



Barlow Respiratory
HOSPITAL

COMMUNITY BENEFITS PLAN

2013

**Barlow Respiratory Hospital
2000 Stadium Way
Los Angeles, CA 90026**

**Barlow Respiratory Hospital at Presbyterian Intercommunity Hospital
12401 Washington Blvd, Two East
Whittier, CA 90602**

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Van Nuys, CA 91405**

**Barlow Respiratory Hospital
Administration
(213) 202 6886**

1/31/2013

.....helping you breathe easier



Barlow Respiratory HOSPITAL

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Barlow Respiratory HOSPITAL

COMMUNITY BENEFITS PLAN

FISCAL YEAR 2013

I. INTRODUCTION

Barlow Respiratory Hospital (BRH) is a 105-bed, not-for-profit, long-term, acute care hospital with history of providing respiratory medical services to the Southern California community for over 100 years. Founded in 1902 as a tuberculosis sanatorium, Barlow Respiratory Hospital now treats patients suffering with a wide variety of pulmonary disorders such as chronic bronchitis, emphysema, asthma, and other chronic breathing disorders as well as chronically critically ill patients with multiple medical problems of long duration. Barlow Respiratory Hospital is committed to research on our patient population and focuses on developing patient care “best practices.”

In addition to patient care and research, our commitment extends to education of physicians, and other healthcare professionals by sharing knowledge gained through our expertise in caring for our patient population as well as providing community education on respiratory issues.

With facilities, adjacent to downtown Los Angeles, and within Presbyterian Intercommunity Hospital in Whittier, and within Valley Presbyterian Hospital in Van Nuys, Barlow Respiratory Hospital is equipped to serve adult patients with a wide range of patient diagnostic, and treatment services, as well as education and outreach activities to various community organizations, agencies, and local schools. Barlow serves as a teaching hospital for University of Southern California Medical School students. The hospital also hosts allied health professional school programs through affiliations with universities, community colleges and vocational training centers.

All patient care, community, and business decisions are based on adherence to the mission, vision, and values of Barlow Respiratory Hospital. The mission, vision, and values statements are an integral part of the organization. These statements are at the core of the strategic planning process.

II. MISSION STATEMENT

Barlow Respiratory Hospital, a not-for-profit, specialty acute and post-acute healthcare system, improves the quality of life for patients with respiratory and other medically complex diseases.

III. VISION STATEMENT

Be the national leading specialty acute and post-acute care system of choice for patients, their families, clinicians, and the healthcare community.

IV. VALUES

The Core Values of Barlow Respiratory Hospital are:

RESPECT: We value the uniqueness of patients, families, co-workers, and other business partners. We honor their different needs, cultures, perspectives, experiences, talents, and their individual worth. We recognize everyone's contributions and accomplishments, and encourage development of each individual's full potential. We treat each other as we would expect to be treated.

SERVICE: Our work makes a difference in peoples' lives by helping them. For patients and families, we are mindful that our help comes at a time when they are particularly needy and vulnerable. We strive for excellence by anticipating, meeting, responding to and exceeding our patients', co-workers', and other customers' needs.

INTEGRITY: We say what we mean and do what we say we will do. We are ethical in all relationships with co-workers and those we serve. We always strive to behave according to our core values. In our communication, we are clear, straightforward, and consistent. We are committed to personal, ethical, and professional standards. We do the right thing, even when it is difficult, and we accept responsibility for our actions and decisions.

QUALITY / IMPROVEMENT: We are driven to achieve superior value in the eyes of our customers. We take pride in our work. We believe that excellence in our products and services will distinguish us from our competitors. We focus on personal and professional development. We pay vigilant attention to detail to assess risks and reduce negative impacts.

TEAMWORK: We depend on each other to use individual skills and expertise in a joint effort for a common purpose. We go beyond individual self-interest to help

co-workers achieve goals. We share information, effort, and credit. We step outside departmental boundaries to offer help.

INNOVATION: We look beyond the present to envision what could be. We seek, share, and adopt better ways of doing things, even looking outside the group, facility, or organization. We work to stay on the forefront of care, service, and quality. We are open to new ideas, and we reward creativity.

V. COMMITMENT TO COMMUNITY BENEFIT

The Boards of Directors of the Barlow Group, and its subsidiaries, Barlow Respiratory Hospital, Barlow Respiratory Research Center, and Barlow Foundation along with the hospital leadership, and staff are strongly committed to fulfilling its mission, which includes improving the health status of the community as it relates to Barlow Respiratory Hospital's specialty care, and services. Through clinical research, the Barlow Respiratory Research Center serves the community by creating, evaluating, and communicating outcomes for our patient population.

As part of strategic planning, the Boards of Directors, and hospital leadership continually evaluate population needs to assure services provide meet the needs, and to develop new services as the need is identified. This process occurs through input from numerous sources, the Medical Staff, hospital staff, referring hospitals, and a periodic community needs assessment.

Barlow Respiratory Hospital's mission statement also reflects its commitment to partnering with other health care providers and community organizations that share its charitable mission, and service area/population in providing care and services. Support from the Boards of Directors includes developing community outreach/health care initiatives, and allocation of resources for the planning, and implementation of these initiatives. The process included periodic measurement of programs, and services to assure priorities are met and allocated resources achieve planned goals and objectives.

The hospital administrative staff oversees the community outreach functions.

Hospital leadership, with input from others, sets, and monitors measurable objectives for the benefit plan core programs, assesses community needs, and opportunities, identifies collaborative partners, and assures that community benefit activities serve an identified at-risk population. Periodic reports on community benefits are presented to key internal groups, including hospital administration, management, and all boards of directors.

The hospital's Community Health Needs Assessment and annual Community Benefits Plan Update are shared with various community planning, and service-provider groups to inform about community benefits activities, and outcomes, as well as available outreach

services. Internally, these documents are used to assess community benefits programs and assist in hospital planning.

VI. DEFINITION OF COMMUNITY

Barlow Respiratory Hospital, a regional referral center, defines “community” as the hospital’s primary service area, and includes the patient populations that reside within it. Specifically, this service area encompasses the entire Los Angeles County. Patients are referred to Barlow from nearly 100 acute care hospitals throughout Northern and Southern California, with some referrals from home and/or long-term care facilities. Barlow provides needed respiratory and chronically critically ill medical services. Barlow improves the quality of life, and health outcomes of a diverse population.

Barlow’s primary service area is Los Angeles County, with secondary service areas from the five surrounding counties of Ventura County, Kern County, Orange County, San Bernardino County, and Riverside County. Los Angeles County is one of the most diverse metropolitan areas in the nation. It is an economically and ethnically diverse community, with dozens of cultures, and languages spoken. Ethnic distribution in Los Angeles County for year per 2010 census data was: Hispanic 47.7%, White 27.8%, Asian 13.5%, African-American 8.3%, and others .30%.

With over 10.3 million people, as of January 2010, Los Angeles County is the largest metropolitan area in the United States, and is exceeded by only eight (8) states. There are eighty-eight (88) cities in the county. Approximately 27% of California’s residents live in Los Angeles County. In 2008, approximately 10% of the population in Los Angeles County was over 65 years of age. Los Angeles County has the largest geriatric population of the Southern California counties, and this is projected to increase primarily due to the baby boom generation. Current illness and population trends indicate continued demand for pulmonary services, and for meeting the multiple health needs of the senior population.

VII. COMMUNITY HEALTH NEEDS ASSESSMENT SUMMARY

Barlow conducted a Community Health Needs Assessment (CHNA) as required by state and federal law in 2013. California Senate Bill 697 and the Patient Protection and Affordable Care Act and IRS section 501(r)(3) direct tax exempt hospitals to conduct a community health needs assessment every three years. The CHNA is the primary tool used by the hospital to determine its community benefit plan, which outlines how it will give back to the community in the form of health care and other community services to address unmet community health needs. This assessment incorporates components of primary data collection and secondary data analysis that focus on the health and social needs of the service area.

Service Area

Barlow Respiratory Hospital is located at 2000 Stadium Way, Los Angeles, California. The hospital is located in L.A. County Service Planning Area (SPA) 4. The hospital draws patients regionally from Southern California, with a primary service area of Los Angeles County. A review of hospital inpatient data, from 2011 to 2013, identified 92% of hospital patients originate from Los Angeles County.

Methodology

Secondary data were collected from a variety of local, county, and state sources to present the hospital service area demographics, social and economic factors, health access, birth characteristics, leading causes of death, chronic disease, and health behaviors.

Sources of data include the U.S. Census 2010 decennial census and American Community Survey, California Department of Public Health, California Employment Development Department, California Department of Education, California Department of Justice, California Health Interview Survey, County Health Rankings, Los Angeles Homeless Services Authority, Los Angeles County Department of Public Health, County Health Rankings, Uniform Data Set, and others. When pertinent, these data sets are presented in the context of California State.

Targeted interviews were used to gather information and opinions from persons who represent the broad interests of the community served by the hospital. Thirteen interviews were completed during August, 2013. For the interviews, community stakeholders identified by Barlow were contacted and asked to participate in the needs assessment. Interviewees included individuals who are leaders and representatives of medically underserved, low-income, minority and chronic disease populations, or regional, State or local health or other departments or agencies that have “current data or other information relevant to the health needs of the community served by the hospital facility.”

Identification and Prioritization of Health Needs

Based on the results of the primary and secondary data collection, health needs were identified. Each health need was confirmed by more than one indicator or data source (i.e., the health need was suggested by more than one source of secondary or primary data). In addition, the health needs were based on the size of the problem (relative portion of population afflicted by the problem); or the seriousness of the problem (impact at individual, family, and community levels). To determine size or seriousness of a

problem, the health need indicators identified in the secondary data were measured against benchmark data, specifically California state rates or Healthy People 2020 objectives. Indicators related to the health needs that performed poorly against these benchmarks were considered to have met the size or seriousness criteria. Additionally, primary data sources were asked to identify community and health issues based on the perceived size or seriousness of a problem.

The identified health needs included:

Access to care
Chronic disease conditions
Homelessness
Mental health
Nutrition and physical activity
Overweight and obesity
Preventive practices (vaccines, screenings)
Smoking

Priority Health Needs

Priority setting is a required step in the community benefit planning process. The Community Health Needs Assessment must provide a prioritized description of the community health needs identified through the CHNA, and include a description of the process and criteria used in prioritizing the health needs.

Priority Setting Process

Barlow convened an internal leadership team to prioritize the identified health needs. The group reviewed the health needs identified from the Community Health Needs Assessment primary and secondary data. The following criteria were used to prioritize the health needs:

- Existing organizational infrastructure and capacity – hospital has programs, systems, staff and support resources in place to address the issue.
- Established relationships – there are established relationships with community partners to address the issue.
- Ongoing investment - existing resources are committed to the issue. Staff time and financial resources for this issue are counted as part of our community benefit effort.
- Focus area – hospital has acknowledged competencies and expertise to address the issue and the issue fits with the organizational mission.

Application of the criteria resulted in the identification of high and low prioritized needs.

Priority Health Needs	Ranking
Access to care	High
Chronic disease conditions	High
Smoking	High
Homelessness	Low
Mental health	Low
Nutrition/physical activity	Low
Overweight/obesity	Low
Preventive practices	Low

Barlow Respiratory Hospital plans to meet the identified priority health needs through a commitment of resources with the following programs and services.

Access to Care

Barlow will continue efforts to bring its expertise in ventilator weaning, pulmonary rehabilitation, and treatment of the chronically critically ill to other communities by expanding its service delivery system. We will accomplish this by actively seeking opportunities to open satellite sites to offer our specialized services throughout Los Angeles County. Barlow has a financial assistance policy that supports access to long-term care for uninsured and underinsured patients who do not have the resources to pay for their care.

Chronic Disease Conditions

Barlow will offer support groups for those dealing with multiple chronic health conditions. Support groups are offered free of charge and are open to the community. With a focus on prevention of chronic diseases, Barlow Respiratory Hospital will offer community health fairs that include health education and preventive screenings.

Smoking

Barlow Hospital will develop collaborative partnerships with community organizations to prevent and treat a number of respiratory conditions. We will explore the development of programs that focus on smoking cessation as a strategy to prevent future respiratory diseases and other chronic conditions.

Other Health Needs

Barlow Respiratory Hospital has chosen not to actively address the remaining health needs identified in the CHNA as they were not selected as priority health needs:

homelessness, mental health, nutrition and physical activity, overweight and obesity and preventive practices. Taking existing community resources into consideration, Barlow has selected to concentrate on those health needs that we can most effectively address given our areas of focus and expertise. Therefore, the hospital's charitable resources will be placed on the selected priority health needs.

A copy of Barlow's CHNA and Implementation Strategy for 2013 is attached to this report.

VIII. MAJOR COMMUNITY BENEFIT INITIATIVE

A. Initiatives Focused on Prevention, Unmet Needs and/or Vulnerable Populations

1. Patient and Family Support Groups

Need: The number and severity of chronic conditions increases as individuals age. A significant number of individuals over the age of 65 have at least one chronic health condition, plus co-morbidity.

Long Term Illnesses and/or extended hospitalizations due to these health conditions can be a stressful and challenging time for patients and their loved ones who provide support. The professional staff at Barlow Respiratory Hospital understands that the support of loved ones is essential for patients to achieve an optimal outcome following an acute episode of chronic illness, medically complex condition, or during rehabilitation. To help each patient achieve a successful outcome, Barlow Respiratory Hospital sponsors patient and family support group meetings.

Description: Barlow Support Groups are offered as requested by patients, and others involved in patient's care. Support groups are facilitated by the Department of Social Services.

- **Objectives:**

- To provide a supportive environment for patients and their loved ones.
- To provide education regarding managing stressors, increasing coping mechanisms, and offering support.
- To provide appropriate referrals and resource coordination.

- **Progress:**

- Support groups will continue to be offered as requested throughout the next fiscal year by Social Services.
- The Lung Rangers, a support group of patients who have completed the pulmonary rehabilitation program, will continue to meet monthly for continuing education and social support to address the chronic symptoms and lifestyle issues associated with persons who have COPD, asthma, bronchitis, and other respiratory diseases.

B. Initiatives Focused on Community Building

1. Membership in Local Community Groups

Barlow representatives hold membership in numerous local community groups. As group members, Barlow representatives are involved in discussions which identify/clarify community issues, development and implementation strategies to address the issues, and monitoring and evaluating progress toward established goals.

Barlow representatives serve as liaison between community groups and civic/business leaders. Currently Barlow representatives are involved with the Echo Park Chamber of Commerce, Los Angeles Chamber of Commerce, and Los Angeles Rotary Club.

2. Meeting Facility

- **Need:** Barlow Respiratory Hospital provides a safe, clean, convenient facility and parking for community-based non-commercial groups to meet and discuss issues important to the community such as public and personal safety, public health issues, emergency preparedness, public education and local and national elections polling place.
- **Description:** Various non-commercial, community-based groups use Barlow Respiratory Hospital meeting facilities because it is a clean and safe environment to hold meetings. Barlow will continue to offer, at no cost, its facilities and parking to local community-based groups including:
 1. Citizens Committee to Save Elysian Park
 2. Echo Park Historical Society
 3. Echo Park Improvement Association
 4. Los Angeles County Historical Society

5. Los Angeles County – Department of Health Services Sexual Transmitted Disease Program
6. Sierra Club
7. Special Community events such as the Sierra Club event for Children at Christmastime
8. Echo Park Chamber of Commerce

- **Objective:** To help foster community plans on community issues and seek information from the community on how Barlow can assist with community development programs.
- **Costs:** Associated costs are un-reimbursed.

C. Initiatives Focused on Long-Term Strategic, Community Health Improvement Goals

1. Improved access to respiratory and other complex specialty medical services.

- **Need:** The need for additional specialty services and a better referral system for specialty care are ranked third and tenth, respectively, among community health priorities identified in the Healthcare Association of Southern California (HASC) Regional Report 1998. According to the Barlow Respiratory Hospital 2007 Community Needs Assessment, the community has access to medical care through primarily their primary care physicians, urgent care and the emergency room.
- **Description:**
 - Geographic expansion of service delivery system: Barlow Network Satellite Program
 - Recruitment of additional community-based physicians to active Barlow Respiratory Hospital medical staff membership.

Barlow Respiratory Hospital has continued efforts to bring its expertise in ventilator weaning, pulmonary rehabilitation, and treatment of the chronically critically ill to other communities.

Barlow Respiratory Hospital main also supports the operations of two (2) satellites – one in Presbyterian Intercommunity Hospital in Whittier, the other within Valley Presbyterian Hospital in the San Fernando Valley. Barlow Respiratory Hospital remains committed

to expanding its service area in order to offer its specialized services to patients throughout Los Angeles and its neighboring areas. We will continue to identify and move forward with our planning on this very important community.

Our medical staff continues to grow ensuring that our admitting panels are adequate to handle our chronically critically ill population and thereby ensuring broader access to our system.

- **Current Status:**

The current satellite units continue to be successful due to continued education of physicians, case managers and previous patients via word of mouth. Our medical staff membership continues to grow primarily due to these successes. Additionally physicians have requested continued medical education credits for continued learning regarding respiratory disease. We continue to move forward in our pre-planning for our next satellite unit. We will still need to formulate a series of educational programs for the community on differing respiratory disease.

- **Strategy to Meet Needs:**

- Continue to evaluate community programs at each site location.
- Developed Barlow specific patient video for use in hospitals.

Hospital Statistics

	2010 2011	2011 2012	2012 2013
Number of admissions	807	773	773
Percent increase over previous year	11%	(4%)	0
Admissions by service:			
Ventilator weaning	272	301	365
Medical	0	0	0
Medically complex	476	433	382
Rehabilitation	22	20	17
Wound care	37	19	9
Number of patients weaned from prolonged ventilation:			
Admitted to vent	271	301	365
Percent of patients weaned	52%	57%	56%

- **Measurement:**
 - Number of patients accessing Barlow's care by product line
 - Outcomes of patients in weaning program

2. Pulmonary Rehabilitation Program

- **Need:** Established in 1976, the Barlow Pulmonary Rehabilitation Program has helped thousands of respiratory patients learn to cope with their illness and return to a level of independence. Barlow's Pulmonary Rehabilitation Program is committed to enhancing the quality of life for the patients it serves.

Barlow's Pulmonary Rehabilitation Program is an increasingly attractive treatment methodology to patients, family members and physicians because it place emphasis on:

- Preventive healthcare
- Disease management measured in terms of functional outcomes
- Health-related quality of life rather than mortality statistics
- Pulmonary rehabilitation as an increasingly important component in the continuum of care for the pulmonary patient
- Cost-effective methods to provide health care at all levels

In response to multiple requests from patients, family members and physicians to provide this high level of therapy cost effectively, Barlow Respiratory Hospital offers the Pulmonary Rehabilitation Program at the main campus in Los Angeles.

- **Description:**
 - **Assessment and Goal Setting:** Each patient is assessed prior to admission to the program by all medical and therapeutic disciplines to learn not only their physical condition, but also their living and social environments. This is done to gain insight into the types of practical challenges the patient may encounter. A personalized plan of care, which includes realistic and obtainable goals, is then prepared for each individual patient.
 - **Treatment:** Working with a physician specialist, nurse, respiratory, physical and occupational therapists, dietician, social worker, and pulmonary rehabilitation educator, the patient re-learns such things as how to breathe, how to walk, how to conserve energy and how to use oxygen and

medications. These are taught using such therapeutic interventions as exercise, retraining of breathing patterns, education sessions and strategies for behavior modification and psychosocial support. These interventions have been proven to help patients control their systems, avoid panic, and restore a higher level of quality to their lives.

- **Objectives:** Objectives of the Pulmonary Rehabilitation Program are:
 - To give each patient the practical tools to maneuver through everyday life situations from self-care to home care and recreation/socialization.
 - To teach each patient the warning signs of “panic attacks,” and how to avoid them.
 - To give each patient a greater understanding of their rehabilitative therapy.
 - To give each patient confidence, a level of independence and dignity.

- **Status:**

- **Un-reimbursed costs:** To be determined.

- **Measurement:** Number of patients (80 at three sites) accessing Pulmonary Rehabilitation Program.

In 2013, the in-patient added an out-patient pulmonary Rehabilitation Service. To date, 10 patients have benefited from the services of the out-patient program.

3. Medical Staff – Academic Training

Barlow Respiratory Hospital serves as an educational center for the training of medical students from USC and UCLA. The students round with a physician director over a three (3) to four (4) week time period on critically ill patients, many of whom are ventilator dependent with multiple comorbidities. Didactic teaching is performed using printed educational material as supplement to bedside teaching.

For Fiscal Year 2012/2013 a total of seven (17) students completed their pulmonary elective rotation. In addition, the Medical Director has been serving as a Voluntary Faculty member at UCLA since August 2010 to present, teaching System Based Healthcare. He teaches approximately once a month at UCLA for a four (4) hour time period.

4. Community Support

Barlow Respiratory Hospital leased as a community benefit with rent of \$1 per annul a building to the Aides Healthcare Foundation for use as administrative and events functions through February 2013.

IX. COMMUNITY BENEFITS AND ECONOMIC VALUE

In estimating the costs of services we used the following methodology: where employees and/or costs of the hospital were involved, we identified actual costs and added benefit cost for labor hours. We also added an indirect allocation for maintenance, clean up, grounds, utilities, etc., and factored that into the calculations. Whenever monies were received for services provided, that revenue was offset against the costs of these programs. In terms of the large ticket items such as the subsidy of the Medi-Cal program we utilized our actual costs of approximately \$1,842 per patient day and subtracted the reimbursements per day from both of those programs.

Under the Subsidized Health Services component, we have listed the direct charity care cost and the shortfall from the Medi-Cal Program.

Under benefits for vulnerable populations we have listed the loss of potential revenue for rental to an affiliated community-support association, a hospice. (For the square footage costs we used a very conservative figure of \$18 per square foot).

The Research Center obviously benefits the medical community in terms of identifying and sharing new knowledge of treatment and outcomes for weaning patients from ventilator dependency. This knowledge is useful not only to Barlow Respiratory Hospital patients, but also for respiratory patients in all communities.

In calculating the economic value we used the direct costs associated with the research function as indicated by our financial records.

Categories	2010-2011 (\$)	2011-2012 (\$)	2012-2013 (\$)
Medical Care Services			
Charity Care	132,554	165,103	67,280
Medi-Cal	1,571,999	2,215,508	2,228,097
Benefits for Vulnerable Populations			
Building Lease to AIDS Hospice	298,600	293,600	142,149
Support Group Meeting	3,500	8,475	8,475
Community Foundations			18,800
Benefits for the Broader Community			
Respiratory Health Education Program to Elysian Park Elementary Students	2,750	5,600	0
Community Use of Facility	11,000	8,900	8,600
Health Research, Education and Training			
Barlow Respiratory Research Center (includes all associated costs and revenues)	237,841	195,782	151,151
Medical Students Training	68,000	68,000	103,500
Allied Health Professional Training COPE	303,700	175,000	0
BCS/ACLS Training – Health Professionals	10,040	13,813	5,460
Community Health Fairs	14,000	14,700	0
TOTAL ECONOMIC BENEFIT	2,653,984	3,164,481	2,733,512

X. NON-QUANTIFIABLE COMMUNITY BENEFITS

COMMUNITY BENEFITS OF RESEARCH

Barlow Respiratory Research Center (BRRC) is committed to excellence in scientific research in chronic lung diseases, and other disease processes in the respiratory and medically complex patient. BRRC contributes to the knowledge base of pulmonary and critical care medicine, and shapes the health care decisions for patients with ventilator dependency, respiratory failure and other disease processes in the respiratory and medically complex patient.

Barlow Respiratory Research Center's benefits to the community are many, and impossible to measure. Most far-reaching are BRRC scientific publications and presentations that benefit the southern California and world communities through the education of the physicians and allied health professionals responsible for the communities' health care. Since its inception in 1990, BRRC'S nearly 70 publications,

and more than 80 presentations attended by thousands of medical professionals, have established Barlow's leadership role in weaning patients from prolonged mechanical ventilation.

By conducting research and reporting its findings, Barlow Respiratory Research Center serves as a valuable resource for patients who become ventilator-dependent and have weaning and rehabilitative potential, those with chronic lung and medically complex disease processes, their families, and the medical community challenged with their care.

Need

Why are respiratory diseases important? According to the CDC Healthy People 2020 initiative, more than 23 million people in the United States currently have asthma. Approximately 13.6 million adults have been diagnosed with COPD, and nearly an equal number have not yet been diagnosed. COPD is now the third leading cause of death in the United States, according to the National Institutes of Health (NIH). In 2007, approximately 124,000 people died from COPD, almost as many as died from lung cancer in the same year. In nearly eight out of ten cases, COPD is caused by exposure to cigarette smoke. In addition, other environmental exposures (such as those in the workplace) may cause COPD. Individuals and their families, schools, workplaces, neighborhoods, cities, and states are all affected by the burden of respiratory diseases. Because of the cost to the health care system, the burden of respiratory diseases also falls on society; it is paid for with higher health insurance rates, lost productivity, and tax dollars. Annual health care expenditures for asthma alone are estimated at \$20.7 billion.

Multiple demands of fiscal constraint, rapidly advancing technology, reorganization of health care delivery in the United States, evidence-based medicine, and an informed and empowered consumer base have all contributed to the prominent role of health sciences outcomes research in current medical decision-making. For example, caring for patients on ventilators outside of the Intensive Care Unit (ICU) was once a new frontier – now it is routinely recognized as part of the continuum of critical care by patients, their families, physicians, and payers. Advanced technology in supporting and successfully treating critically ill patients has created a population of survivors of catastrophic illness, the *chronically critically ill*. The chronically critically ill are a large and growing population that is estimated to exceed 100,000 at any given time in the United States. Driving this trend are projections for growth of the adult prolonged acute mechanical ventilation population in U.S. hospitals to exceed 625,000 by the year 2020. The cost of care in the ICU for a ventilator-dependent patient can exceed \$3,000 per day. Patients are transferred out of the ICU to Barlow while still ventilator-dependent for a variety of reasons: cost savings, to free up beds for newly critically ill patients, and most importantly to utilize weaning expertise.

Clinical research calls for an enhanced infrastructure with needs to define and focus on the outcomes of medical care that are important to patients, their families, and society. These outcomes have been identified as “patient-centered outcomes.” *Outcomes research* focuses on the effects of medical care on individuals and society. Observational

outcomes research relies on large sets of data, which contain information on patient characteristics, treatments, and outcomes. BRRRC maintains one of the largest databases in the nation of ventilator-dependent patients admitted to a long-term acute care (LTAC) hospital for weaning from prolonged mechanical ventilation. BRRRC studies are designed to work together to determine: the impact of disease on the patient, treatment effectiveness, and efficiencies of processes and delivery of care.

Description

Through observational, retrospective, and prospective clinical research Barlow Respiratory Research Center creates, evaluates and communicates new knowledge of treatments and outcomes of ventilator dependency, respiratory failure and other disease processes in the respiratory and medically complex patient populations treated at Barlow Respiratory Hospital.

Objectives/Progress

Objectives of Barlow Respiratory Research Center are:

1. Continue to study selected aspects of prolonged ventilator dependency and weaning, expanding the database compared to prior year. This includes the analysis of subpopulations of patients, such as patients admitted with selected diagnoses, renal insufficiency, pressure ulcers, those with infectious complications, and the very elderly. Report trends in patient demographics, weaning outcome, and survival.

Progress: With our ongoing Ventilation Outcomes Database (VOD), we continue to collect admission and discharge data on ventilator-dependent patients including: demographic information, functional status, prior ICU-stay information, co-morbidities, laboratory data, severity of illness (APACHE III APS), and subsequent outcome, disposition and survival information. The database now contains over 4,000 patients' data, with appropriate confidentiality and security safeguards.

2. Continue to expand the capabilities of the Medically Complex Database, created in 2011 to initially describe the characteristics of patients admitted for treatment of a variety of medically complex conditions.

Progress: Medically complex patients – patients with prolonged severe illness not receiving mechanical ventilation – admitted to long term care hospitals (LTCHs) are a heterogeneous population whose characterization, treatment, and outcomes have yet to be reported in the medical literature. At the request of Administration, BRRRC has constructed a database utilizing available variables to characterize the population(s) of patients admitted to BRH with complex medical conditions. Using the NALTH Health Information System (NHIS) data as a foundation through 2013, this cohort of patients is every patient discharged from Barlow who was *not* admitted to for ventilator weaning, beginning with calendar year 2009. Going forward, the database is appended on a regular basis and includes data on nearly 2,000 patients.

To date, variables were those available from the NHIS database and selected MediSolv queries and include: age, gender, major diagnostic category, race/ethnicity, pre-morbid residence and functional status, selected physiologic parameters on admission, presence of pressure ulceration and indwelling lines/tubes/catheters on admission and discharge, selected hospital-acquired infections, length of stay and discharge disposition. Starting with these variables we can report status on admission and discharge. Plans are to expand the database to include variables such as: treatments and interventions, co-morbid diagnoses, and additional physiologic parameters. In addition to reporting broad outcomes (length of stay, cost of care, discharge disposition) a goal is to identify subgroups of patients and craft specific clinical outcomes and analysis relative to posited questions and diagnoses. With the conclusion of participation in the NHIS, data will continue to be collected through MediSolv queries.

3. Participate in establishing true benchmarks for post-ICU / post-short term acute care hospital patient populations by continued participation in selected external databases soliciting data from long term care hospitals.

Progress: BRH and BRR currently submit data to the CDC's National Healthcare Safety Network (NHSN), the Centers for Medicare & Medicaid Services (CMS), the Hospital Association of Southern California Patient Safety First (PSF) Project, and the Hospital Engagement Network (HEN) Project of the Health Research & Educational Trust (HRT) in partnership with the American Hospital Association (AHA). Previous participation in the NALTH Health Information System (NHIS) sponsored by the National Association of Long Term Hospitals (NALTH) concluded in late 2013.

4. To respond to a number of opportunities to share research findings through publications, and participation at and hosting of professional conferences, communicating new knowledge about disease processes and treatments that will lead to improved patient outcomes.

➤ **American Thoracic Society (ATS) 2013 International Conference**, Philadelphia, PA, May 17-22, 2013

- **Poster presentation:** *Renal Replacement Therapy in Prolonged Mechanical Ventilation: Update on Weaning Outcomes and Survival.* Meg Stearn Hassenpflug, MS, RD, FCCM. Session: A46 – ICU OUTCOMES. Session Type: Thematic Poster Session. Presentation Date: Monday, Sunday, May19. Time: 8:15 AM-4:30 PM

Hassenpflug MA, Steckart MJ, Nelson DR. Renal Replacement Therapy in Prolonged Mechanical Ventilation: Update on Weaning Outcomes and Survival. Am J Respir Crit Care Med 187; 2013:A1611

Upcoming

- **Society of Critical Care Medicine (SCCM) 2014 Critical Care Congress**, San Francisco, CA, January 8-12, 2014

- **Poster presentation:** *Post-ICU Mechanical Ventilation: Trends in Patient Characteristics, Weaning Outcomes, and Discharge*. Meg Stearn Hassenpflug, MS, RD, FCCM. Session: Epidemiology/Outcomes 12. Session Type: Thematic Poster Session. Presentation Date: Saturday, January 11, 2014. Time: 12:15 PM-1:15 PM

Stearn-Hassenpflug M, Steckart MJ, Nelson DR. Post-ICU Mechanical Ventilation: Trends in Patient Characteristics, Weaning Outcomes, and Discharge. Crit Care Med 2014 (in press)

- **Poster presentation:** *Post-ICU Mechanical Ventilation: Trends in Mortality and 12-month Post-discharge Survival*. Meg Stearn Hassenpflug, MS, RD, FCCM. Session: Epidemiology/Outcomes 15. Session Type: Thematic Poster Session. Presentation Date: Sunday, January 12, 2014. Time: 12:15 PM-1:15 PM

Stearn-Hassenpflug M, Steckart MJ, Nelson DR. Post-ICU Mechanical Ventilation: Trends in Mortality and 12-month Post-discharge Survival. Crit Care Med 2014 (in press)

➤ **Hans E. Einstein, MD Memorial Lecture**

Sponsored by BRH and BRRRC, with CME provided by the Hospital for Special Care (New Britain, CT), and supported by BREATHE California of Los Angeles County (formerly the Lung Association of Los Angeles County). The lecture series is in its 13th year, with 2013-14 being the second memorial lecture. The lectureship draws 60-70 physicians, nurses, respiratory care practitioners, and rehabilitation professionals from surrounding academic medical centers and community hospitals for an evening of networking and science on the Barlow campus. The lecture invitation is mailed to over 600 physicians and allied health care professionals in southern California.

- **Hans E. Einstein, MD Visiting Professor:** Dale M. Needham, FCA, MD, PhD, Associate Professor of Medicine, Outcomes After Critical Illness & Surgery (OACIS) Group, Division of Pulmonary & Critical Care Medicine, Department of Physical Medicine & Rehabilitation Medical Director, Critical Care Physical Medicine & Rehabilitation Program, Johns Hopkins University presenting “*Post-Intensive Care Syndrome: Understanding & Improving Long-Term Complications after Critical Illness*” on February 4, 2014.

5. Continue to collaborate with and provide data for selected stakeholders on projects and initiatives that impact post-ICU / post-short term acute care hospital patient populations.

Unreimbursed Costs

The Barlow Group and entities support associated costs not covered by general grant funding and donations.

APPENDIX

- 1. Barlow Respiratory Hospital Boards of Directors**
- 2. Charity Care Policy**
- 3. 2013 Community Assessment**