfax Ave.
Denver, CO 80202
720-865-5400

Douglas County

[Douglas County Public Health](#)

410 S Wilcox, Ste 103
Castle Rock, CO 80104
720-643-2400

Jefferson County

[Jefferson County Public Health](#)

645 Parfet St.
Lakewood, CO 80215
303-232-6301

State of Colorado

[Colorado Department of Public Health and Environment](#)

300 Cherry Creek Drive South
Denver, CO 80246
303-692-2000

Community Health Providers

Organization	Description	Contact
<u>Every Child Pediatrics</u>	Provides comprehensive, affordable health care to over 22,000 Colorado children at nine locations in the Denver Metro area	Laura Luzietti, MD Medical Director
<u>Denver Health Community Health Clinics — Family Medicine</u>	Denver Health is Denver’s primary safety-net institution. Denver Health has 10 primary care centers across Denver	Lucy Loomis, MD Director, Family Medicine
<u>Denver Health Community Health Clinics — Pediatrics</u>	Denver Health is Denver’s primary safety-net institution. Community health centers provide pediatric care at five locations in Denver and in numerous Denver Public Schools	Steve Federico, Director General Pediatrics and Community Programs
<u>2040 Partners for Health</u>	Works to develop healthy communities in northeast Denver by creating sustainable community partnerships and by identifying, measuring and applying local community solutions	Griselda Pena-Jackson Executive Director
<u>Clínica Tepeyac</u>	A “gateway to health for the underserved” that provides low-cost primary and preventive care at its clinic in Central Denver	Jim Garcia CEO
<u>STRIDE Community Health Center</u>	Provides culturally sensitive, affordable and accessible health services among low-income, uninsured and underserved populations at 18 locations in Adams, Arapahoe, Douglas, Jefferson and Park counties	Director of Consumer Engagement
<u>Salud Family Health Centers</u>	Provides medical, dental, pharmacy and behavioral health care for low-income and medically underserved populations as well as the migrant and seasonal farmworker population at 13 clinics and a mobile unit in northeast and southeast Colorado	Tillman Farley Medical Director

Additional free and low-cost community health clinics can be found at:

[Free Clinic Directory](#)

[Need Help Paying Bills](#)