



Community Health Needs Assessment 2019



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Executive Summary

Introduction

National Jewish Health is an academic, specialty care hospital headquartered in Denver, Colorado, with 25 locations across the state and collaborations with SCL Health and Saint Joseph Hospital in Denver, the Icahn School of Medicine in New York City and Jefferson Health in Philadelphia. National Jewish Health today is the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of patients with respiratory and related disorders.

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

Community Definition

National Jewish Health sees patients from around the nation and the world. Most patients 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 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.

Community Health

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 with the community, to understand the outstanding health needs of residents in our community.

Summary of Identified Health Needs

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

- **Respiratory Health.** Asthma and COPD (chronic obstructive pulmonary disease) are the two most common and burdensome respiratory diseases in our community.
- **Social and Behavioral Health.** Tobacco use, air pollution, education for providers and patients, access to specialty care and cost of medications and care are the most significant social and behavioral health needs in our community. Residents of Adams County face the most significant respiratory, social and behavioral health needs.

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 2019.

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. Both 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. The popularity of our Comprehensive Respiratory Care Clinic and high rates of emergency care and hospitalizations for asthma and COPD, indicate that respiratory patients in our community need better access to the knowledge and expertise of National Jewish Health.

This report is publicly available at the following location:

www.njhealth.org/CommunityHealthNeeds

**Board approval for the 2019 National Jewish Health CHNA was June 26, 2019.

Letter from President & CEO

June 30, 2019

Dear Community Member,

On behalf of National Jewish Health, we are proud to present our 2019 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 community service 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. We reach out with free lung testing at dozens of locations every year. Our robust research enterprise makes discoveries and helps deliver new treatments and medications that benefit both our nearby and national communities.

Communities change, however, and so do their needs. So it is important to reach out, connect with the community and learn how we can better serve its health needs. That is what we have done with our 2019 Community Health Needs Assessment. We have scrutinized published health data, held community focus groups, surveyed community health providers and consulted with our own faculty who have extensive contacts and experience with the community.

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

Sincerely,

A handwritten signature in black ink that reads "Michael Salem". The signature is fluid and cursive, with the first name "Michael" being larger and more prominent than the last name "Salem".

Michael Salem, MD
President & CEO
National Jewish Health

2019 Community Health Needs Assessment

Introduction

National Jewish Health is an academic, specialty care hospital providing research, education and patient care. National Jewish Health today 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. 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 chronically ill students. Morgridge Academy is the only school of its kind on a medical campus. See Appendix B for a more thorough listing of community benefit activities conducted by National Jewish Health.

With 25 practice locations across Colorado, National Jewish Health serves patients throughout the state. As a tertiary care, specialty center, patients are referred to National Jewish Health 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. The relationship also taps the expertise of the pulmonologists 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 the Icahn School of Medicine at 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 approximately \$50 million in grant revenue annually, primarily from the federal government, especially the National Institutes of Health. It 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, to faculty-led trainings for medical students, residents and 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 to ultimately lead to better care of patients.

Background and Purpose of Community Health Needs Assessment

Federal law requires that tax-exempt hospitals conduct a Community Health Needs Assessment (CHNA) every three years and adopt an Implementation Strategy that addresses significant community health needs. Each tax-exempt hospital facility must conduct a CHNA that identifies the most significant health needs in the hospital's community.

The regulations require that each hospital:

- Take into account input from persons representing the broad interests of the community, including those knowledgeable about public health issues
- Make the CHNA widely available to the public

The CHNA report must include certain information including, but not limited to:

- A description of the community and how it was defined
- A description of the methodology used to determine the health needs of the community
- A prioritized list of community health needs

Tax-exempt hospitals also are required to report on IRS Form 990, Schedule H, information about the CHNA process and about community benefits they provide. As described in the instructions to Schedule H, community benefits are programs or activities that provide treatment and/or promote health and healing as a response to identified community needs. Community benefit activities and programs also seek to achieve objectives, including:

- Improving access to health services
- Enhancing public health
- Advancing increased general knowledge
- Relief of a governmental burden to improve health

CHNAs seek to identify significant health needs for particular geographic areas and populations by focusing on the following questions:

- Who in the community is most vulnerable in terms of health status or access to care?
- What are the unique health status and/or access needs for these populations?
- Where do these people live in the community?
- Why are these problems present?

The question of how each hospital can address significant community health needs is the subject of the separate Community Health Implementation Plan (CHIP).

Review of 2016 CHNA and Implementation Strategy

Public Comment

National Jewish Health posted its 2016 Community Health Needs Assessment and Implementation Strategy on the National Jewish Health website at <https://www.nationaljewish.org/NJH/media/pdf/CHNA-NJH-2016-Implementation-Strategy-Update-6-28-17.pdf>. No written comments were received. The methods for soliciting and receiving public comment for the 2019 National Jewish Health Needs Assessment will be reviewed and improved.

Internal Review

The Senior Audit Project Manager completed a compliance audit of the 2016 CHNA in May 2017. The audit produced several recommendations, which were used to guide the development of the 2019 CHNA. They were:

- Complete the 2019 CHNA and publicly post on the National Jewish Health website by June 30, 2019.
- Include an evaluation of 2016 Implementation Strategy in the 2019 CHNA
- Gather community input, possibly in collaboration with our clinical partner, Saint Joseph Hospital, to help identify community health needs.

Progress on 2016 CHNA and Implementation Strategy

In the previous CHNA, National Jewish Health identified four health needs that focused its efforts to improve community health:

- Respiratory disease
- Tobacco use and cessation
- Obesity
- Eliminating barriers to care

Below is an overview of progress made in addressing those needs.

Respiratory Disease

Research. National Jewish Health continued a strong basic and clinical research program of research into the origins, causes, natural history and treatment of respiratory diseases, supported by an average of about \$50 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 dysfunctions.

Community Outreach. Community outreach programs, including participation annually at more than 90 health fairs in the local Denver area to offer free spirometry testing; special sessions for free lung testing; and screening clinics for miners across the state and others. In addition, Professor of Pediatrics Bruce Bender, PhD, earned a six-year \$8.5 million grant to address high rates of asthma on the Navajo Nation, and Professor of Medicine Lisa Cicutto, PhD, began a three-year project to help residents of poor, industrialized neighborhoods in Denver understand and reduce their exposures to hazardous air pollutants.

Education. Education for chronically ill children continued at the Morgridge Academy on the main National Jewish Health campus. Patient education classes and support groups continued to help local respiratory patients. Professional education continued in Colorado and across the nation.

Tobacco Use and Cessation

National Jewish Health continued to provide tobacco-cessation services for as many as 16 state quit lines, and improved coaching calls, shortened intake procedures, increased electronic and web referrals, and developed new programs for LGBTQ and pregnant and postpartum women and American Indians.

Obesity

Professor of Medicine Fred Wamboldt, MD, worked with Salud Family Health Centers to develop a protocol and guide for physicians to quickly initiate conversations with patients about weight management. The protocol refers patients to staff for follow-up conversations that connect patients with

resources to help them better understand the negative health consequences of obesity and to better manage their weight.

National Jewish Health launched the SonicBoom™ wellness program for National Jewish Health staff to encourage wellness practices including exercise, nutrition and weight management.

The Walk-with-a-Doc 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.

Eliminating Barriers to Health Care

The Comprehensive Respiratory Clinic for homeless and low-income patients with respiratory disease improved patients' attendance at appointments while providing quality care that is highly satisfying to individuals treated. The grant-funded pilot program identified several strategies to better serve homeless and low-income patients, which have been incorporated into clinics across the institution.

Other Activities

National Jewish Health conducts numerous other activities that provide community benefits through patient care, patient and physician education, community outreach and research. See Appendix B for a more thorough list of ongoing projects that provide community benefit.

Assessment Methodology

In 2017 and again in 2018, National Jewish Health evaluated its progress for this report and began the process of identifying existing and/or new health needs facing the Denver metro area. The following methods were activated:

- Reviewed assessment report and progress since previous CHNA
- Focused definition of community
- Reviewed published data on our community — Quantitative and qualitative data sources were used to inform the process, including the Colorado Department of Health and Environment’s Health Equity Map, County Health Rankings and other resources.
- Gathered community input
 - Participated in Community Input Sessions in collaboration with Saint Joseph Hospital. Qualitative data was collected through two Community Input Sessions performed by National Jewish Health and Colorado Health Implement and Outreach Council (CHOIC), and facilitated by Denver Department of Public Health and Environment (DDPHE).
 - Surveyed community health providers
 - Surveyed National Jewish Health experts
- Examined findings — Community health needs as determined by published data and community input
- Prioritized health needs — With input from National Jewish Health leadership committee
- Identified areas of focus — Needs we will seek to address with an Implementation Strategy coming in November 2019

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 impacts care of patients in the United States and beyond. However, it is still key to focus on the local patient population which represents 70 percent of all patients seen annually. 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 75 percent of all Colorado patients seen at National Jewish and 60 percent of all patients from anywhere.

Combined, these five counties have a population of 2,677,898, and 193,179 of them came to National Jewish Health for care in 2018.

NATIONAL JEWISH HEALTH PATIENT COUNT BY COLORADO COUNTY 2018			
COUNTY	PATIENT COUNT	PERCENT OF CO PATIENTS	
Denver	57,217	22.2%	74.9%
Arapahoe	46,382	18.0%	
Jefferson	44,345	17.2%	
Adams	26,936	10.4%	
Douglas	18,299	7.1%	

Health Focus – Respiratory Disease

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 120-year history. We are ranked the #1 respiratory hospital in the nation, 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.

NATIONAL JEWISH HEALTH PATIENT COUNT BY STATE 2018		
STATE	PATIENT COUNT	
CO	258,006	79.6%
WY	6,609	2.0%
TX	6,219	1.9%
NM	5,630	1.7%
KS	4,960	1.5%
CA	4,656	1.4%
FL	4,623	1.4%
NE	3,669	1.1%
43 states each accounting for less than 1 percent of patients and total of 9.2 percent of all patients		
AZ (2,390), OK (2,050), NV (1,719), MO (1,680), MT (1,676), WA (1,517), GA (1,299), NY (1,091), ID (904), MI (886), VA (863), IL (858), TN (756), SD (748), IN (714), NC (700), MN (686), MS (673), AR (626), OR (625), SC (611), IA (595), NJ (584), LA (523), ND (495), OH (475), HI (464), AL (436), PA (413), WI (399), AK (333), MD (332), MA (304), UT (303), KY (302), CT (278), NH (181), VT (142), DC (85), WV (81), ME (79), DE (26), RI (14)		

Social Determinants of Health

Demographics and Social Determinants of Health						
	Colorado	Adams	Arapahoe	Denver	Douglas	Jefferson
Population						
Total	5,555,655	502,720	642,823	697,361	328,478	571,774
Percentage 0-18	24.7	29.0	25.3	23.3	28.1	21.8
Percentage 65+	13.4	10.1	12.6	11.3	11.0	15.7
Race/ethnicity (percent)						
Non-Hispanic White	68.6	51.0	62.4	49.9	84.8	78.9
Hispanic	22.6	40.8	19.9	34.7	8.3	15.7
Non-Hispanic Black	4.2	3.0	10.3	10.2	1.5	1.2
Other	4.6	5.2	7.4	5.2	5.4	4.2
Education (percent)						
Less than high school	7.3	13.9	7.4	12.1	1.2	4.0
High school graduate	29.3	36.3	27.5	22.0	19.4	29.2
College graduate	25.1	18.1	25.9	28.8	35.5	27.1
Income:						
Median	\$63,945	\$62,991	\$67,062	\$57,866	\$109,926	\$71,209
Percentage at or below federal poverty level	16.8	19.3	15.5	20.5	7.4	13.0
Insurance						
Percent Uninsured	8.2	11.1	8.4	11.6	2.5	5.9
Percent Private Insurance	60.0	56.6	61.6	55.5	81.3	65.2
Percent Medicaid	23.9	29.8	22.4	30.1	8.2	17.6
Language (percent)						
Language other than English spoken at home	17.0	28.9	22.4	27.1	9.2	10.8

Sources: Colorado Health Institute County Data Worksheet <https://www.coloradohealthinstitute.org/data/>
 CDPHE - VISION <https://www.colorado.gov/pacific/cdphe/vision-data-tool>

Adams County: Younger, Hispanic, poor. Most under 18, fewest 65+, highest Hispanic percentage, second highest poverty, second highest Medicaid, second highest eligible but not enrolled in Medicaid.

Arapahoe County: Older, more African Americans. Second most people, second most over 65, highest percentage of African Americans.

Denver County: Fewer children, nonwhite, poor. Most people, lowest percentage under 18, second highest number of Hispanic and African American people, most below poverty line, most uninsured

Douglas County: Wealthier, whiter, insured. Fewest people, second most under 18, fewest number of African American and Hispanic people, highest income, fewest below poverty, highest eligible but not enrolled Medicaid

Jefferson County: Older, mostly white, wealthier. Highest percentage over 65, fewest African Americans, second fewest Hispanic people, second most Caucasian people, second highest income, second lowest poverty

Snapshot of Community Health

National Jewish Health assembled a multidisciplinary team from within the organization to review the qualitative data from the focus groups and influencer interviews; and, to review quantitative data.

The team reviewed the “Proposed Rules for the Community Health Needs Assessments for Charitable Hospitals” published in the *Federal Register* and additional information including:

- Census.gov
- The Colorado Department of Public Health and Environment (CDPHE)
- CDPHE — *Colorado Health Indicators*
- CDPHE — *VISION: Visual Information System for Identifying Opportunities and Needs*
- *Tri-County Health Department 2018 Community Health Assessment*
- United Health Foundation — *America’s Health Rankings Annual Report*
- CDPHE - Community Level Estimates and Equity Map (2017)
- Colorado Health Institute — *County Health Profiles*
- Colorado Health Foundation — *2016 Colorado Health Report Card*
- CDPHE — *Colorado Chronic Disease State Plan*
- U.S. Centers for Disease Control and Prevention (CDC)— *COPD Among Adults in Colorado*
- Colorado Cancer Coalition — *Cancer in Colorado Statistics and 2016-2020 Colorado Cancer Plan*
- 2019 County Health Rankings & Roadmaps (A joint project of the Robert Wood Johnson Foundation and the [University of Wisconsin Population Health Institute](#))
- Colorado Health Institute — [2017 Colorado Health Access Survey](#)
- Data and shared input from the Community Health Implementation and Outreach Council (CHOIC), an interdisciplinary group of hospital providers, associates and external stakeholders (attendee list, Appendix A), who provided input

GENERAL HEALTH OUTCOMES AND FACTORS

Summary:

- Douglas County is the healthiest county in the nation according to *U.S. News & World Report*.
- Adams and Denver Counties rank worse than average for health behaviors, which include smoking and obesity.
- Adams and Denver Counties rank worse than average for social and economic factors, including children in poverty, violent crime and education.
- Adams County ranks worse than average for access to clinical care.
- All counties rank low on physical environment, largely due to air pollution.

Rank Among 60 Colorado Counties

Better than Average: Worse than Average: No difference:

	Adams	Arapahoe	Denver	Douglas	Jefferson
Length of Life	25	12	24	4	13
Quality of Life	37	14	36	1	4
Health Behaviors	55	27	46	1	14
—Adult smoking	19%	13%	16%	10%	13%
—Adult obesity	27%	22%	16%	19%	21%
Clinical Care	43	9	11	3	6
Social & Economic Factors	40	25	45	1	22
Physical Environment	60	52	47	30	59

Source: County Health Rankings & Roadmaps <http://www.countyhealthrankings.org/>

ASTHMA

Summary:						
<ul style="list-style-type: none"> Adams, Douglas and Jefferson Counties have higher rates of asthma. Adams, Arapahoe and Denver Counties have high rates of uncontrolled asthma, especially among children, as evidenced by ER visits and hospitalizations. 						
Lower than state rate: Higher than state rate: No difference: 						
Bold this column for consistency	Colorado	Adams	Arapahoe	Denver	Douglas	Jefferson
Current Asthma — Adults (%)	9.0	11.0	8.2	8.1	9.8	9.2
Current Asthma — Children (%)	7.3	11.3	7.3	6.7	7.9	8.6
Asthma ER Visits per 100,000 All ages	30.36	37.56	33.52	41.02	12.52	21.81
Pediatric asthma ER Visits Ages 5-19	78.59	100.18	92.67	136.08	37.17	61.71
Ages 0-4	53.53	73.38	69.00	79.54	28.37	46.95
Asthma Hospitalizations per 100,000 All ages	4.33	5.97	6.10	6.00	2.22	3.13
Ages 0-4	14.93	17.93	17.37	25.17	8.90	13.32
Ages 5-19	12.58	18.91	19.65	23.34	7.59	9.35

Source: CDPHE

<https://www.colorado.gov/pacific/coepht/health-data>

<https://www.colorado.gov/pacific/cdphe/vision-data-tool>

COPD

Summary:

- Adams County has a higher rate of COPD, 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.

Lower than state rate Higher than state rate: No difference:

	Colorado	Adams	Arapahoe	Denver	Douglas	Jefferson
Adults (% with Disease)	4.4	4.8	3.5	3.4	2.3	4.2
ER Visits per 100,000	33.24	33.78	24.71	38.38	12.70	23.49
Hospitalizations per 100,000	6.95	8.05	6.01	8.22	3.85	3.83

Source: CDPHE

<https://www.colorado.gov/pacific/coepht/health-data>

<https://www.colorado.gov/pacific/cdphe/vision-data-tool>

Identification and 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 Focus Groups

In August and September 2018, National Jewish Health joined Saint Joseph Hospital and the Denver Department of Public Health and Environment to conduct two focus groups of community stakeholders to provide input on the CHNA process.

The first input session was held at Metro Caring, a frontline anti-hunger organization located near Saint Joseph Hospital and the main National Jewish Health campus. Participants were recruited by Metro Caring staff through their day-to-day operations. The group was demographically representative of the northeast Denver neighborhoods, and nearly half of all participants resided in northeast Denver. Participants were provided a meal cooked by Saint Joseph Hospital and Metro Caring staff and given a \$25 gift card to a nearby grocery store as compensation. The facilitation of the session was conducted in English, but Spanish and Mandarin translations were used as well.

The second focus group was held at Saint Joseph Hospital. Community members were recruited through a Saint Joseph Hospital satellite clinic primarily serving low-income expectant mothers and their families. The group primarily comprised residents of north central Denver of Hispanic origin. Participants were provided a meal and a \$25 gift card to a local grocery store as compensation for their time. The facilitation of the session was conducted in English; however, every participant utilized Spanish translation at some point throughout the session.

The community input sessions were conducted in the same manner to preserve integrity to the process and the ability to combine results from all participants. A total of 57 community members participated in the two sessions, 42 of whom completed the demographic handout.

Table I (on next page) shows the distribution of participants' ethnicity. Nearly 60 percent of people identified as Hispanic or Latino. This is particularly indicative of the northeast Denver neighborhoods, which have one of the highest rates of Hispanic/Latino residents of any neighborhood in Denver.

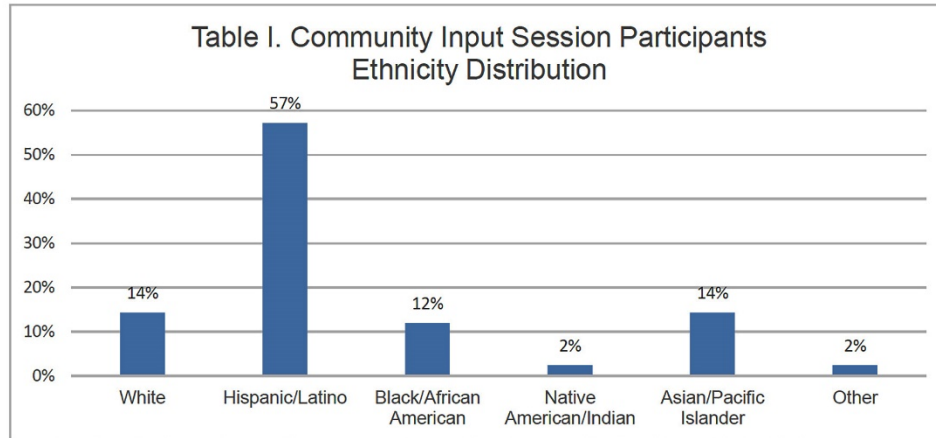
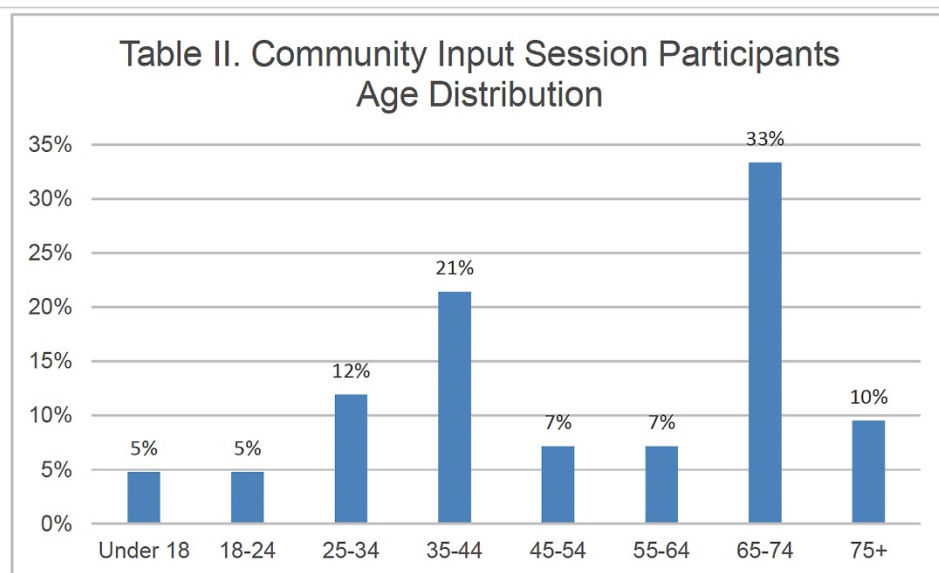


Table II (below) shows the distribution of participants' age. There was adequate spread across the life cycle, skewing slightly to either under the age of 44 or over the age of 65. Children and family members were invited to each session, many of whom were not counted in the overall number of participants. (Many were children too young to participate, and day care was provided.)



Each session was 90 minutes long, with structured discussion for about 60 minutes. The first 20-30 minutes included an overview of the CHNA process, the role and responsibilities for the people attending the session and an explanation of the data we were collecting and the intended use. Both community input sessions were moderated by Tristan Sanders, a public health program manager for Denver Department of Public Health and Environment.

For the National Jewish Health portion of the meetings, attendees were asked to rank their preferences in a list of 10 community activities performed by National Jewish Health.

Key Findings – Community Focus Groups

Two activities emerge as clear preferences among focus group attendees:

1. **The Comprehensive Respiratory Care Clinic.** The Comprehensive Respiratory Care Clinic helps low-income adults with lung conditions obtain effective medical care.
2. **Free lung testing.** National Jewish Health staff provide free lung testing or spirometry, which helps detect and diagnose breathing problems, at about 100 sites throughout the year.

Other popular activities among those surveyed included:

- **Expert answers by phone.** Nurses answer health-related questions about respiratory, immune and related diseases at 800-222-LUNG.
- **Help with air pollution.** National Jewish Health faculty and staff are engaging residents from Globeville, Elyria and Swansea neighborhoods to help them understand and reduce their exposures to hazardous air pollutants.
- **Support groups.** National Jewish Health hosts support groups that offer education and community to people suffering from a variety of lung diseases.
- **Morgridge Academy for chronically ill children.** The Morgridge Academy is a free K-8 school for children with chronic illnesses, including severe asthma and allergies, sickle cell anemia and other disorders. Students receive a quality education while learning to manage their illness.
- **Walk with a Doc.** National Jewish Health cardiologist Andrew Freeman, MD, leads monthly walks and programs at parks around the Denver metro area, with a variety of physicians delivering short talks about health topics.

Survey of Community Health Providers

National Jewish Health surveyed six community health organizations about the needs of their clients and the providers.

Questions:

1. What are the most common and burdensome respiratory diseases among your patients?
2. What is the biggest obstacle to effective care for your patients' respiratory diseases?
3. Which respiratory patients need the most help?
4. 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>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	Erin Bender Physician Assistant
<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	Sophia Aires 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

Key Findings - Community Health Provider Surveys

- 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.

Bruce Bender, PhD

Head, Division of Pediatric Behavioral Health
Co-Director, Center for Health Promotion

Dr. Bender led the Asthma and COPD Toolkit projects, which taught providers at more than 100 community health clinics how to diagnose and manage COPD and asthma. He led a National Jewish Health effort to work with Denver Public School nurses on diagnosis and management of pediatric asthma. He is now working on a five-year program to improve asthma diagnosis and management within the Navajo Nation. Dr. Bender is also an expert on medication adherence.

Jennifer McCullough, MA
Director of Education
Morgridge Academy for Chronically Ill Children

Amy Schouten, RN
Head Nurse
Morgridge Academy for Chronically Ill Children

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 children are eligible for free and reduced lunch.

Lisa Cicutto, PhD, RN
Professor of Medicine
Director, Community Research

Dr. Cicutto's work focuses on promoting evidence-based management of asthma and COPD on the part of patients, families and their health care providers. She leads an extensive community project in the Las Animas Valley in Colorado to improve asthma diagnosis and care. She led the Comprehensive Respiratory Care Clinic for low-income and homeless patients with respiratory diseases. She also conducted research on hazardous air pollution in the Denver neighborhoods of Globeville, Elyria and Swansea, and is helping residents understand and reduce their exposure to air pollution.

Key Findings – National Jewish Health Faculty & Staff

- Pediatric asthma, COPD and severe, rare respiratory diseases represent the most common and burdensome respiratory diseases in the community.
- Medication adherence, 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.
 - Bring more children in need to the school.

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.

Respiratory Health

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 U.S. Centers for Disease Control and Prevention (CDC), asthma rates are higher among children, especially those who are poor, male and/or African American.

In Colorado, current asthma rates are 9.0 percent among adults and 7.3 percent in children. In the National Jewish Health community, asthma rates are above average in Adams, Jefferson and Douglas 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.

In a 2013 report, “CDC’s National Asthma Control Program,” the U.S. Centers for Disease Control and Prevention (CDC) notes that “Because asthma has no known cure, the most effective way to manage it is by preventing the need for frequent, costly medical treatment due to uncontrolled symptoms and attacks ... asthma symptoms and costs can be controlled when people have the appropriate care, education and guidance to manage their condition.”

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, 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 Caucasians.

Under diagnosis of COPD is a significant concern. Approximately 16 million Americans have been diagnosed with COPD according to the National Heart, Lung and Blood Institute (NHLBI). An additional 12 million adults in the United States are believed to have undiagnosed COPD, according to the National Institutes of Health.

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 involved communications campaigns and screening to increase diagnosis of COPD, so that patients can get care to slow progress of 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 12 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, and 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.

Getting appropriate testing, equipment to assist with sleep and follow-up for sleep apnea were mentioned by several community health providers.

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 cancer and many other forms of cancer; heart disease; and respiratory diseases, including COPD and pneumonia.

In 2017, the U.S. Centers for Disease Control and Prevention estimated that 14 percent of all American adults were current smokers in 2017 (34.3 million people). In Colorado 14.8 percent 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 27 percent 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, but 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 January 2016 issue of 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.”

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

Both 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, which is a high priority in the community, as evidenced by high ranking of the Comprehensive Respiratory Care Clinic in Community Focus Groups.

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.

Adams County

Residents of Adams County scored worse than other counties on all measures of respiratory health and social and behavioral factors.

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 are 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
6162 S. Willow Drive, Suite 100
Greenwood Village, CO 80111
<https://www.tchd.org/>
303-220-9200

Denver County

Denver Department of Public Health and Environment
101 W. Colfax Ave.
Denver, CO 80202
<https://www.denvergov.org/content/denvergov/en/environmental-health.html>
720-865-5400

Jefferson County

Jefferson County Public Health
645 Parfet St.
Lakewood, CO 80215
<https://www.jeffco.us/public-health>
303-232-6301

State of Colorado

Colorado Department of Public Health and Environment
300 Cherry Creek Drive South
Denver, CO 80246
<https://www.colorado.gov/pacific/cdphe>
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	Erin Bender Physician Assistant
<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	Sophia Alires 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:

https://freeclinicdirectory.org/colorado_care/adams_co_county.html

https://www.needhelpayingbills.com/html/colorado_free_community_clinic.html

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 2019.

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 physicians 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 popularity of our Comprehensive Respiratory Care Clinic and high rates of emergency care and hospitalizations for asthma and COPD, 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.

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: Outreach and Implementation Council

Cherise Calligan	Director, Graduate Medical Education Clinics	Saint Joseph Hospital
Chuck Ault	Regional Director, Community Health Improvement	SCL Health
Dr. Huy Ly	Family Physician	Bruner Family Medicine
Elliot Madison	Grants Coordinator	Saint Joseph Hospital
Greg Slate	Manager, Spiritual Care	Saint Joseph Hospital
Jeanine Forsberg	Nursing Director – Emergency Department	Saint Joseph Hospital
Julie Moffitt	Project Manager, Education	Saint Joseph Hospital
Kristen Zuelke	Coordinator, Chest Pain and Stroke	Saint Joseph Hospital
Maddie Philley	Coordinator	American Heart Association
Mary Ehlert	Manager Marketing	National Jewish Health
Sara Martin	Director, Community Impact	American Heart Association
Sisi Dong-Brinn	Chief Impact Officer	Metro Caring
Sister Jennifer Gordon	VP – Mission Integration	Saint Joseph Hospital
Suzanne Vannucci	RN	Saint Joseph Hospital
Wesley Sykes	Chief Operating Officer	Inner City Health Center
William Allstetter	Director, Media & External Relations	National Jewish Health
Yusuf Hassan	Manager, Resource Service Center	Saint Joseph Hospital
Emily McCormick	Epidemiologist	Denver Public Health
Tristan Sanders	Program Manager	Denver Department of Public Health and Environment
Jeff Downing, RN	Manager of Quality, Safety and Regulatory Readiness	National Jewish Health
Candace Juarez, RN	Quality Improvement Coordinator	National Jewish Health
Dieu-Loan Nguyen	Quality Improvement Coordinator	National Jewish Health

Appendix B:

Current National Jewish Health Programs to Address Community Health Needs

Patient Care

In fiscal year 2018, National Jewish Health provided charity care services worth \$463,000, 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 25 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.

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. The vast majority of the approximately \$50 million in annual grants for research comes from the federal government, especially the National Institutes of Health. National Jewish Health also invests about \$20 million of its own funds annually in research. Below is a brief sampling of some of the ongoing research programs at National Jewish Health, which serve both local and national communities.

- **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 African Americans 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 over 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 Disease 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.** Five 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 Disease.

- **Early detection of lung cancer.** Two 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 135,000 Americans every year.
- **Warfighters lung disease.** Researchers at National Jewish Health will seek to understand why warfighters deployed to Southwest Asia suffer increased rates of respiratory disease and test potential treatments, thanks to \$11.5 million in grants from the U.S. Department of Defense. The grants take advantage of a unique cohort of 100 previously deployed veterans with lung disease and leverage the expertise at National Jewish Health in lung disease and repair.
- **Vaccine research.** Several National Jewish Health researchers are investigating vaccines to determine how they work, how to make them more effective and how to reduce any potential side effects.

Community Outreach

- **Free lung testing.** In 2018, National Jewish Health staff participated in 92 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. Each year, National Jewish Health reaches out to its local communities with this free service.
- **Tobacco cessation.** National Jewish Health currently operates the tobacco-cessation quit lines for 16 states, including Massachusetts, Pennsylvania, Ohio, Michigan and Colorado. The National Jewish Health “Health Initiatives” department, which manages these Quitlines, also works to develop tobacco-cessation protocols for especially impacted populations such as in the past year, programs for American Indians and the LGBTQ community.
- **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.
- **Lung Line.** A free information service for health care consumers provided by National Jewish Health, it is staffed by registered nurses who have years of clinical experience. These nurses provide educational information on lung, allergic and immune diseases to health care consumers who call, email or contact National Jewish Health through our website or other websites. Since Lung Line began answering calls in 1983, the staff have provided answers to more than 1 million callers.
- **The Miners Clinic of Colorado.** This program provides nationally recognized medical screening, diagnosis, treatment, pulmonary rehabilitation, education and 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.

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 the predominantly low-income and minority 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 provides about one-third of the costs, and National Jewish Health funds the remaining two-thirds.
- **Classes.** National Jewish Health conducts 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.” In 2018, 2518 people attended one or more classes at National Jewish Health.
- **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.
- **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 2018, more than 3.2 million visitors viewed the educational content covering a wide range of respiratory, immune and related diseases.

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.
- **Allied health conference.** For more than 20 years, National Jewish Health Department of Nursing has hosted an annual conference for nurses, physician assistants and other allied health professionals to educate them about recent advances in care for patients with the respiratory, allergic and related diseases we treat.

- **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 program has so far trained caregivers in 150 primary care practices that serve medically underserved populations in eastern Colorado, southern Colorado and the Denver metro area.
- **Denver TB Course.** For more than 50 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.
- **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. Online continuing medical education courses are also available on asthma, COPD, cystic fibrosis, obesity, lung cancer and other areas of expertise.

Appendix C: Survey from Community Input Sessions

Questionnaire for Community Input Meeting, September 20, 2018

Please rank 1-10 the community activities you would most like National Jewish Health to offer

___ Free lung testing

National Jewish Health staff provide free lung testing or spirometry, which helps detect and diagnose breathing problems, at about 100 sites throughout the year.

___ Free health screenings for miners

National Jewish Health provides free lung screenings for miners and former miners who are at greater risk for a wide variety of lung and other diseases.

___ Expert answers by phone

Nurses answer health-related questions about respiratory, immune and related diseases, at 800-222-LUNG.

___ Help with air pollution

National Jewish Health faculty and staff are engaging residents from Globeville, Elyra and Swansea neighborhoods to help them understand and reduce their exposures to hazardous air pollutants.

___ Comprehensive Respiratory Care Clinic

The Comprehensive Respiratory Care Clinic helps low-income adults with lung conditions obtain effective medical care.

___ Support groups

National Jewish Health hosts support groups that offer education and community to people suffering from a variety of lung diseases.

___ Morgridge Academy for chronically ill children

The Morgridge Academy is a free K-8 school for children with chronic illnesses, including severe asthma and allergies, sickle cell anemia and other disorders. Students receive a quality education while learning to manage their illness.

___ Health information

The National Jewish Health website (www.njhealth.org) contains thousands of pages of information about respiratory, immune and related disorders, developed by National Jewish Health faculty and staff.

___ Tobacco cessation

National Jewish Health operates the free Colorado Quitline™ at 1-800-QUIT-NOW, which provides coaching, medication and other help for smokers who are ready to quit using tobacco.

___ Walk with a Doc

National Jewish Health cardiologist Andrew Freeman, MD, leads monthly walks at parks around the Denver metro area, with a variety of physicians delivering short talks about health topics.