

HOSPITAL  
FOR  
**SPECIAL  
SURGERY**



# **HSS COMMUNITY SERVICE PLAN**

*Advancing the State's Public Health Priorities*

**2014-2016**

**New York State Department of Health  
Three-Year Community Service Plan**

**Hospital for Special Surgery - Advancing the Prevention Agenda**

Hospital for Special Surgery (HSS) is a recognized leader in musculoskeletal medicine and has been so for more than a century. During this time it has established an ongoing commitment to both physical and general wellness, patient care, research, professional education and community programming. HSS's vast knowledge capital, health care leadership, experience working in New York's multi-cultural environment, and strong partnerships have been integral to implementing and sustaining initiatives that improve the health and quality of life of the diverse community it serves. Given this depth of leadership, knowledge and experience, HSS is well positioned to help advance the New York State Department of Health's (NYSDOH) *Prevention Agenda 2013* through its Comprehensive Three-Year Community Service Plan (CSP). The Hospital's plan will focus on the **Preventing Chronic Disease Priority Area** where HSS will concentrate on musculoskeletal and rheumatologic conditions, its areas of expertise. The 10 programs outlined in the CSP will contribute to the DOH's **Reduce obesity in children and adults** and **Increase access to high-quality chronic disease preventive care and management in clinical and community settings** focus areas.

**Section 1: Mission Statement**

HSS's commitment to providing the highest quality of care to its patients and improving the quality of life and mobility of the communities it serves is articulated in its Mission, Vision and Values statements, which are reviewed annually by the Hospital's Board of Trustees.

**Mission**

The Mission of HSS is to provide the highest quality patient care, improve mobility, and enhance the quality of life for all, while advancing the science of orthopedic surgery, rheumatology, and their related disciplines through research and education. We do this regardless of race, color, creed, sexual orientation, or ethnic origin.

**Vision**

The Vision of HSS is to lead the world as the most innovative source of medical care, the premier research institution, and the most trusted educator in the field of orthopedics, rheumatology, and their related disciplines.

**Values**

HSS sets and adheres to the highest possible standards based on excellence, integrity, compassion, respect, teamwork, quality, safety, innovation, education and efficiency.

The Hospital's Mission, Vision and Values are the foundation that drive HSS's efforts to provide the highest quality care – inclusively, with cultural sensitivity and without discrimination – to both patients and the public. This is accomplished by working collaboratively with its extensive community partners, empowering the community through in-depth support, education and outreach initiatives, while positioning itself to be the most trusted educator.

**Section 2: Definition and Description of Community Served**

Founded in 1863, HSS is the nation's oldest orthopedic hospital, world-renowned for its expertise in musculoskeletal and rheumatologic conditions. Given that arthritis and chronic back conditions are the country's most common causes of disability,<sup>1</sup> HSS recognizes that the need for community outreach and service continues to grow, especially in the context of an increasingly diverse community and rapidly aging baby boomer generation. The Hospital's commitment to community service – exemplified by its history of implementing initiatives that provide the highest level of care to patients and improving the health of the public – has continued for over a century and resonates with the health needs of many New Yorkers, particularly culturally diverse communities, children and older adults.

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<sup>1</sup> Centers for Disease Control and Prevention. (CDC). (2013). *Healthy People 2020*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=3>

HSS assists many communities in New York City (NYC), the tri-state area, and around the world. While the Hospital's service area consists of the five boroughs of NYC, its immediate community lies within the boundaries of Community Board #8, extending north from 59<sup>th</sup> Street to 96<sup>th</sup> Street and east from Fifth Avenue to the East River. The suburban areas surrounding NYC, including those in New Jersey, Connecticut and Long Island, comprise the Hospital's secondary service area. However, given its specialized focus on musculoskeletal and rheumatologic care, the Hospital's reach and impact extend beyond its immediate service area to communities around the world.

The need for community outreach and health prevention programs in NYC, particularly in areas where health disparities and poverty are prevalent, is clearly evident given the City's increasingly diverse and aging population. Nearly one-fifth of NYC residents live below the federal poverty level. According to 2012 census data, the NYC community consists of 8,336,697 people (43% of the State's population), which is comprised of 44% White, 29% Hispanic, 26% Black and 13% Asian residents. Moreover, the data suggest that immigrants remain attracted to NYC – between 2007 and 2011, 37% of the City's population was foreign-born. At the same time, the older adult population continues to grow – the NYC Department of Planning projects that over 44% of the City's population will be age 65 and older by the year 2030. In fact, the Hispanic older adult population increased by 42% between 2000 and 2010.

In furthering its commitment to community service, HSS has remained dedicated to improving the health of communities where dramatic health disparities exist, including the Lower East Side of Manhattan (encompassing Chinatown), the Hospital's immediate and adjacent communities of the Upper East Side and East Harlem, Inwood/Washington Heights, and the Bronx. According to NYC Department of Health and Mental Hygiene (DOHMH) Community Health Profiles, the following health disparities exist in the aforementioned communities:

- Less than half of Lower East Side adults (48%) are meeting Centers for Disease Control and Prevention (CDC) physical activity recommendations of exercising at least three days per week
- Hospitalizations for falls — particularly fall-related hip fractures — among older adults are more common on the Upper East Side than in the City overall
- One in 3 adults in East Harlem is obese with Black and Hispanic residents more likely to be obese, and nearly half of all residents report not exercising at all
- One in 5 Inwood/Washington Heights adults is obese, and one half of adults in these neighborhoods do not participate in any physical activity
- The birth rate to teenage mothers is higher in Inwood/Washington Heights than in Manhattan and the City overall

Additionally, the Hospital has expanded its focus to Asian communities residing in Flushing, Queens based on the Asian American Federation's report<sup>2</sup> showing that:

- Asians are now close to 14% of the population in NYC
- Asians aged 65 and older had the highest growth rate citywide (64%) from 2000 to 2010
- The Lower East Side of Manhattan (including Chinatown) and Flushing, Queens were among several key neighborhoods that have added more than 1,000 Asian seniors over the last decade

### **Section 3: Public Participation**

Public participation is essential to shaping and informing HSS community education, wellness, support and outreach initiatives and is accomplished in various ways. The Hospital employs a needs assessment process, which incorporates relevant national, state and city health and community data related to the Hospital's areas of specialty in musculoskeletal and rheumatologic disease. In addition, HSS fosters a collaborative environment where input and feedback from its varied constituents, including community members, patients, physicians, staff and community/academic partners provide valuable insight into the public's needs, helping to identify gaps and future programming areas.

HSS has been conducting routine needs assessments, both formal and informal, of key groups in its community for over 20 years, establishing the Hospital as an experienced leader in this endeavor. For example, in 2012 the Public and Patient Education Department (PPED) conducted qualitative research consisting of 10 focus groups that assessed the educational and wellness-related needs of the older adult community, both HSS patients and non-HSS patients, in partnership with local senior centers and faith-based organizations. The Department of Social Work Programs also conducted focus

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<sup>2</sup> Asian American Federation (2012). *Asian Americans in New York City: A Decade of Dynamic Change 2000-2010*. New York, NY.

groups, targeted needs assessment surveys and key informant interviews with patients, program users and community stakeholders in an effort to identify gaps in service during this period. Furthermore, routine program evaluation surveys of educational, exercise and support programs include questions specifically designed to assess participants' future programming needs and interests. Feedback from these needs assessment studies is tabulated, analyzed and used in formulating new or refining existing programs. Results were also used to help in the selection of public health priorities for the 2013 CSP, as outlined in Section 4 of this report.

In 2013, the Hospital conducted an anonymous, large-scale community health needs assessment (CHNA) survey that explored several aspects of the HSS community including (1) musculoskeletal and rheumatologic health conditions and management, (2) quality of life, (3) use and access to healthcare and (4) socio-demographic characteristics such as health literacy. The survey, administered in English, Spanish and Chinese to HSS patients and the community at large, included validated measures of physical activity, quality of life, mental health, chronic disease self-efficacy and health literacy. Surveys were completed by 1,084 members of the community via mail (51%), in-person (26%) and the web (22%) for four weeks from late February through mid-March 2013. Results were used to help select the public health priorities of the CSP and to inform current and future programming.

Collaboration with the public, community partners and internal stakeholders was crucial to the success of this survey. All groups were consulted in the development phase of the CHNA and then again in the selection of public health priorities. Thirteen members of the community, including PPED exercise participants, Department of Social Work Programs participants and members of the Carter Burden and Mott Street Senior Centers, provided feedback on survey construction and length in late January and early February 2013, mainly through one-on-one interviews. In addition, the Hospital was careful to elicit public input about survey translations to ensure they were culturally relevant; health literacy considerations were also taken into account. Community partners and internal stakeholders provided valuable feedback about survey construction, the use of validated measures, cultural relevance, health literacy and survey gaps via extensive phone conversations, emails and in-person discussions. All feedback was aggregated and used to adjust survey questions, construction and cultural relevance. Below outlines the community partners involved:

- Arthritis Foundation – New York Chapter
- Charles B. Wang Community Health Center
- Children's Aid Society
- Clinical & Translational Science Center (CTSC) – Weill Cornell Medical College
- East Side Council on the Aging (ESCOTA)
- General Human Outreach in the Community, Inc. (GHO)
- Lenox Hill Neighborhood House
- Medicare Rights Center
- National Osteoporosis Foundation
- NYC DOHMH – Office of Minority Health
- Silberman School of Social Work at Hunter College
- S.L.E. Lupus Foundation
- Translational Research Institute for Pain in Later Life (TRIPLL)

Results of the survey were shared with internal stakeholders, the public and community partners. Specific forums were held for each group to present results, elicit feedback and discuss CSP priority area selection. Internal stakeholder meetings were held on April 10<sup>th</sup> and April 16<sup>th</sup> to discuss CHNA results and CSP priority area selection. The public forum was held on April 24, 2013 during which discussion centered on community feedback about CHNA results, gaps in programming and determination of the Hospital's CSP priority area selection. The main communication channel for notifying the public about the forum was through flyers that were distributed at HSS community programs and outpatient clinics and posted on/using digital media (web, Facebook and twitter). In addition, announcements were made during public and patient programs held at HSS, and a poster was strategically placed in a high traffic area of the Hospital to publicize the meeting. Outcomes of this meeting suggested that barriers to accessing HSS programs and services are due to, for example, cost, location, and timing of offerings. In addition, the need for broader marketing of programs was discussed.

Community partner forums were held on May 2<sup>nd</sup> and May 8<sup>th</sup> of 2013; a total of nine individuals from 13 community partner organizations (outlined above) attended these meetings. As with the public forum, discussions focused on feedback about CHNA results and CSP priority area selection. CHNA results were received positively. There was extensive discussion about how results accurately depicted the various communities served and how these results could be used to impact the community at large. Specifically, there was much discussion about access to services and ways in which HSS could extend the reach of its programs, particularly to older adults, those with limited mobility and those aging in place. In addition, falls prevention and the importance of educating clinicians about survey results were mentioned. There was consensus among all present at these meetings that Chronic Disease was most appropriate for HSS's health priority, and that obesity and increasing access to high quality chronic disease preventive care and management should be the Hospital's two CSP focus areas.

The Hospital's extensive collaborations with community organizations, city and state agencies, universities and the private sector aid HSS in providing community programs that best meet the public's varied needs. HSS believes that the ten programs outlined in Section 5 of this report meet these needs as well as support the NYSDOH's *Prevention Agenda 2013*.

#### **Section 4: Assessment and Selection of Public Health Priorities**

Grounded in its commitment to the public, the Hospital believes that an ongoing exchange of information between its staff, community partners and members of the public along with the use of relevant national, state and city health data and ongoing community needs assessments is critical to its mission. Furthermore, HSS places paramount importance on ensuring that the development, modification and expansion of its community health initiatives are based on a collaborative process, and that these programs meet the constantly changing healthcare needs of a diverse and aging community. To this end, the Hospital has facilitated systematic, scheduled input and feedback from its varied constituents to obtain valuable insight into public and patient needs (as described in Section 3), which have been utilized to guide the selection of its CSP health priority, focus areas and programming.

HSS is dedicated to advancing the NYSDOH's *Prevention Agenda 2013* through its CSP initiatives outlined in Section 5 and has chosen to focus on **Preventing Chronic Disease**, where it will concentrate on musculoskeletal and rheumatologic conditions, and focus on **reducing obesity in children and adults** (Focus Area #1) and **increasing access to high quality chronic disease preventive care and management in both clinical and community settings** (Focus Area #2).

To ensure that the selection of these public health priorities resonates with the health care needs of New Yorkers, the Hospital has made sure that its CSP priority and focus areas align with those set forth by the NYC DOHMH's Take Care New York health policy. Namely, the reduction of pediatric and adult obesity (Focus Area #1) aligns with the City's health priorities of *Healthy Eating* and *Active Living*, while increasing access to clinically- and community-based chronic disease preventive care and management (Focus Area #2) are based on the Department's focus on *Quality Care and Preventive Services*.

The following delineates the collaborative process by which HSS integrated information derived from various parties in its selection of public health priorities:

##### *Input from Internal Stakeholders*

Recognizing that the development of community health programming requires a concerted effort by all members of the organization, the Hospital involved various representatives from HSS departments in guiding the selection of the health priorities for the CSP. In doing so, HSS set the foundation for internal stakeholders to drive and support the design, implementation, and evaluation of its CSP programs from inception. Moreover, the knowledge and experiences of physicians, nurses, social workers and other staff that have a vested interest in serving the community helped to inform the direction of these programs.

As mentioned above, internal meetings with HSS Departments of Public and Patient Education, Social Work Programs, Nursing, Nutrition, and Rehabilitation took place to discuss possible directions for CSP health priorities and obtain feedback from team members, using results from the CHNA to help guide the discussion. These meetings, which were

held on May 2, 6, 7, 8 and 14, 2013, also explored areas for implementing CSP initiatives that were informed by members' awareness of community needs and results of the CHNA.

#### *Community Partner Feedback*

As described above, HSS gathered input from various community partners to help guide the selection of the CSP priority/focus areas. Given their experience with serving specific communities, public health expertise, and knowledge of community needs, representatives from various organizations provided the Hospital with valuable insight for selecting its CSP health priorities and focus areas.

To help facilitate this process, the Hospital met with regulatory agencies and the Greater New York Hospital Association (GNYHA), a trade association, to inform the structure and process for selecting its public health priorities. In-person meetings and conference calls with GNYHA were held at various times from January-February 2013 on topics such as guidance on the NYS DOH CSP requirements and federal requirements for the CHNA. The Hospital also attended executive briefings regarding plans and updates to the NYC DOHMH Take Care New York health policy on February 20<sup>th</sup> and July 19<sup>th</sup>, 2013, meetings which were facilitated by GNYHA, to help in the selection of the Hospital's priority/focus areas. These meetings provided the Hospital with a framework for developing its CSP and ensured that the priority/focus areas aligned with state and local health department goals.

Moreover, feedback from community partner organizations was critical to driving the selection of public health priorities for the Hospital. In-person community partner sessions were held and attended by nine representatives from the 13 organizations that were listed in Section 3.

Using results of the CHNA as the basis for the discussions, these sessions provided HSS and its partners with the opportunity to exchange valuable information regarding community needs, explore areas for future collaboration, and solidify a mutual commitment to advancing public health. Furthermore, community partner knowledge of their respective community needs helped to identify gaps in community programming – or more specifically, areas where HSS could use its expertise to make a lasting public health impact. For example, the Executive Director of GHO (General Human Outreach in the Community, Inc.) and a professor from the Silberman School of Social Work at Hunter College, whose area of research focuses on health disparities, respectively brought a wealth of knowledge and experience working with Asian American communities in NYC. They emphasized that culturally related concerns around health privacy, for example, may deter many community members from seeking medical attention regarding falls prevention or soliciting needed educational support regarding chronic health needs, which are areas where HSS excels. A rich discussion ensued about methods to use our data to develop relevant interventions and methodologies for tracking outcomes based on CHNA findings.

Overall, feedback from these meetings solidified the need for programs that improve the community's diet and increase physical activity to combat obesity among children and adults, examined specific communities in need of chronic disease preventive care and management (including older adults, diverse communities and lower-income groups), and supported the need for programs that provide culturally-relevant education regarding musculoskeletal and rheumatologic issues.

#### *Input from the General Public*

To further its commitment to developing programs that improve community health, obtaining feedback from the public and patient community was also instrumental in driving the Hospital's selection of its public health priorities. To that end, a public forum was held (as described earlier) to allow participants to discuss the appropriate direction for the Hospital's CSP health priorities. The public expressed the need for programs that improve diet and physical activity and empower the community to prevent and manage their musculoskeletal and rheumatologic conditions, feedback that has been pivotal to the Hospital's selected focus areas. Furthermore, community members agreed that HSS should choose Chronic Disease as its priority area with a concentration on the obesity and high quality chronic disease preventive focus area as they thought these areas are consistent with the HSS mission and in alignment with pressing public health needs.

#### *HSS Patient Population Demographics*

As an academic medical center and specialty hospital focused on musculoskeletal patient care primarily in the fields of orthopedics and rheumatology, HSS has established an ongoing commitment to physical wellness and providing patients with the highest standards of health care. In providing high quality care, the Hospital also understands the importance of

developing programs that meet the community's needs, which are informed by the needs of its patients. In support of the selected priority of **Chronic Disease**, hospital inpatient and outpatient data collected between 2012 to 2013 and outlined below reveal that musculoskeletal/rheumatologic conditions are major issues among the HSS patient community. Following lists the number of medical visits by diagnosis (primary or secondary) in that time frame:

- Osteoarthritis = 37,688
- Rheumatoid Arthritis = 9,229
- Lupus = 3,139
- Osteoporosis = 2,227

Moreover, the Hospital's patient demographics reflect the aging and growing diversity of the New York community, as adult patients aged 60 and older comprise nearly 62% of the total patient population, while 31% of the Ambulatory Care Clinic population is Hispanic/Latino, followed by 23% Black, 17% White and 4% Asian.

To ensure that the selection of these public health priorities resonates with the health care needs of New Yorkers, the Hospital utilized public health data and statistics, along with results from the HSS CHNA and other ongoing needs assessments, to inform the selection of its priority/focus areas. Specific data that were used for each focus area are outlined in the following subsections.

### **Focus Area 1: Reduce obesity in children and adults**

Given its area of specialty, the Hospital understands that maintaining a healthy weight and being physically active play an important role in the development and strength of bones and muscles throughout life. Children's bones and cartilage are continuously developing; however, the excess weight of obesity erodes weight-bearing joints and results in musculoskeletal health issues that may continue into adulthood.<sup>3</sup> Physical activity may be used to reduce the risk of obesity and alleviate symptoms of musculoskeletal conditions such as osteoarthritis (OA) and osteoporosis (OP).

Public health data demonstrate that a reduction in obesity among children and adults is greatly needed. Compared with 25% of state residents, 56% of NYC's adults are overweight or obese.<sup>4,5</sup> Moreover, 24% of the City's elementary school children are obese and 19% are overweight.<sup>6</sup> Health disparities exist among racial/ethnic groups in obesity prevalence among American children and adolescents. Compared with Whites, higher obesity rates have been found among Blacks (51%) and Hispanics/Latinos(21%).<sup>7</sup> In addition, nearly 1 in 3 Hispanic/Latino children and 14% of Asian children in NYC elementary schools are classified as obese.<sup>5</sup> Studies have suggested factors accounting for the increase of obesity include unhealthy eating habits, sedentary lifestyles, and inequitable economic conditions in some neighborhoods that have reduced access to healthy foods and diminished access to safe places to play and exercise.<sup>8</sup> These alarming trends illustrate that there is a strong need for a multifaceted approach to reducing obesity in children by improving the diet and exercise levels of the entire family, which HSS has incorporated into its obesity-focused programming.

Results from the Hospital's CHNA also suggest that nutrition and physical activity are major concerns among members of the HSS community. Specifically, 21% of the total sample rated their diet negatively, and only 17% were meeting CDC-recommended guidelines for vigorous physical activity. Nevertheless, 40% had received medical instructions to modify their diet and 39% had been told to lose weight, while three-quarters were instructed to exercise more. Associations were found between barriers to healthy eating and socio-economic status, such as race, ethnicity, level of education and household income.

Additionally, results from ongoing HSS needs assessments have suggested that members of the HSS community are interested in exercise programming that would benefit their overall wellness and musculoskeletal needs. In particular,

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<sup>3</sup> Bowen, J.R., Assis, M., Sinha, K., Hassink, S., & Littleton, A. (2009). Associations among slipped capital femoral epiphysis, tibia vara, and type 2 juvenile diabetes. *Journal of Pediatric Orthopedics*, 29(4), 341-344.

<sup>4</sup> NYS DOH. (2011). *Obesity statistics in NYC*. Retrieved from <http://www.health.state.ny.us/statistics/prevention/obesity/county/newyorkcity.htm>.

<sup>5</sup> CDC. (2012). *US obesity trends: 1985-2007*. Retrieved from <http://www.cdc.gov/obesity/data/trends.html>.

<sup>6</sup> Thorpe, L.E., List, D.G., Marx, T., May, L. Helgerson, S.D., & Frieden, T.R. (2004). Childhood obesity in NYC elementary school students. *American Journal of Public Health*, 94(9), 1496-1500.

<sup>7</sup> CDC. (2010). *CDC features: Data and statistics by date*. Retrieved from <http://www.cdc.gov/features/dsobesityadults/>

<sup>8</sup> NYC DOHMH. (2010). Childhood overweight, physical activity, and "screentime" in NYC. *Epi Data Brief*, 1.

focus groups and program evaluation surveys completed by participants of HSS PPEd and Social Work Programs have suggested that there is a strong interest in education and wellness programming related to musculoskeletal health.

**Focus Area 2: Increase access to high quality chronic disease preventive care and management in both clinical and community settings**

Extensive literature has shown that many individuals with chronic musculoskeletal and rheumatologic conditions, including older adults and lower-income, ethnically diverse individuals, are in need of chronic disease preventive care and management education and exercise programming in both clinical and community settings. To support these needs, HSS aims to provide programs and services to assist people with managing these concerns and empowering them to keep active and maintain a healthy lifestyle.

Public health data show that musculoskeletal and rheumatologic conditions are important concerns on the national and local level, and older adults and ethnically diverse individuals are disproportionately affected by these issues. OA, which is the leading cause of disability in the US (affecting 27 million Americans<sup>9</sup> and 22% of New Yorkers) affects nearly half of older Americans,<sup>10</sup> while all racial/ethnic groups have the condition: 34.3 million Whites, 4.4 million Blacks, and 2.6 million Hispanic/Latinos.<sup>11</sup> In addition, OP is the leading cause of fractures in the aging population, affecting nearly 10 million Americans and about half of all women older than 50, and up to one in four men.<sup>12</sup> Research has shown that Asian women are at increased risk for developing OP given their tendency for having lower bone mass and avoidance of dairy consumption due to lactose intolerance.<sup>13</sup> Individuals suffering from lupus (systemic lupus erythematosus), a chronic and potentially life-threatening autoimmune disease, are generally women between ages 15-45, while Asian, Black, Hispanic/Latino, and Native American women are affected by this disease two to four times more than White women. Furthermore, studies have demonstrated that women of color have significantly worse outcomes. Barriers such as poverty, access, health literacy and health beliefs present additional challenges to quality care and management. For example, when lupus patients are low income Hispanic teens, they may face increased adverse outcomes related to risky behaviors such as unsafe sexual practices, which put them at risk for unplanned pregnancies.<sup>14</sup>

Research has also shown that many older adults are in need of better chronic disease preventive care and management education and exercise programming. The CDC has reported that approximately 80% of older Americans have at least one chronic condition while 50% have two or more,<sup>15</sup> yet the vast majority do not make major lifestyle changes following diagnosis of a serious chronic disease, either in the short term or long term.<sup>16</sup> This suggests that many older adults miss the opportunity to take critical steps to manage, and often prevent, chronic conditions. In addition, national surveys demonstrate that many older Americans do not engage in regular leisure-time physical activity<sup>2</sup> and their diet is far below the levels recommended for optimal muscle and bone health.<sup>17</sup> Interestingly, however, in 2007, more older adults in NYC were physically active (30%) than older adults nationally (23%).<sup>18</sup> Given the importance of physical activity in combating obesity, maintaining general wellbeing, and optimizing mobility, the Hospital is dedicated to providing the older adult community with the educational and exercise programming needed to help prevent and manage musculoskeletal and rheumatologic issues.

Additionally, the need for culturally-relevant education regarding chronic disease preventive care and management is evident in the literature. Research has suggested that ethnically diverse communities encounter linguistic/cultural barriers to healthcare and therefore may miss opportunities to learn how to prevent and manage their chronic conditions. For example, studies have shown that language and cultural barriers limit satisfactory health care for many Asians, who generally lack access to recommended levels of prevention, counseling, and medical care they need. Furthermore, limited

<sup>9</sup> Helmick, C.G., Felson, D.T., Lawrence, R.C., Gabriel, C., Hirsch, R., Kwoh, C. K., et al. for the National Arthritis Data Workgroup. (2008). Estimates of the prevalence of arthritis and other rheumatic conditions in the United States: Part I. *Arthritis and Rheumatism*, 5, 15-25.

<sup>10</sup> CDC. (2006). Prevalence of doctor-diagnosed arthritis and arthritis-attributable activity limitation – United States, 2003-2005. *MMWR*, 55, 1089-1092.

<sup>11</sup> CDC. (2001). Prevalence of disabilities and associated health conditions – US 1999. *MMWR*, 50, 120-125.

<sup>12</sup> National Osteoporosis Foundation (NOF). What is osteoporosis? Retrieved from <http://nof.org/articles/7>

<sup>13</sup> National Institute of Arthritis and Musculoskeletal and Skin Diseases. (2012). *Osteoporosis and Asian American women*. Retrieved from [http://www.niams.nih.gov/Health\\_Info/Bone/Osteoporosis/Background/asian\\_american\\_women.asp](http://www.niams.nih.gov/Health_Info/Bone/Osteoporosis/Background/asian_american_women.asp)

<sup>14</sup> Bertoli, M.A., Vilá, L.M., Reveille, J.D., & Alarcón, G.S., LUMINA study group. (2008). Systemic lupus erythematosus in a multiethnic US cohort (LUMINA) LIII: Disease expression and outcome in acute onset lupus. *Journal of Ann Rheum Dis*, 67(4), 500-504.

<sup>15</sup> CDC. (2004). *Healthy aging: Preventing disease and improving quality of life among older Americans*. Retrieved from [http://cdc.gov/nccdphp/aag/aag\\_aging.htm](http://cdc.gov/nccdphp/aag/aag_aging.htm)

<sup>16</sup> Newsom, J.T., Huguet, N., McCarthy, M.J., Ramage-Morin, P., Kaplan, M.S., Bernier, J., McFarland, B.H., & Odekirk, J. (2012). Health behavior change following chronic illness in middle and later life. *The Journals of Gerontology, Series B: Psychological and Social Sciences*, 67(3), 279-288.

<sup>17</sup> Wright, J.D., Wang, C.Y., Kennedy-Stevenson, J., & Ervin, R.B. (2003). Dietary intakes of ten key nutrients for public health, United States: 1999-2000. *Adv Data*, 334, 104. Hyattsville, MD: National Center on Health Statistics.

<sup>18</sup> NYC DOHMH. (2010). Health of older New Yorkers. *NYC Vital Signs*, 8(4).



English proficiency is a major issue and contributor to a lack of knowledge regarding the prevention and management of musculoskeletal health issues, as data has shown that 38% of Asians have limited English proficiency, compared to 16% of the entire NYC population.<sup>19</sup>

The Hospital's CHNA results revealed that chronic disease preventive care, management education and exercise programming are greatly needed, particularly among traditionally underserved communities which are affected by health disparities. The need was further demonstrated among older adults and Asians. For instance, OA and OP were the leading conditions reported among those surveyed (affecting 47% and 33% of respondents, respectively) and were more common among older adults, while lupus was most commonly cited by teens and Asians. While all ethnically diverse communities scored lower than Whites, Asians, compared to African Americans and Hispanics, were the most likely to lack communication with their provider, had the lowest health literacy, were the least likely to discuss their injuries, such as falls, with their provider, and were the most likely to forgo medical advice because their provider did not understand their culture or language. Also of particular note is that 32% of HSS's CHNA sample rated their health status as poor to fair (as compared with 14% of all New Yorkers), with poor health status most frequently reported by Blacks (51%), Asians (48%) and Hispanics (43%) vs. Whites (22%). These findings underscore the need to increase the availability of chronic disease prevention and management education that is also culturally relevant.

Additionally, the Hospital's ongoing needs assessments have identified the need for culturally-relevant healthcare and chronic disease self-management education. Results from focus groups and program evaluation surveys with participants of HSS PPEd and Social Work Programs have suggested that there is a strong community interest in education and wellness programming related to musculoskeletal health, and that program participants lack access to culturally-sensitive healthcare and chronic disease self-management education.

The Hospital has utilized the collective aforementioned sources of information to ensure that the development, modification and expansion of its community health initiatives are based on a collaborative process, which takes into account the changing healthcare needs of its increasingly diverse and aging community.

## **Section 5: HSS Three – Year Plan of Action**

### **Chronic Disease Priority Area: Program 1 Focus Area 1: Reduce obesity in children and adults**

#### **SNEAKER<sup>®</sup>: Super Nutrition Education for All Kids to Eat Right**

As specialists in mobility, HSS understands the important role that physical activity and nutrition play throughout life, including the development and strength of bones and muscles, and healthy weight maintenance. The Hospital shares the NYS DOH's concern that a lack of physical activity and poor dietary choices can lead to high obesity rates among New Yorkers. SNEAKER<sup>®</sup> (Super Nutrition Education for All Kids to Eat Right) provides culturally-sensitive nutrition education and information for NYC's at-risk children and their families.

#### **Background**

Childhood obesity is a serious medical condition that affects children and adolescents. More than one third of American adults and almost 17% of youth were obese between 2009 and 2010.<sup>20</sup> Obesity and overweight also pose enormous challenges for New Yorkers. Statistics indicate that one in four New Yorkers is obese,<sup>21</sup> and one in three New York children is obese or overweight.<sup>22</sup> In 2010, an NYC DOHMH and Department of Education survey found that four in ten (40%) public school students aged 6 to 12 were overweight or obese in the 2009-2010 academic year.<sup>3</sup> Furthermore, racial/ethnic disparities in the prevalence of obesity exist among American children and adolescents. Namely, Blacks and Hispanics/Latinos had higher obesity rates than their White peers,<sup>6</sup> while 14% of Asian elementary school children in NYC are obese.<sup>5</sup> This is particularly troubling given that these extra pounds can often lead to health problems that were once confined to adults, such as diabetes, high blood pressure, heart disease, and high cholesterol, which in turn can lead

<sup>19</sup> Asian American Federation (2013). *Asian Americans of the Empire State: Growing Diversity and Common Needs*. New York, NY.

<sup>20</sup> Ogden, C.L., Carroll, M.D., Kit, B.K., & Flegal, K.M. (2012). Prevalence of obesity in the US. *NCHS Data Brief*, 82.

<sup>21</sup> CDC. (2009). Behavioral Risk Factor Surveillance System (BRFSS) Brief No. 0904: Overweight and Obesity NYS Adults 2008.

<sup>22</sup> NYS DOH. (2011). *Obesity prevalence*. Retrieved from <http://www.health.ny.gov/prevention/obesity/>

to lower self-esteem.<sup>23</sup> Obesity also affects the musculoskeletal system. Research suggests that overweight and obese children suffer from higher rates of musculoskeletal problems in their lower extremities and more lower back pain than children who are at a healthy weight. Obesity challenges a child's growing body by affecting the development of bones and cartilage that may not be strong enough to carry excess weight. Furthermore, excess weight results in wear and erosion of the weight-bearing joints, leading to chronic musculoskeletal conditions through adulthood.<sup>24</sup>

Several factors have contributed to the obesity epidemic. Although there are some genetic and hormonal causes of childhood obesity, most excess weight is caused by children eating too much and exercising too little. More Americans have adopted unhealthy eating habits, doubling their annual spending on prepared foods and larger portion sizes, which tend to be high in fat and calories. Inequitable economic conditions in some neighborhoods have reduced access to healthy foods, and made it cheaper and easier for families in low income areas to purchase unhealthy foods. Few children eat the recommended daily amounts of fruit (35%) and vegetables (6%), according to parent reports,<sup>25</sup> and more than 4 in 5 children drink one or more sugar-sweetened beverages daily.<sup>26</sup> In addition, many Americans have adopted a more sedentary lifestyle; some families, particularly those living in low-income areas, lack access to safe places to play and exercise.<sup>27</sup>

Results of the HSS CHNA indicate that improvements in diet and physical activity were a major concern for the HSS community, as evidenced by the 21% of respondents rating their diet negatively, and only 17% meeting CDC-recommended guidelines for vigorous physical activity. Hispanics/Latinos were most likely to report that they received medical instructions to lose weight, and Blacks were most often told to modify their diet. The major barriers to eating healthily among all surveyed included cost, planning constraints, and social pressures.

The obesity epidemic is a multifaceted public health issue. A strong strategy to combat excess weight in children is to improve the diet and exercise levels of the entire family, which is the primary goal of the SNEAKER<sup>®</sup> program.

## Program Description

In response to the pediatric obesity epidemic, HSS developed and implemented the SNEAKER<sup>®</sup> program in 2003. This 7-week interactive nutrition and physical activity education program is designed to provide children and families with essential knowledge about healthy eating and physical activity. The SNEAKER<sup>®</sup> curriculum focuses on portion control, whole grains and fiber, fruits and vegetables, beverages, physical activity, protein and dairy, and fast food and snacks. The program provides interactive lessons which help to teach students the importance of eating a healthy, well-balanced diet and being physically active, encourage children to make healthier food choices, and educate students about how to be more physically active. Understanding the important and influential role parents and caregivers have on a child's diet, SNEAKER<sup>®</sup> contains a parent/caregiver component wherein weekly newsletters are sent home to educate the parent/caregiver about the lessons their child learned in school so they can help foster healthy changes for the child and the entire family.

The SNEAKER<sup>®</sup> program is implemented in public schools and after-school programs largely located in medically underserved areas throughout NYC including East Harlem, Harlem, the Lower East Side, and Manhattan's Chinatown. Residents in these areas are predominantly Hispanic/Latino, Black and Asian. Community partners have played an integral role in the adaptation and implementation of SNEAKER<sup>®</sup>, partnering with more than 20 separate community-based organizations from public and religious schools to the local Girl Scouts, many located in underserved areas, to reach children and families of diverse ethnic backgrounds.

Over the next three years the program aims to focus on expansion. In addition to connecting with additional community partners and schools to implement additional SNEAKER<sup>®</sup> core programming, HSS plans to develop a train-the-trainer program wherein staff from various community based organizations will be trained to deliver the SNEAKER curriculum.

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<sup>23</sup> American Heart Association and American Stroke Association. (2010). *Understanding Childhood Obesity: 2011 Statistical Sourcebook*. Dallas, TX: American Heart Association.

<sup>24</sup> Bowen, J.R., Assis, M., Sinha, K., Hassink, S., & Littleton, A. (2009). Associations among slipped capital femoral epiphysis, tibia vara, and type 2 juvenile diabetes. *J Pediatr Orthop*, 29(4), 341-344.

<sup>25</sup> NYC DOHMH. (2011). Child obesity risk: Nutrition and physical activity. *NYC Vital Signs*, 10(4). Retrieved from <http://www.nyc.gov/html/doh/downloads/pdf/survey/survey-2011-child-obesity-risk.pdf>

<sup>26</sup> CDC, Division of Adolescent & School Health. *The 2009 Youth Risk Behavior Survey*. Retrieved from <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>

<sup>27</sup> NYC DOHMH. (2010). Childhood overweight, physical activity, and "screen time" in NYC. *Epi Data Brief*, 1.

This will enable the Hospital to offer this vital program to more children, schools and community-based organizations, thereby teaching more children how to eat healthily and become more physically active.

### Specific Program Goals

By the end of 2016, the SNEAKER<sup>®</sup> program will:

- Develop and implement a train-the-trainer manual/program
- Add locations in which SNEAKER<sup>®</sup> is implemented
- Increase participant knowledge of the importance of making healthier choices and staying active
- Improve participant behaviors around food choices, screen time and physical activity

### Supporting Evidence for SNEAKER<sup>®</sup>

The SNEAKER<sup>®</sup> program and its curriculum is grounded in several evidenced-based/promising practices that bring nutrition and physical activity information to school-aged children and their parents/caregivers. For example, *It's All About Kids*, a 6-week program based in Oklahoma is dedicated to improving food choices and increasing physical activity among elementary school students with weekly 30-minute classroom lessons. The program engages children through healthful-eating food games by taste-testing foods, baking whole-grain bread, and sharing information on portion sizes. Participant surveys demonstrated that the program improved the children's knowledge of fatty foods and overall food choices, as well as reduced their consumption of saturated fat and sodium-rich foods. A similar program based in Mississippi demonstrated significant improvements in percentage of body fat, physical activity, performance on fitness tests, and dietary habits among 6 to 10 year old students attending a rural public school who participated in monthly physical activity and nutritional events over a 9-month academic year.<sup>28</sup>

Programs that involve parents have also proved to be effective. The Norway-based HEalth In Adolescents (HEIA) program successfully used parental fact sheets and classroom activities to help reduce consumption of sugar-sweetened beverages among 11 year old students and increased parental awareness of healthy beverages.<sup>29</sup> Similarly, an Australia-based intervention program helped to reduce saturated fat intake by 3% among children in the study by providing parents with information about better nutrition knowledge and skills that enabled them to make healthy changes to their children's diets.<sup>30</sup>

Train-the-trainer approaches to promoting healthy diet and physical activity have recently gained attention by researchers. For example, the *Healthy Kansas Kids* program, which was designed to educate child care trainers through a series of train-the-trainer workshops on healthy eating and physical activity, demonstrated that trainers significantly improved their personal diet and physical activity which in turn improved their ability to teach children about healthy living.<sup>31</sup> In another program, *Improving Meals and Physical Activity in Children and Teens (IMPACT)*, a school-based curriculum used a train-the-trainer model to improve dietary behaviors and knowledge among elementary school students by training high school students to deliver the health education curriculum.<sup>32</sup>

### Program Impact

SNEAKER<sup>®</sup> has had a significant impact on the community it serves. Program evaluations completed by over 120 NYC public school students who participated in the program have demonstrated statistically significant improvements in knowledge based pre/post and three-month follow-up scores on a battery of lesson-based questions. In particular, knowledge gains were found with regard to number of daily fruit servings, ways to add whole grains to one's diet, portion control, healthier dairy and snack options, examples of lean protein, and healthy ways to be physically active. Important behavior changes such as increased consumption of fruits, vegetables, fruit juices, and whole grain foods, and reduced consumption of whole milk were also observed. In addition, children indicated that they spent less time participating in

<sup>28</sup> Greening, L., Harrell, K.T., Low, A.K., & Fielder, C.E. (2011). Efficacy of a school-based childhood obesity intervention program in a rural southern community: TEAM Mississippi Project. *Obesity, 19*(6), 1213-1219.

<sup>29</sup> Bjelland, M., Bergh, I.H., Grydeland, M., Klepp, K., Andersen, L.F., Anderssen, S.A., Ommundsen, Y., & Lien, N. (2011). Changes in adolescents' intake of sugar-sweetened beverages and sedentary behavior: Results at 8 month mid-way assessment of the HEIA study - A comprehensive, multi-component school-based randomized trial. *International Journal of Behavioral Nutrition and Physical Activity, 8*(63).

<sup>30</sup> Hendrie, G.A., & Golley, R.K. (2011). Changing from regular fat to low fat dairy foods reduces saturated fat intake but not energy intake in 4-13 year old children. *American Journal of Clinical Nutrition, 93*(5), 1117-1127.

<sup>31</sup> Trost, S.G., Messner, L., Fitzgerald, K., & Roths, B. (2011). A nutrition and physical activity intervention for family child care homes. *American Journal of Preventive Medicine, 41*(4), 392-398.

<sup>32</sup> Muth, M.D., Chatterjee, A., Williams, D., Cross, A., & Flower, K. (2008). Making an IMPACT: Effect of a school-based pilot intervention. *North Carolina Medical Journal, 69* (6), 432-440.

sedentary activities (i.e., watching television) and more time being physically active on an average school day. Qualitative results have also demonstrated anecdotal evidence of knowledge gain and positive behavioral changes in notable comments such as, "frying is bad but baking and grilling is good," "I made the recipe we learned last week for my grandma; she loved how healthy it was and that it had fiber," and, "I now make sure that my little brother does not spend too much time watching cartoons and exercises more often."

### **Measurable Outcomes**

Over the next three years, the SNEAKER<sup>®</sup> program will continue to focus on measuring knowledge and behavior change among program participants using a pre/post-test and 3-month follow-up surveys to assess quantitative measures. Evaluations will be keyed to the program's curriculum, probing knowledge and behavior changes within the seven topics covered by this program. While no standardized and validated measures are currently used in the SNEAKER<sup>®</sup> program evaluation, HSS plans to explore the use of standardized, age-appropriate measures of diet and physical activity, such as those used by the CDC in the Youth Risk Behavior Survey (YRBS). In addition, the program will continue to use qualitative measures to assess anecdotal evidence of knowledge and behavior change that students made over the course of the program that may not have been reflected in the pre/post-test surveys.

During each of the next three years, the following measures will be assessed:

- % of participants who gained knowledge about specific nutrition areas keyed to curriculum
- % of participants who increased physical activity
- % of participants who increased fruit and vegetable consumption
- % of participants who decreased average screen time
- Knowledge attainment and behavioral modification as demonstrated via anecdotal evidence that the children exhibited in the classroom during the lessons

## Three – Year Plan: SNEAKER<sup>®</sup>

### HSS Aligns with Prevention Agenda:

- Priority area: Chronic disease
- Focus area: Reduce obesity in children and adults.
- Goal: Prevent childhood obesity through early child care and schools

### HSS SNEAKER<sup>®</sup> program participants will learn:

- Importance of portion control
- Importance of consuming whole grains and fiber, lean protein and reduced fat dairy
- Importance of adding fruits and vegetables to the daily diet
- Healthier beverages and snack options
- Importance of increasing daily physical activity
- How to make healthier choices in restaurants and fast food chains

### Community Partnerships:

- NYC Public Schools
- Urban Assembly Gateway School for Technology
- Charles B. Wang Community Health Center
- ACE Mentor Program-Staten Island
- After school programs
  - Boys and Girls Club
  - Police Athletic League
- Community health centers

### Program Benchmarks:

#### Year 1 – 2014

- Review and refine existing SNEAKER<sup>®</sup> program based on program evaluation results
- Implement the SNEAKER<sup>®</sup> program four times in two different education settings, reaching approximately 50 children
- Identify two new community partners
- Modify existing program to be compatible with various educational settings
- Research the development and evaluation of a SNEAKER<sup>®</sup> train-the-trainer manual
- Identify (and implement) standardized/validated measure to include in current SNEAKER evaluation

#### Year 2 – 2015

- Develop and implement a train-the-trainer manual and program evaluation
- Implement the existing SNEAKER<sup>®</sup> program in two educational settings, reaching 50 children
- Review and refine existing SNEAKER<sup>®</sup> program based on program evaluation results
- Maintain existing community partnerships and develop two new collaborations

#### Year 3 – 2016

- Implement train-the-trainer program with 2 programs
- Implement the existing SNEAKER<sup>®</sup> program in two educational settings, reaching 50 children
- Review and refine existing SNEAKER<sup>®</sup> program based on program evaluation results
- Maintain existing community partnerships and develop two new collaborations

**Chronic Disease Priority Area: Program 2**  
**Focus Area 2: Increase access to high-quality chronic disease preventive care and management  
in clinical and community settings**

**HSS Asian Community Bone Health Initiative**

Musculoskeletal conditions are currently the most common cause of chronic disability. Globally, the number of people suffering from these conditions has increased by 25% over the past decade. This trend is expected to continue given the aging of the population, and is particularly prevalent among Asian Americans.<sup>33</sup> The HSS Asian Community Bone Health Initiative was designed to help address musculoskeletal issues in the Asian community by helping seniors stay active and better manage chronic bone and joint disease through culturally-relevant education and exercise programs targeted to this specific community.

**Background**

Among older adults age 65 and over, Asians had the highest growth rate citywide from 2000 to 2010, increasing by a staggering 64%. The Lower East Side of Manhattan, which encompasses Chinatown, as well as Flushing, Queens, were among several key neighborhoods that added more than 1,000 Asian seniors during the last decade.<sup>1</sup>

Musculoskeletal conditions are a public health issue for older adults. Osteoarthritis (OA) affects more than 70% of adults between 55 and 78 years of age, and is the number one cause of disability in the adult population.<sup>34</sup> In addition, the bone disease osteoporosis (OP) is the leading cause of fractures in the aging population. According to the National Institute of Arthritis and Musculoskeletal and Skin Diseases, Asian women are at increased risk for developing OP since they tend to be slender with lower bone mass and avoid consuming dairy because of lactose intolerance.

While a substantial number of Asian older adults living in NYC are affected by musculoskeletal conditions, poverty and lack of health insurance dramatically limit their access to care. In 2010, 25% or one out of every four Asian seniors age 65 and older in NYC lived in poverty. Moreover, Asian seniors were more than twice as likely to have no health insurance coverage compared to other major race and ethnic groups.<sup>1</sup> Enduring cultural and linguistic barriers, including limited English proficiency and a reluctance to ask their health care providers questions, further impede access to and utilization of services.

Results of the HSS CHNA confirm the above statistics. Results indicate that a large number of Asians from the HSS sample are suffering from musculoskeletal conditions: 33% reported that they have OA, 37% have RA and 32% have OP. In addition, those who had OA or OP were likely to report falling within the past year. The link between OP and falls reflects global statistics showing that worldwide, OP causes more than 8.9 million falls-related fractures annually. Furthermore, CHNA respondents who reported no physical activity were more likely to fall. Regarding access to health care and communication, the HSS needs assessment revealed that Asians were most likely to indicate a lack of health insurance and most likely to report a lack of provider-patient communication.

**Program Description**

The HSS Asian Community Bone Health Initiative was launched in 2012 in response to the health needs of the growing number of Asian older adults living in NYC's Chinatown community. The overall goal is to help Asian seniors better manage chronic musculoskeletal disorders while also increasing access to care in this medically underserved community. This initiative is comprised of culturally-relevant musculoskeletal health lectures and workshops, self-management education, yoga and low impact chair exercise programs. Recognizing the need for education around provider-patient communication given the results of the HSS CHNA, education on this topic will be incorporated into health lectures and workshops over the next three years. In addition, given the growth of the Asian population in Flushing, Queens, HSS will be expanding this initiative in order to provide programming to Asian seniors residing in this borough.

**Specific Program Goals**

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<sup>33</sup> The Bone and Joint Decade. (2013). *About musculoskeletal health*. Retrieved from [http://bjdonline.org/?page\\_id=11](http://bjdonline.org/?page_id=11)

<sup>34</sup> Brooks, P. (2003). Inflammation as an important feature of OA. *Bulletin of the World Health Organization*, 81, 689-690.

By the end of 2016, the HSS Asian Community Bone Health Initiative will:

- Increase Asian older adults' awareness of musculoskeletal conditions such as OA and OP
- Increase knowledge of chronic disease self-management techniques, the importance of and techniques for improved provider-patient communication and falls prevention
- Improve musculoskeletal health among Asian seniors by:
  - decreasing musculoskeletal pain, stiffness, fatigue and falls
  - improving balance and health status
  - increasing frequency of physical activity and self-efficacy
  - decreasing health limitations

## Supporting Evidence for HSS Asian Community Bone Health Initiative

A review of the literature supports this initiative's program methodology. Specifically, research indicates that exercise, in general, can be beneficial for the prevention of OP. Moreover, exercise in post-menopausal women has been shown to prevent rapid bone loss and increase muscle strength, mobility, and flexibility, thereby decreasing the risk of falls and fractures.<sup>10</sup> In addition, a meta-analysis from 24 randomized-controlled trials with 1,441 participants showed that exercise programs for people with OP resulted in significant differences in bone mineral density in the spine.<sup>35</sup> Yoga has also been shown to be beneficial. Studies have found that the stretching and relaxation elements of yoga may have positive effects on balance, emotional stability, posture, coordination, flexibility, and quality of life among patients with post-menopausal OP. In fact, a study evaluating the effect of yoga exercises in postmenopausal osteoporotic women on balance and quality of life showed that yoga education has a positive effect on pain, physical functions, social functions, and general health.<sup>36</sup>

The Arthritis Foundation Exercise Program (AFEP) has also been shown to be effective in reducing arthritic symptoms.<sup>37</sup> Program results from a 1991 study showed that the program was associated with a 19% reduction in depression, as well as increases in functional ability (17%) and perceived self-efficacy (10%).<sup>38</sup> Additionally, a study by the Arthritis Foundation/New York Chapter/HIP Health Plan (2001) found reductions in pain (60%), stiffness (48%), and depression (14%); and increases in self-efficacy (20%), functional ability (35%), knowledge and use of pain management techniques in program participants.<sup>39</sup>

Educational programs focusing on OP within the Asian community have been evaluated with promising results. A study evaluating the preliminary effectiveness of an educational intervention to increase OP knowledge and adoption of preventive behaviors, including regular exercise and OP medication adherence, for Chinese American immigrants aged 45 and over found statistically significant immediate improvements in OP-related knowledge, self-efficacy for exercise, and OP medication adherence. Moreover, participants in the treatment group spent more time and exerted more energy on moderate exercise, and used more OP medication than controls.<sup>40</sup> In addition, an intervention to help Chinese-American women incorporate calcium-rich foods into their diet found significant increases in calcium and vitamin D intake at post-test and three-month follow-up.<sup>41</sup>

Various studies have demonstrated the efficacy of the Chronic Disease Self-Management Program (CDSMP) in Chinese populations. The 6-week CDSMP has increased the self-efficacy, exercise behavior, and application of coping strategies of Chinese participants, and the effects of the program in Chinese populations are similar to that found in studies in

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<sup>35</sup> Howe, T.E., Shea, B., Dawson, L.J., Downie, F., Murray, A., Ross, C., Harbour, R.T., Caldwell, L.M., & Creed, G. (2011). Exercise for preventing and treating osteoporosis in postmenopausal women. *Cochrane Database Systematic Review*, 7, CD000333.

<sup>36</sup> Tüzün, S., Aktas, I., Akarirmak, U., Sipahi, S., & Tüzün, F. (2010). Yoga might be an alternative training for the quality of life and balance in postmenopausal osteoporosis. *European Journal of Physical Rehabilitation Medicine*, 46(1), 69-72.

<sup>37</sup> Arthritis Foundation Exercise Program (2009) *Safe and effective: Outcomes summary*. Retrieved from [http://www.arthritis.org/media/programs/Evaluation\\_Summary\\_Exercise\\_HIGH.pdf](http://www.arthritis.org/media/programs/Evaluation_Summary_Exercise_HIGH.pdf)

<sup>38</sup> Anderson, J.M. (1991). Evaluation of the PACE® exercise program and its effect on self-efficacy, pain, depression, and functional ability. Masters Thesis, Rollins School of Public Health, Emory University, Atlanta, Georgia.

<sup>39</sup> Arthritis Foundation, New York Chapter (2001). People with Arthritis Can Exercise and Arthritis Self-Help Course Sponsored by HIP Health Plan of New York. Final Report.

<sup>40</sup> Qi, B.B., Resnick, B., Smeltzer, S.C., & Bausell, B. (2011). Self-efficacy program to prevent osteoporosis among Chinese immigrants: A randomized controlled trial. *Nursing Research*, 60(6), 393-404.

<sup>41</sup> Lv, N., & Brown, J.L. (2011). Impact of a nutrition education program to increase intake of calcium-rich foods by Chinese-American women. *Journal of the American Dietetic Association*, 111(1), 143-149.



Western cultures.<sup>42</sup> Furthermore, a qualitative study of the CDSMP in Shanghai, China, revealed that the program was perceived to be effective in participants mainly through behavior change and self-efficacy development.<sup>43</sup>

Programs that combine OA-specific exercise and self-management education have also been studied. A 10-week, randomized, controlled trial investigating the feasibility and effects of an intervention combining physical exercise and pain coping skills training revealed significant improvements in knee strength, self-reported knee pain and physical function, and self-efficacy for control of pain management and other arthritis symptoms.<sup>44</sup>

## **Program Impact**

Pilot data indicates that the HSS Asian Community Bone Health Initiative has been successful in helping participants make lifestyle changes that have improved their overall quality of life. Program impact data collected via pre/post-surveys at three senior centers in the Chinatown area of NYC between 2011-2012 revealed that participation in this program was associated with statistically significant reductions in self-reported health limitations in, for example, lifting/carrying groceries, climbing stairs, and bending/kneeling, as well as reductions in self-reported falls, pain, pain frequency, level of stiffness and level of fatigue.

## **Measureable Outcomes**

Over the next three years, this Initiative will continue to measure knowledge and health outcomes of program participants using a pre/post-test or post-test-only methodology to assess quantitative measures. Evaluation of its educational programs will assess knowledge attainment or material comprehension (post-test only). CDSMP will measure changes in levels of self-efficacy from pre to post-test, while exercise program evaluations will examine changes in outcomes including pain, stiffness, fatigue, balance, falls and physical activity. While no standardized and validated measures are currently used in the educational program evaluations, the program does use validated measures in its exercise evaluations including the SF-36 Health Survey, Numeric Pain Intensity Scale, the Brief Pain Inventory the single-item fatigue rating scale from the Brief Fatigue Inventory, the Three-Question Physical Activity Assessment, and a subscale from the original Chronic Disease Self-Management Scale. Likewise, the CDSMP evaluation utilizes the aforementioned self-efficacy to exercise subscale and the Self-Efficacy for Managing Chronic Disease 6-Item Scale.

During each of the next three years, the following measures will be assessed:

- % of participants who decrease in pain, stiffness, fatigue and/or falls
- % of participants who improve balance, health status and/or self-efficacy as a result of exercising
- % of participants who increase physical activity
- % of participants who had fewer health limitations
- % of participants who gained knowledge

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<sup>42</sup> Siu, A.M., Chan, C.C., Poon, P.K., Chui, D.Y., & Chan, S.C. (2007). Evaluation of the chronic disease self-management program in a Chinese population. *Patient Education & Counseling*, 65(1), 42-50.

<sup>43</sup> Dongbo, F., Ding, Y., McGowan, P., & Fu, H. (2006). Qualitative evaluation of Chronic Disease Self-Management Program (CDSMP) in Shanghai. *Patient Education & Counseling* 61(3), 389-396.

<sup>44</sup> Hunt, M.A., Keefe, F.J., Bryant, C., Metcalf, B.R., Ahamed, Y., Nicholas, M.K., & Bennell, K.L. (2013). A physiotherapist-delivered, combined exercise and pain coping skills training intervention for individuals with knee osteoarthritis: A pilot study. *Knee*, 20(2), 106-112.



## **Three – Year Plan: HSS Asian Community Bone Health Initiative**

### **HSS Aligns with Prevention Agenda:**

- Priority area: Chronic disease
- Focus area: Increase access to high quality chronic disease preventive care and management Goal: Promote use of evidence-based care to manage chronic disease; promote culturally relevant chronic disease self-management education

### **HSS Asian Community Bone Health Initiative Participants will learn:**

- Exercise routines, including range of motion and low-resistance exercise, to help improve quality of life by decreasing pain and discomfort caused by chronic musculoskeletal disorders
- Chronic disease self-management techniques
- Relevant information about bone health-related topics, such as OA, OP and managing joint pain
- Falls prevention techniques
- Skills to improve provider-patient communication

### **Community Partnerships:**

- New York Chinatown Senior Citizen Center
- LaGuardia Senior Center
- Mott Street Senior Center
- Chinese-American Planning Council
- New York Foundation for Senior Citizens
- New York City Department of Aging
- New York Golden Eagle Adult Day Care Center
- All Community Adult Day Centers
- Selfhelp Innovative Senior Center
- NYC Public Libraries
- HSS International Learning & Training Center

### **Program Benchmarks:**

#### **Year 1 – 2014**

- Assess health disparities and educational needs of Asian seniors living in NYC using local DOH community data
- Identify 4 - 8 topics to be presented to the community
- Refine program outcome measures and evaluation strategies related to pain, fatigue, stiffness, balance and physical activity based on pilot program results
- Maintain existing and identify 2 new community partners
- Conduct 2 lectures and 7 eight-week sessions of yoga and 3 eight-week sessions of the Arthritis Foundation Exercise Program (AFEP) reaching 145 participants

#### **Year 2 – 2015**

- Implement 2 lectures, 8 eight-week sessions of yoga and 4 eight-week sessions of AFEP reaching 185 participants
- Maintain existing and develop 2 new collaborations with community partners
- Collect data on education needs and interests of the community

#### **Year 3 – 2016**

- Implement 2 lectures, 8 eight-week sessions of yoga and 4 eight-week sessions of AFEP reaching 185 participants
- Maintain existing and develop 2 new community partnerships
- Collect data on education needs/interests of the community
- Discuss the report with community partners for further program expansion
- Explore the feasibility of expanding the program to another borough

## Chronic Disease Priority Area: Program 3

### Focus Area 2: Increase access to high-quality chronic disease preventive care and management in clinical and community settings

#### Leon Root, MD Pediatric Outreach Program

HSS is a recognized world leader in the fields of orthopedics and rheumatology, improving and restoring the mobility of individuals with musculoskeletal injuries and disorders. Caring for disadvantaged children has been a critical part of the Hospital's mission since its founding. Launched in 1987, the Leon Root, MD, Pediatric Outreach Program (POP) is a community-based medicine program designed to prevent long-term musculoskeletal disorders and severe joint disability in children from socially disadvantaged communities, thereby helping to pave the way for children to become physically active adults.

#### Background

Orthopedic issues among children are important health concerns that have gained attention among professional organizations and the general public. In 2008, musculoskeletal conditions accounted for 427,000 hospitalizations and 9.5 million physician visits in the US in children younger than age 19.<sup>45</sup> These conditions, which require orthopedic care, can range from congenital disorders, such as clubfoot and hip dysplasia, to developmental problems, including scoliosis and other musculoskeletal infections and diseases. In addition, approximately 5 million children younger than age 19 sustained musculoskeletal injuries in 2008, including sprains, strains, contusions and fractures.<sup>46</sup>

There are many preventable orthopedic-related injuries such as strains, sprains, fractures, growth plate injuries and repetitive motion injuries.<sup>47,48</sup> Evidence shows the importance of educating parents about the multitude of measures that can be used to prevent these injuries, including wearing protective gear.<sup>49</sup> Research indicates that there is a need for education about how parents can discuss the importance of wearing protective gear with their children.<sup>50,51</sup> HSS needs assessment survey findings also support the need for education. Findings of a survey conducted in Spring of 2012 of parents whose children attended two NYC schools and three NYC day care centers indicated that parents had a strong interest in attending educational programs on topics that included sports injury prevention (54%), scoliosis (43%), and joint pain (41%).

Childhood obesity is reaching epidemic proportions and has tripled over the past 30 years.<sup>52</sup> Children's bones are uniquely affected by obesity because of the presence of growth plates, or layers of cartilage responsible for longitudinal growth of the bone, which can be damaged or deformed by excess body weight. Not only does excess weight and inactivity cause stress on a child's musculoskeletal system, but these factors also increase a child's susceptibility to additional health problems such as heart disease and diabetes. Moreover, childhood overweight and obesity have been shown to increase rates of orthopedic disorders, fracture risks, and risks of surgical complications.<sup>53</sup> Indeed, healthy habits practiced during childhood have critical implications for the development of future orthopedic issues including obesity.<sup>54</sup>

Given the link between pediatric orthopedic conditions, obesity, and long-term health problems, increased community awareness and caregiver education is greatly needed.

<sup>45</sup> National Center for Health Statistics. (2008). National Hospital Discharge Survey and National Ambulatory Medical Care Survey.

<sup>46</sup> AAOS. (2006). *AAOS position statement on children and musculoskeletal health*. Retrieved from <http://www.aaos.org/about/papers/position/1170.asp>

<sup>47</sup> Lovejoy S, Weiss JM, Epps HR, Zions LE, Gaffney J. Preventable childhood injuries. *J Pediatr Orthop*. 2012 Oct-Nov;32(7):741-7. PubMed PMID: 22955541.

<sup>48</sup> National Institute of Arthritis and Musculoskeletal and Skin Diseases. (2009). *Childhood sports injuries and their prevention. A guide for parents with ideas for kids*. Retrieved from [http://www.niams.nih.gov/Health\\_Info/Sports\\_Injuries/child\\_sports\\_injuries.asp#most](http://www.niams.nih.gov/Health_Info/Sports_Injuries/child_sports_injuries.asp#most)

<sup>49</sup> Schiff, M.A., Caine, D.J., & O'Halloran, R. (2010). Injury prevention in sports. *Injury Prevention in Sport*, 4(1), 42-64.

<sup>50</sup> Otago et al. (2005). Parental perceptions of sport injury. *Journal of Science and Medicine in Sport* 8(4).

<sup>51</sup> Pribble, J.M., Maio, R.F., & Freed, G.L. (2004). Parental perceptions regarding mandatory mouthguard use in competitive youth soccer. *Injury Prevention*, 10(3), 159-62.

<sup>52</sup> Ogden, C.L., & Carroll, M.D. (2000). Prevalence of obesity among children and adolescents: US, trends 1963-1965 through 2007-2008.

<sup>53</sup> Bowen, J.R., Assis, M., Sinha, K., Hassink, S., & Littleton, A. (2009). Associations among slipped capital femoral epiphysis, tibia vara, and type 2 juvenile diabetes. *Journal of Pediatric Orthopedics*, 29(4), 341-344.

<sup>54</sup> Dom, L.D., Beal, S.J., Kalkwarf, H.J., Pabst, S., Noll, J.G., & Susman, E.J. (2012). Longitudinal impact of substance use and depressive symptoms on bone accrual among girls aged 11-19 years. *Journal of Adolescent Health*.

## Program Description

POP is a community-based, early detection screening program that sends highly trained orthopedic teams (surgeon, residents, interns and nurses) into elementary schools and day care centers located in medically underserved neighborhoods, to screen children for musculoskeletal issues such as scoliosis, flat feet, and club foot. Screenings are held at locations in the Lower East Side, Chinatown, Bronx and Harlem, and help to enable access to care that these children would not otherwise receive. The program's primary goals are to detect and treat orthopedic disorders well before they can lead to chronic adult pathologies and to identify primary care health problems such as obesity, dental and dermatological conditions, and facilitate access to care for these problems.

Education has been an important component of POP. The program's coordinators regularly send information and educational materials to school administrators and teachers who participate in screenings. The need to expand the program's educational component is ongoing. As a recent example, school principals and nurses have mentioned to POP coordinators the lack of pediatric health education programs within schools that focus on educating parents about musculoskeletal disorders. Further, POP coordinators have noted that during follow-up clinic visits, some parents are not aware of, or understand the significance of, evaluating their children in preventing long-term musculoskeletal problems. In response to these observations, the program plans to expand its educational component over the next three years by creating lectures for parents related to pediatric orthopedic conditions, childhood development and nutrition. The goal is to educate parents about the importance of early detection of musculoskeletal issues, including injuries, and the importance of maintaining a healthy weight.

## Specific Program Goals

By the end of 2016, the HSS Leon Root, MD, Pediatric Outreach Program will:

- Increase access to musculoskeletal services of children from socially disadvantaged communities via partnerships with schools and day care centers
- Screen a total of 3,315 children through 39 musculoskeletal screenings
- Increase parents' knowledge of musculoskeletal conditions such as scoliosis, joint pain, injury prevention and primary care issues such as nutrition

## Supporting Evidence for Leon Root, MD Pediatric Outreach Program

The American Academy of Orthopedic Surgeons (AAOS) and the Pediatric Orthopedic Society of North America (POSNA) have called for grass-roots education about orthopedics to bring awareness to many preventable injuries that are common among children. This is supported by research that indicates that interventions that aim to improve preventive care by educating parents are effective. For instance, a program that expanded immunization availability, established walk-in appointment policies, and introduced intensified parent education increased children's immunization rates in the high poverty, medically underserved rural area in which it took place.<sup>55</sup>

While there is a lack of research around musculoskeletal screening initiatives, programs that educate underserved communities about the importance of health screenings have increased participants' knowledge and improved screening rates. For example, a culturally-appropriate prostate cancer education intervention developed to communicate effective, relevant, and balanced prostate cancer screening information to low-income African American men increased participant knowledge and screening rates.<sup>56</sup> Increases in screening rates were found among medically underserved Black women who participated in the *Avon Foundation Community Patient Navigation Program*, which provided culturally-appropriate community education on the importance of breast health coupled with the availability of free or low-cost mammography screening services.<sup>57,58</sup>

<sup>55</sup> Mayer, J.P., Housemann, r., & Piepenbrok, B. (1999). Evaluation of a campaign to improve immunization in a rural headstart program. *Journal of Community Health, 24*(1), 13-27.

<sup>56</sup> Ukoli, F.A., Patel, K., Hargreaves, M., Beard, K., Moton, P.J., Bragg, R., Beech, D., & Davis, R. (2013). A tailored prostate cancer education intervention for low-income African Americans: Impact on knowledge and screening. *Journal of Health Care for the Poor & Underserved, 24*(1), 311-331.

<sup>57</sup> Lobb, R., Opdyke, K.M., McDonnell, C.J., Pagaduan, M.G., Hulbert, M., Gates-Ferris, K., Chi, B., & Allen, J.D. (2011). Use of evidence-based strategies to promote mammography among medically underserved women. *American Journal of Preventive Medicine, 40*(5), 561-565.

<sup>58</sup> Mason, T.A., Thompson, W.W., Allen, D., Rogers, D., Gabram-Mendola, S., & Arriola, K.R. (2013). Evaluation of the Avon Foundation community education and outreach initiative community patient navigation program. *Health Promotion Practice, 14*(1), 105-112.

Health screening programs that reach underserved communities have been shown to increase access to healthcare. For example, the *2-1-1 Los Angeles County Developmental Screening Project*, which provided developmental and autism screening by telephone in a population of low-income and racially and ethnically diverse children, enhanced access to screenings and referral uptake in a population of children that may have difficulty accessing primary care.<sup>59</sup> In addition, the *Community Dental Facilitator Project*, which facilitated children's access to existing government funding for dental treatment and to treatment at local dental offices, was shown to improve low-income children's ability to receive dental services and reduced the barriers to care for some children requiring treatment.<sup>60</sup>

Health screening programs that reach underserved communities also provide health professionals with skills that are needed to communicate with vulnerable populations. The *Breast Cancer Education Project (BCEP)*, which was created to address the needs of medically underserved women in Cook County, Chicago, through high-quality breast cancer screening, education and support, also provided a service-learning opportunity for medical students to obtain important skills that enable them to work more effectively within medically underserved communities.<sup>61</sup>

## **Program Impact**

To date, POP has conducted over 350 musculoskeletal school screenings in over 200 schools, reaching over 26,000 children and referring over 4,000 for follow-up care. More than 2,000 (51%) children have been referred for follow-up care for musculoskeletal disorders such as scoliosis, joint pain, bowed legs and flat feet. These referrals may require nonsurgical orthopedic treatments such as physical/occupational therapy to improve mobility and alleviate pain. Other children may need bracing treatment for spinal curves in order to prevent development of severe scoliosis. Yet others may require surgical procedures to the knee, foot, hip or hand. For example, a 9 year old girl who complained of consistent pain of the knee was diagnosed with discoid meniscus and required surgery. A 6 year old boy was diagnosed with Trevor's disease, a progressive deformity due to a growth on a cartilaginous cap. After the surgery, the boy was able to better perform activities of daily living.

## **Measurable Outcomes**

During the next three years, this program will continue to track reach data for its screening program, including the number of children screened, referred to an HSS musculoskeletal specialist, and referred for dermatologic and nutritional issues. The program also aims to include an evaluation of its parent education workshops using appropriate standardized and validated measures. Using a pre/post-test methodology, a survey will be developed to assess knowledge/comprehension of material presented, intent to seek help from a child's pediatrician and/or modify the child's diet/physical activity, level of satisfaction with the program, areas for improvement, and interest in future programs.

During each of the next three years, the following measures will be assessed:

- Number of children screened and referred for musculoskeletal conditions and primary care needs
- Number of participants who attended the lectures
- % of participants who increased knowledge about pediatric musculoskeletal health and nutrition
- % of participants who intend to discuss musculoskeletal issues with their child's pediatrician

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<sup>59</sup> Roux, A.M., Herrera, P., Wold, C.M., Dunkle, M.C., Glascoe, F.P., & Shattuck, P.T. (2012). Developmental and autism screening through 2-1-1: reaching underserved families. *American Journal of Preventive Medicine*, 43(6 Suppl 5), S457-5463.

<sup>60</sup> Harrison, R.L., Li, J., Pearce, K., & Wyman, T. (2003). The Community Dental Facilitator Project: Reducing barriers to dental care. *Journal of Public Health Dentistry*, 63(2), 126-128.

<sup>61</sup> Peek, M.E. (2007). An innovative partnership to address breast cancer screening among vulnerable populations. *Educ Health (Abingdon)*, 20(2), 52.

### **Three - Year Plan: HSS Leon Root, MD, Pediatric Outreach Program (POP)**

#### **HSS Aligns with Prevention Agenda Goals:**

- Priority area: Chronic disease
- Focus area: Increase access to high quality chronic disease preventive care and management in both clinical and community settings
- Goal: Promote use of evidenced-based care to manage chronic disease

#### **Community Partnerships:**

- NYC Public Schools
- NYC Catholic Schools
- NYC Day Care/Head Start Centers
- Charles B. Wang Health Center

#### **POP Participants will learn:**

- Relevant information about pediatric musculoskeletal conditions, such as joint pain and scoliosis
- Prevention and treatment of common musculoskeletal injuries in children and adolescents
- Importance of healthy diet and exercise to achieve lifelong bone health

#### **Program Benchmarks:**

##### **Year 1 – 2014**

- Conduct 12 musculoskeletal screenings at public schools and day care centers reaching 1,020 children
- Identify two new screening sites
- Review results of recent POP needs assessment survey to formally address parents needs and interest in learning about their child’s musculoskeletal health
- Identify 4 topics to be presented to parents based on needs assessment results
- Pilot the educational program conducting 2 lectures about musculoskeletal injury prevention and nutrition in collaboration with Food & Nutrition Services, Nursing and Department of Rehabilitation reaching 50 parents

##### **Year 2 – 2015**

- Conduct 13 musculoskeletal screenings at public schools and day care centers reaching 1,100 children
- Identify 2 new screening sites
- Implement education program – 3 lectures about injury prevention, joint pain, scoliosis and nutrition reaching 75 parents

##### **Year 3 – 2016**

- Conduct 14 musculoskeletal screenings at public schools and day care centers reaching 1,190 children
- Identify 3 new screening sites
- Facilitate 4 educational programs about injury prevention, joint pain, scoliosis and nutrition reaching 100 parents

## Chronic Disease Priority Area: Program 4

### Focus Area 1: Reduce obesity in children and adults (*Exercise programs*)

### Focus Area 2: Increase access to high quality chronic disease preventive care and management in both clinical and community settings (*Educational programs*)

#### Osteoarthritis Wellness Initiative

As the nation's leading specialty hospital for orthopedics and rheumatology, HSS offers a wide range of programs that provide arthritis-related information in workshops, lectures and exercise wellness classes. These programs are designed for people of all ages and abilities to help prevent and manage this chronic disease and empower them to keep active and maintain a healthy lifestyle. The Osteoarthritis Wellness Initiative (OAWI) aims to educate, raise awareness and reduce the impact of osteoarthritis (OA) in the community.

#### Background

OA is the leading cause of disability in the US, with estimates showing that 27 million Americans have the disease<sup>62</sup> at an estimated cost of \$89.1 billion per year.<sup>63</sup> The condition is the most common form of arthritis and is a progressive degenerative joint disease characterized by the breakdown of joint cartilage associated with risk factors, such as overweight/obesity, history of joint injury, and age.<sup>64</sup> State data suggest that 22% of New Yorkers of all ages have OA, and the condition affects all race and ethnic groups: 34.3 million Whites, 4.4 million Blacks, and 2.6 million Hispanic/Latinos.<sup>65</sup> Nearly half of the elderly population has OA, and research has shown that the risk of developing the condition increases with age.<sup>66</sup> The condition is associated with muscle and joint pain caused by the weakening of muscles surrounding the joint due to inactivity. In addition, OA may be linked with a deterioration of coordination, posture, and walking due to pain and stiffness,<sup>67</sup> which can affect balance and lead to falls. The condition is also associated with limitations in daily activities<sup>68</sup> and reduced health-related quality of life.<sup>69</sup>

Obesity and physical inactivity are related to OA and may exacerbate OA-related symptoms. Specifically, the prevalence of obesity is 54% higher among adults with OA compared with adults without the condition.<sup>70</sup> Reducing excess body weight can reduce the risk of knee OA and limit the progression of the disease. Moreover, losing as little as 11 pounds may reduce the risk of knee OA by 50%.<sup>71</sup> Physical activity in the form of regular, moderate exercise can maintain joint health, relieve pain, and improve physical function.<sup>72</sup> In addition, research has shown that older adults with knee OA who engage in moderate physical activity at least 3 times per week can reduce the risk of arthritis-related disability by 47%.<sup>73</sup>

HSS CHNA results showed that OA was the leading condition reported, affecting 47% of respondents, and the condition was more common among women, Whites, and older participants. OA was also found to be associated with reduced quality of life, as it was related to poorer physical health, increased pain limitations, and need for assistance with daily activities. Falls were also found to be associated with OA.

OA is a major public health concern and its prevalence, health impact, and economic consequences is expected to increase dramatically during the next couple of decades, increasing the demand for evidence-based interventions to help reduce the

<sup>62</sup> Helmick, C.G., Felson, D.T., Lawrence, R.C., Gabriel, C., Hirsch, R., Kwoh, C. K., et al, for the National Arthritis Data Workgroup. (2008). Estimates of the prevalence of arthritis and other rheumatic conditions in the United States: Part I. *Arthritis Rheum*, 5, 15-25.

<sup>63</sup> Leigh, J.P., Seavey, W., & Leistikow, B. (2001). Estimating the costs of job-related arthritis. *Journal of Rheumatology*, 28(7), 1647-1654.

<sup>64</sup> Lawrence, R.C., Felson, D.T., Helmick, C.G., Arnold, L.M., Choi, H., Deyo, R.A., Gabriel, S., Hirsch, R., Hochberg, M.C., Hunder, G.G., Jordan, J.M., Katz, J.N., Kremers, H.M., & Wolfe, F. (2008). Estimates of the prevalence of arthritis and other rheumatic conditions in the United States. Part II. *Arthritis Rheum*, 58(1), 26-35.

<sup>65</sup> CDC. (2001). Prevalence of disabilities and associated health conditions – United States 1999. *MMWR*, 50, 120-125.

<sup>66</sup> CDC. (2010). Prevalence of self-reported arthritis or chronic joint symptoms among persons aged >65 years –United States, 2005-2030. *MMWR*, 52, 489-491.

<sup>67</sup> Arthritis Foundation. (2001). *Osteoarthritis: What are the effects?* Retrieved from [http://www.arthritis.org/diseasecenter.php?df=effects&disease\\_id=32](http://www.arthritis.org/diseasecenter.php?df=effects&disease_id=32)

<sup>68</sup> CDC. (2010). Prevalence of doctor-diagnosed arthritis and arthritis-attributable activity limitation – United States, 2007-2009. *MMWR*, 59(39), 1261-1265.

<sup>69</sup> Furner, S.E., Hootman, J.M., Helmick, C.G., Bolen, J., & Zack, M.M. (2011). Health-related quality of life of US adults with arthritis: Analysis of data from the behavioral risk factor surveillance system: 2003, 2005, and 2007. *Arthritis Care Res*, 63(6), 788-799.

<sup>70</sup> Hootman, J.M., Pan, L., Helmick, C.G., & Hannan C. (2011). State-specific trends in obesity prevalence among adults with arthritis, Behavioral Risk Factor Surveillance System, 2003 – 2009. *MMWR*, 60(16), 509-513.

<sup>71</sup> Felson, D.T., & Zhang, Y. (1998). An update on the epidemiology of knee and hip osteoarthritis with a view to prevention. *Arthritis Rheum*, 41(8), 1343-1355.

<sup>72</sup> Brady, T.J., Kruger, J., Helmick, C.G., Callahan, L.F., & Boutaugh, M.L. (2003). Intervention programs for arthritis and other rheumatic diseases. *Health Education and Behavior*, 30(1), 44-63.

<sup>73</sup> Penninx, B.W. J. H., Messier, S.P., Rejeski, W.J., Williamson, J.D., DiBari, M., Cavazzini, C., Applegate, W.B., & Pahor, M. (2001). Physical exercise and the prevention of disability in activities of daily living in older persons with osteoarthritis. *Arch Intern Med*, 161(19), 2309-2316.

burden of the disease. To address this issue, OAWI provides the older adult community with arthritis self-management techniques and opportunities to engage in physical activity, thereby helping to improve quality of life for this population.

## Program Description

To address the public health issue of OA, HSS developed OAWI, which is comprised of educational and exercise programs, to raise awareness, educate and reduce the impact of OA on the public. The initiative offers lectures, workshops, and seminars regarding OA-specific topics of interest, including pain management techniques and maintaining a healthy lifestyle, while exercise programs include weekly classes on yoga, pilates, Tai Chi, dance, and yagalates. All educational programs are taught by experienced physicians, nurses, physical and occupational/physical therapists, while exercise programs are led by certified exercise instructors.

Over the next three years the program aims to focus on expanding its programs by implementing a digital platform as a way to expand the reach of the Initiative's educational programming in partnership with senior centers and faith-based agencies. In addition, HSS plans to strengthen existing partnerships by continuing to offer half-day OA seminars in collaboration with the Arthritis Foundation.

## Specific Program Goals

By the end of 2016, the HSS Osteoarthritis Wellness Initiative will:

- Implement a digital platform as a way to expand the reach of the Initiative's educational programming
- Increase participant knowledge of arthritis, arthritis symptoms, options for treatment, and self-management techniques
- Improve musculoskeletal health among exercise class participants by:
  - decreasing musculoskeletal pain, stiffness, fatigue, falls and health limitations
  - improving health status level of physical activity and self-efficacy for exercise
  - improving balance ratings and reducing losses in balance

## Supporting Evidence for OAWI

Various aspects of this Initiative are based on evidence-based/promising practices regarding exercise and education for individuals with OA. The use of exercise to alleviate symptoms of OA has been evaluated extensively in the literature. The American College of Rheumatology has recommended exercise therapy to reduce pain and improve function, based largely on expert opinion and the results of large randomized controlled trials evaluating exercise.<sup>74,75</sup> In addition, two published meta-analyses have focused specifically on the efficacy of strengthening<sup>76</sup> and aerobic exercise<sup>77</sup> for OA, and findings suggest that strengthening exercise is even more effective when it is combined with general strength, flexibility, and functional exercises. Research has shown that OA patients who participate in organized exercise programs conducted by professionals, have an exercise partner, are familiar with the exercise task, and have positive outcome expectations of exercise are more likely than their peers to exercise in the long term.<sup>78</sup> In addition, sub-group analyses showed that OA-specific exercise programs providing at least 12 direct supervision occasions produced significantly greater effects than programs providing less than 12 supervised sessions for both pain and function.<sup>79</sup>

Additionally, the efficacy of various complementary exercise techniques in alleviating OA symptoms has been researched for years. Yoga has been shown to produce positive effects on gait and balance,<sup>80</sup> reductions in pain and stiffness, and increases in physical functioning,<sup>81</sup> quality of life,<sup>82</sup> strength, and flexibility.<sup>83</sup> Furthermore, Tai Chi exercise may be

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<sup>74</sup> Ettinger, W.H., Burns, R., Messier, S.P., et al. (1997). A randomized trial comparing aerobic exercise and resistance exercise with a health education program in older adults with knee osteoarthritis. *Journal of the American Medical Association*, 277, 25-31.

<sup>75</sup> O'Reilly, S.C., Muir, K.R., & Doherty, M. (1999). Effectiveness of home exercise on pain and disability from osteoarthritis of the knee: A randomized controlled trial. *Annals of Rheumatic Disease*, 58, 15-19.

<sup>76</sup> Pelland, L., Brosseau, L., Wells, G., et al. (2004). Efficacy of strengthening exercises for osteoarthritis (Part I): A meta-analysis. *Physical Therapy Review*, 9, 77-108.

<sup>77</sup> Brosseau, L., Pelland, L., Wells, G., et al. (2004). Efficacy of aerobic exercises for osteoarthritis (Part II): A meta-analysis. *Physical Therapy Review*, 9, 125-145.

<sup>78</sup> Damush, T., Perkins, S., Mikesky, A., et al. (2005). Motivational factors influencing older adults diagnosed with knee osteoarthritis to join and maintain an exercise program. *Journal of Aging & Physical Activity*, 13, 45-60.

<sup>79</sup> Fransen, M., & McConnell, S. (2008). Exercise for osteoarthritis of the knee. *Cochrane Database Syst Rev*, 4, CD004376.

<sup>80</sup> Ulger, O., & Yagli, N.V. (2011). Effects of yoga on balance and gait properties in women with musculoskeletal problems: A pilot study. *Complementary Therapies in Clinical Practice*, 17(1), 13-15.

<sup>81</sup> Kolasinski, S.L., et al. (2005). Iyengar yoga for treating symptoms of osteoarthritis of the knees: A pilot study. *Journal of Alternative & Complementary Medicine*, 11(4), 689-693.

beneficial for improving arthritic symptoms (including pain, stiffness, and fatigue) and physical function,<sup>84</sup> reduce fall incidence and severity,<sup>85</sup> and increase general self-efficacy.<sup>86</sup>

Educational programs have also been shown to be effective. Studies have examined the impact of educational programs on patient knowledge and other aspects of OA. Educational programs regarding OA self-management have been found to produce significant changes in knowledge, daily function, self-management,<sup>87</sup> pain, quality of life, quadriceps strength, body mass index, physically active lifestyle, and visits to the physical therapist.<sup>88</sup> Self-management programs have also shown immediate and long-term reductions in pain level and pain days, changes in pain beliefs, improvements in arthritis self-efficacy, and reductions in number of unplanned medical consultations.<sup>89</sup>

## Program Impact

Program evaluation results have demonstrated that OAWI has had a positive impact on members of the community. Educational program evaluations completed by over 400 participants have shown improved knowledge/understanding of OA-related material by 68% of participants and demonstrated that over 72% of respondents intend to utilize self-management techniques that are covered in the classes.

Results from exercise program evaluations completed by 200 participants demonstrated that the programs improved health outcomes by significantly reducing pain severity and interference; relieving pain; improving self-rated balance; reducing reported falls, and increasing participation in physical activity. In addition, improvements in quality of life indicators (including mood, walking ability and enjoyment of life) were also found among program participants. Moreover, the impact of specific exercise classes on these health outcomes has also been measured. Results showed that yoga and Tai Chi class participants reported improvements in pain, balance and frequency of physical activity. Dance and yagalates participants reported better quality of life, while pilates participants indicated that their frequency of physical activity increased.

## Measureable Outcomes

Over the next three years, OAWI will continue to measure knowledge and health outcomes of program participants using a pre/post-test or post-only methodology to assess quantitative measures. Evaluations of its educational programs will assess knowledge change (for pre/post-test) or material comprehension (for post-only) and intent to change behavior, while exercise program evaluations will examine changes in outcomes including health status, health limitations, pain, stiffness, fatigue, balance, falls, physical activity, and self-efficacy for exercise.

Because knowledge questions are keyed to specific educational objectives of each program, no standardized and validated measures are currently used in the educational program evaluations. However, exercise evaluations assess health status and limitations using measures from the SF-36 Health Survey; quantify pain using the Numeric Pain Intensity Scale; include items from the Brief Pain Inventory to measure the extent to which pain interferes with quality of life; measure fatigue using the single-item fatigue rating scale from the Brief Fatigue Inventory; assess level of physical activity using the Three-Question Physical Activity Assessment, and measure self-efficacy to exercise based on a subscale from the original Chronic Disease Self-Management Scale.

During each of the next three years, the following measures will be assessed:

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<sup>82</sup> Bukowski, E.L., et al. (2006). The effect of iyengar yoga and strengthening exercises for people living with osteoarthritis of the knee: A case series. *International Quarterly in Community Health Education*, 26(3), 287-305.

<sup>83</sup> Raub, J.A. (2002). Psychophysiological effects of Hatha Yoga on musculoskeletal and cardiopulmonary function: a literature review. *J Altern Complement Med*, 8(6), 797-812.

<sup>84</sup> Yan, J.H., Gu, W.J., Sun, J., Zhang, W.X., Li, B.W., & Pan, L. (2013). Efficacy of Tai Chi on pain, stiffness and function in patients with osteoarthritis: A meta-analysis. *PLoS One*, 19(8), e61672.

<sup>85</sup> Tousignant, M., Corriveau, H., Roy, P.M., Desrosiers, J., Dubuc, N., & Hébert, R. (2012). Efficacy of supervised Tai Chi exercises versus conventional physical therapy exercises in fall prevention for frail older adults: a randomized controlled trial. *Disability & Rehabilitation*.

<sup>86</sup> Tousignant, M., Corriveau, H., Roy, P.M., Desrosiers, J., Dubuc, N., Hébert, R., Tremblay-Boudreault, V., & Beaudoin, A.J. (2012). The effect of supervised Tai Chi intervention compared to a physiotherapy program on fall-related clinical outcomes: A randomized clinical trial. *Disability & Rehabilitation*.34(3), 196-201.

<sup>87</sup> Taylor, L.F., Kee, C.C., King, S.V., & Ford, T.A. (2004). Evaluating the effects of an educational symposium on knowledge, impact, and self-management of older African Americans living with osteoarthritis. *Journal of Community Health Nursing*, 21(4), 229-238.

<sup>88</sup> Hopman-Rock, M., & Westhoff, M.H. (2000). The effects of a health educational and exercise program for older adults with osteoarthritis for the hip or knee. *Journal of Rheumatology*, 27(8), 1947-1954.

<sup>89</sup> Wu, S.F., Kao, M.J., Wu, M.P., Tsai, M.W., & Chang, W.W. (2011). Effects of an osteoarthritis self-management program. *Journal of Advanced Nursing*, 67(7), 1491-1501.



- % of participants who demonstrate knowledge/material comprehension about OA and self-management techniques
- % of participants who indicate intent to change health behaviors
- % of participants with improved health status and balance ratings
- % of participants who report decreased pain, stiffness, fatigue, falls, losses in balance and health limitations
- % of participants who report an increase in physical activity and self-efficacy to exercise

### **Three – Year Plan: Osteoarthritis Wellness Initiative**

#### **HSS Aligns with Prevention Agenda Goals:**

- Priority area: Chronic disease
- Focus area: Increase access to high quality chronic disease preventive care and management in both clinical and community settings (*Educational programs*)
  - Goal: promote use of evidenced-based care to manage chronic disease; promote culturally relevant chronic disease self-management education
- Focus area: Reduce obesity in children and adults (*Exercise programs*)
  - Goal: Expand the role of health care and health service providers and insurers in obesity prevention

#### **HSS Osteoarthritis Wellness Initiative participants will learn:**

- Range of motion and low-resistance exercise routines to maintain healthy living
- Exercise routines to help decrease pain and discomfort caused by chronic musculoskeletal disorders
- Chronic disease self-management techniques

#### **Community Partnerships:**

- Arthritis Foundation
- Osteoarthritis Action Alliance
- Translational Research Institute for Pain in Later Life (TRIPLL)
- Private/community gyms (Method Gym, Erika Bloom Pilates Plus LLC)
- Corsi Senior Center
- Carter Burden Senior Center
- The Cathedral Church of Saint John the Divine / Cathedral Community Cares
- Advent Lutheran Church
- HSS Department of Rehabilitation
- HSS Department of Nutrition Services

#### **Measuring Program Outcomes and Benchmarks:**

##### **Year 1 – 2014**

- Assess health needs of community based on recently conducted qualitative research of existing participants and external community
- Develop and implement 6 education programs that include information about arthritis/pain self-management techniques reaching 180 people
  - Public & Patient Education Department (PPED) will partner with Food & Nutrition Services and Department of Rehabilitation to offer one nutrition-related program and 6 - 8 rehab-related programs
- Partner with Arthritis Foundation to offer one half-day OA seminar offering arthritis self-management techniques reaching 65 people living with arthritis
- Explore feasibility of partnering with senior centers and/or faith based agencies to hold live educational webinars about OA related topics
- Produce 3 arthritis self-management videos (based on funding)
- Facilitate 320 exercise classes reaching 1,950 participants
- Maintain existing and develop one new community partnership

##### **Year 2 – 2015**

- Facilitate 330 exercise classes reaching 2100 people
- Develop and implement 8 educational programs (one nutrition-related) that include arthritis/pain self-management techniques reaching 240 people
  - PPED will partner with Food & Nutrition Services and Department of Rehabilitation to offer one nutrition-related program and 6 - 8 rehab-related programs
- Hold 2 live webinars with 2 senior centers or faith based agencies reaching 110 people in total

- Maintain existing and develop 2 new community partners

Year 3 – 2016

- Develop and implement 10 educational programs that include arthritis/pain self-management techniques reaching 300 people
  - PPED will partner with Food & Nutrition Services and Department of Rehabilitation to offer one nutrition-related program and 8 - 10 rehab-related programs
- Hold 4 live webinars at 4 senior centers and/or faith based agencies reaching 220 people
- Facilitate 340 exercise classes reaching 2,200 people
- Maintain existing and develop 3 new community partnerships

## Chronic Disease Priority Area: Program 5

### Focus Area 2: Increase access to high quality chronic disease preventive care and management in both clinical and community settings

#### Osteoporosis Wellness Initiative

HSS is committed to improving the health of its many communities by improving mobility and enhancing community education. In recognition of these goals, the Osteoporosis Wellness Initiative (OWI) was developed in response to the community's need for bone health education to educate those with OP and osteopenia and to help them better manage their condition through bone health seminars, monthly workshops, and weekly wellness classes.

#### Background

OP is the leading cause of fractures in the aging population, affecting 9 million Americans and accounting for \$19 billion in related costs every year. Estimates have shown that by 2020, half of all Americans over age 50 will have low bone density or osteoporosis and 60% will sustain osteoporotic fractures (1 in 2 women, 1 in 4 men),<sup>90</sup> with projections showing that hip fractures among older adults could double or triple by 2040.<sup>91</sup> Often termed the silent disease due to its lack of symptoms, OP ("porous bone") is a disease of the skeletal system characterized by low bone mass and deterioration of bone tissue.<sup>92</sup>

Research has shown that physical activity, a well-balanced diet, avoidance of excessive alcohol and caffeinated drinks such as soda and coffee,<sup>93</sup> and calcium and vitamin D intake may reduce the risk of OP and fall-related fractures.<sup>94</sup> However, national surveys suggest that many Americans do not engage regularly in leisure-time physical activity<sup>2</sup> and the average calcium intake of individuals is far below the levels recommended for optimal bone health.<sup>95</sup>

Furthermore, HSS CHNA results showed that OP was the second most common musculoskeletal condition reported, affecting 33% of those surveyed. The condition was more common among women, Whites, and older respondents. In addition, osteoporotic individuals were more likely to report falling within the past year, and physical inactivity was found to be related to falls.

With the aging population continuously growing, OP is expected to have a growing impact on health care and public health systems in the future. To address this issue, OWI provides the older adult community with self-management techniques and opportunities to engage in physical activity, thereby helping to improve their quality of life.

#### Program Description

The programs that comprise OWI were originally introduced in 1997 as part of the Osteoporosis Education Bill, which provided osteoporosis-related education and designated HSS as a New York State Osteoporosis Prevention and Education Program (NYSOPEP) Regional Center under Former Governor George Pataki from 1997-2011. When funding ended in 2011, HSS launched OWI to continue to provide members of the community with education about the causes, importance of prevention and early detection, and options for treatment of osteoporosis. The initiative is comprised of seminars, monthly forums, and exercise classes regarding self-management techniques to decrease pain, improve balance, and decrease falls. The importance of nutrition and managing changes in lifestyle are also addressed. Exercise programs include weekly classes on yoga, Pilates, Tai Chi, dance, and yogalates. All educational programs are taught by experienced physicians, nurses, physical and occupational therapists, while exercise programs are led by certified exercise instructors.

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<sup>90</sup> National Osteoporosis Foundation (NOF). (2013). *What is osteoporosis?* Retrieved from <http://nof.org/articles/7>

<sup>91</sup> Schneider, E.L., & Guralnik, J.M. (1990). The aging of America: Impact on health care costs. *JAMA*, 263(17), 2335-2340. Cited in *Bone Health and Osteoporosis: A Report of the Surgeon General*. (2004). Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General.

<sup>92</sup> CDC. (2013). *Calcium and bone health*. Retrieved from <http://www.cdc.gov/nutrition/everyone/basics/vitamins/calcium.html>

<sup>93</sup> NOF. (2013). *Food and your diet*. Retrieved from <http://nof.org/foods>

<sup>94</sup> NOF. (2013). *Are you at risk?* Retrieved from <http://nof.org/articles/2>

<sup>95</sup> Wright, J.D., Wang, C.Y., Kennedy-Stevenson, J., & Ervin, R.B. (2003). Dietary intakes of ten key nutrients for public health, United States: 1999-2000. *Advanced Data*, 334, 104. Hyattsville, MD: National Center on Health Statistics.

Over the next three years the Initiative aims to expand its programs by implementing a digital platform to bring bone health education to older adults. In addition, HSS plans to strengthen existing partnerships in collaboration with the National Osteoporosis Foundation and Burke Rehabilitation Hospital.

## Specific Program Goals

By the end of 2016, the HSS Osteoporosis Wellness Initiative will:

- Increase awareness and knowledge of OP and its treatment options, including self-management techniques
- Implement a digital platform as a way to bring bone health education to older adults
- Develop comprehensive health education materials about bone health and OP

## Supporting Evidence for OWI

This initiative employs various evidence-based/promising practices in bringing the use of exercise and education regarding OP to the general community. Research indicates that exercise can be beneficial for the prevention and treatment of OP. Exercise in post-menopausal women has been shown to prevent rapid bone loss and increase muscle strength, mobility, and flexibility, thereby decreasing the risk of falls and fractures.<sup>10</sup> In addition, meta-analyses from 24 randomized-controlled trials with 1,441 participants showed that exercise programs for people with OP resulted in significant differences in bone mineral density at the spine.<sup>96</sup> Yoga has also been shown to be an effective mode of treatment for OP. Studies have found that the stretching and relaxation elements of yoga may have positive effects on balance, emotional stability, posture, coordination, flexibility, and quality of life among patients with post-menopausal OP. In addition, a study evaluating the effect of yoga exercises in post-menopausal osteoporotic women on balance and life quality showed that yoga education has a positive effect on pain, physical functions, social functions, and general health.<sup>36</sup> Tai Chi has also shown positive outcomes. Tai Chi training offered through existing community-based programs has been found to be a safe, feasible, and promising intervention for reducing multiple fracture risks among post-menopausal osteopenic women.<sup>97</sup> It has also been shown to be an effective, safe, and practical intervention for maintaining bone mineral density in post-menopausal women and can positively impact other risk factors associated with low bone mineral density (i.e., reduced fall frequency, increased musculoskeletal strength).<sup>98</sup>

Additionally, various OP education programs have proven to be effective. A longitudinal study aimed at investigating the value of adding initial and refresher OP education classes to a bone health screening program found an increase in OP knowledge and self-reported calcium use.<sup>99</sup> Furthermore, a randomized study to evaluate the impact of a multifaceted 12-month community-based care program aimed at optimizing evidence-based management in patients at risk for OP and fractures found increases in medication and calcium and vitamin D supplements use.<sup>100</sup> Lastly, an educational video on OP caused significantly more women in the intervention group to begin taking calcium and vitamin D supplements, weight-bearing exercise programs, and hormone therapy at three month follow-up.<sup>101</sup>

## Program Impact

OWI has had a significant impact on the community it serves. Educational program evaluations completed by about 600 participants have shown improved knowledge/understanding of OP-related material by 62% of participants and demonstrated that over 78% of respondents intend to utilize self-management techniques that are covered in the classes.

Exercise program evaluations completed by 200 participants have also shown improved health outcomes including significant reductions in pain severity and interference; pain relief and improvements in self-rated balance; decline in reported falls, and increased participation in physical activity. Pain relief and improvements in quality of life indicators such as mood, ability to walk and enjoyment of life were also observed, indicating that these exercise programs are

<sup>96</sup> Howe, T.E., Shea, B., Dawson, L.J., Downie, F., Murray, A., Ross, C., Harbour, R.T., Caldwell, L.M., & Creed, G. (2011). Exercise for preventing and treating osteoporosis in postmenopausal women. *Cochrane Database Systemic Review*, 7, CD000333.

<sup>97</sup> Wayne, P.M., Kiel, D.P., Buring, J.E., Connors, E.M., Bonato, P., Yeh, G.Y., Cohen, C.J., Mancinelli, C., & Davis, R.B. (2012). Impact of Tai Chi exercise on multiple fracture-related risk factors in post-menopausal osteopenic women: A pilot pragmatic, randomized trial. *BMC Complementary & Alternative Medicine*, 12(7).

<sup>98</sup> Wayne, P.M., Kiel, D.P., Krebs, D.E., Davis, R.B., Savetsky-German, J., Connelly, M., & Buring, J.E. (2007). The effects of Tai Chi on bone mineral density in postmenopausal women: A systematic review. *Archives in Physical Medicine & Rehabilitation*, 88(5), 673-680.

<sup>99</sup> Gaines, J.M., Narrett, M., & Parrish, J.M. (2010). The effect of the addition of osteoporosis education to a bone health screening program for older adults. *Geriatric Nursing*, 31(5), 348-360.

<sup>100</sup> Ciaschini, P.M., Straus, S.E., Dolovich, L.R., Goeree, R.A., Leung, K.M., Woods, C.R., Zimmerman, G.M., Majumdar, S.R., Spadafora, S., Fera, L.A., & Lee, H.N. (2010). Community based intervention to optimize osteoporosis management: Randomized controlled trial. *BMC Geriatrics*, 10, 60. doi: 10.1186/1471-2318-10-60.

<sup>101</sup> Kulp, J.L., Rane, S., & Bachmann, G. (2004). Impact of preventive osteoporosis education on patient behavior: immediate and 3-month follow-up. *Menopause*, 11(1), 116-119.

effective in managing symptoms related to OP. The impact of specific exercise classes on these health outcomes has also been measured. Results showed that yoga and Tai Chi class participants saw improvements in pain, balance and frequency of physical activity. Dance and yagalates participants reported better quality of life, while pilates participants indicated that their frequency of physical activity increased.

## **Measureable Outcomes**

Over the next three years, OWI will continue to focus on measuring knowledge, intent to change behavior, and self-reported health outcomes of program participants using a pre/post-test or post-only methodology to assess quantitative measures. Evaluations of its educational programs will assess intent to change behavior and knowledge change (for multi-session programs that utilize a pre/post-test evaluation methodology), or percentage comprehension of the material presented (for single-session programs that are evaluated at post only). Exercise program evaluations will continue to examine changes in outcomes including health status, health limitations, pain, balance, falls, physical activity, and self-efficacy for exercise.

Given that knowledge questions are keyed to specific educational objectives of each program, no standardized or validated measures are currently used in the educational program evaluations. However, exercise evaluations assess health status and limitations using measures from the SF-36 Health Survey; quantify pain using the Numeric Pain Intensity Scale; include items from the Brief Pain Inventory to measure the extent to which pain interferes with quality of life; assess level of physical activity using the Three-Question Physical Activity Assessment, and measure self-efficacy to exercise based on a subscale from the original Chronic Disease Self-Management Scale.

During each of the next three years, the following measures will be assessed:

- % of participants who demonstrate knowledge/material comprehension about OP and self-management techniques
- % of participants who are likely to change health behaviors
- % of participants who report improvements in doctor/patient communication, balance ratings, health status, physical activity and self-efficacy to exercise
- % of participants who decrease health limitations and falls

### **Three – Year Plan: Osteoporosis Wellness Initiative**

#### **HSS Aligns with Prevention Agenda:**

- Priority area: Chronic disease
- Focus area: Increase access to high quality chronic disease preventive care and management in both clinical and community settings
- Goal: Promote use of evidence-based care to manage chronic diseases

#### **HSS Osteoporosis Wellness Initiative program participants will learn:**

- Self-management techniques to decrease pain, improve balance and quality of life, decrease falls, and increase physical activity
- The importance of calcium, vitamin D, and lifestyle changes that increase bone health
- Relevant information on bone health related topics, such as nutrition, OP and managing changes in lifestyle

#### **Community Partnerships:**

- National Osteoporosis Foundation
- Arthritis Foundation
- Charles B. Wang Community Health Center
- Department of Social Work Programs
- NYC Public Libraries
- Burke Rehabilitation Hospital
- HSS Osteoporosis Prevention Center
- National Bone Health Alliance

#### **Program Benchmarks:**

##### **Year 1 - 2013**

- Based on the data from the community health needs assessment, identify four topics to be presented to the community
- Refine current program outcome measures and evaluation strategy related to health status and limitations, pain, falls, balance, nutrition and physical activity
- Develop new collaborations with two community partners
- Develop comprehensive health education materials specifically on bone health and OP
- Facilitate the Bone Health Monthly Forums educating adults on bone health, 4 programs reaching 60 participants.
- Partner with National Osteoporosis Foundation to offer half day seminar on bone health, reaching 65 participants
- Partner with Burke Rehabilitation Hospital to offer half day seminar on bone health, reaching 80 participants
- Research the feasibility of a web-based digital platform as a way to bring bone health education to older adults

##### **Year 2 – 2014**

- Implement Bone Health Monthly Forum education program, 9 workshops, reaching 140 participants
- Develop health education materials on specific bone health topics, 3 education materials (based on securing funding)
- Research the possibility of expanding the Bone Health Monthly Workshop program
- Maintain existing community partnerships and develop one new collaboration
- Develop a plan to offer web-based learning about bone health to older adults. Implement with one community partner

##### **Year 3 – 2015**

- Continue the existing Bone Health Monthly Forum education program, 9 workshops, reaching 150 participants
- Implement web-based learning about bone health to older adults with two community partners
- Continue to revise Bone Health Monthly Forum to continuously meet the needs of the community
- Maintain existing community partnerships and develop one new collaboration

## Chronic Disease Priority Area: Program 6

### Focus Area 2: Increase access to high quality chronic disease preventive care and management in both clinical and community settings

#### Resident Geriatric Training Program

With the aging population continuously growing and the burden of chronic conditions projected to increase, there is a pressing need for health professionals to have the skills to effectively communicate with their patients. As the nation's leading specialty hospital for orthopedics and rheumatology, HSS understands the importance of training health professionals of the future to be compassionate experts in their field who are excellent communicators and are sensitive to their patients' musculoskeletal needs. The Resident Geriatric Training Program provides third-year orthopedic surgery residents with enhanced communication skills to improve provider-patient communication while also empowering older patients to be better advocates and partners in their own healthcare.

#### Background

According to the US census, more people were 65 years and over in 2010 than in any previous census, and between 2000 and 2010, the older adult population increased at a faster rate (15.1%) than the total US population (9.7%).<sup>102</sup> Moreover, the older population is projected to increase to 55 million in 2020 (a 36% increase) and to about 72.1 million by 2030, over twice their number in 2000.<sup>103</sup> Nevertheless, research has suggested that the current healthcare system is ill equipped to meet the needs of today's older adults.<sup>104</sup>

Research has shown that the quality of provider-patient communication is critical to health care outcomes and medical adherence. However, maintaining optimal communication can be challenging in the context of treating older adult patients, as providers often spend less time on psychosocial issues with older adult patients during the medical encounter and are less likely to raise these concerns. In fact, older patients generally receive less health education and counseling than younger patients, ask fewer questions, and defer to the physician's authority more often than younger patients.<sup>105</sup>

HSS CHNA results suggest that older respondents (aged 60 and over) do not practice effective communication when they visit their provider. In particular, 54% indicated that they never prepare a list of questions for their provider, 62% do not ask questions about the things they did not understand, and 78% do not discuss any personal problems that may be related to their illness. In addition, respondents with lower levels of education, income, and health literacy were the least likely to take the aforementioned steps to communicate with their provider.

Given the growth of the older adult population and the need for ongoing communication about managing chronic musculoskeletal issues such as OA and OP, the Resident Geriatric Training Program aims to sensitize medical residents to the needs of older adults, improving provider-patient communication and empowering older patients to be partners in their care.

#### Program Description

The Resident Geriatric Training Program was launched in 2009 to improve communication skills of third-year orthopedic surgery residents (PGY-3's) with older patients. The program includes meetings with the Program Coordinator, a licensed social worker, where the residents can discuss their approach to caring for older patients, weekly resident rounds for selected residents to present and illustrate specific geriatric needs, and presentations to participants of the HSS Greenberg Academy for Successful Aging.

Over the next three years, the program aims to continue to implement resident-led older adult education programs, formalize its evaluation of resident learning, and incorporate a process evaluation to assess program effectiveness. In addition, the program will include an assessment of older patient self-efficacy around communication with providers.

<sup>102</sup> US Census Bureau. (2011). The older population: 2010. *2010 Census Briefs*.

<sup>103</sup> US Census Bureau: Population Division. (2008). Projections of the population by age and sex for the United States: 2010 to 2050.

<sup>104</sup> Institute of Medicine. Committee on the Future Health Care Workforce for Older Americans. (2008). *Retooling for an Aging America*. Washington, DC: The National Academies Press.

<sup>105</sup> Adelman, R., & Greene, M.G. (1996). Psychosocial factors in older patient's medical encounters. *Research on Aging*, 18(1), 84-102.



## Specific Program Goals

By the end of 2016, the Resident Geriatric Training Program will:

- Provide educational sessions led by orthopedic residents to older adults about relevant musculoskeletal issues
- Sensitize PGY3 orthopedic residents to the health care needs of older adults
- Empower older adults to be better advocates and partners in their own health care
- Improve the ability of residents to provide information about musculoskeletal disease at an appropriate literacy level

## Supporting Evidence for the Residency Training Program

This program utilizes various evidence-based/promising practices in improving provider-patient communication. In fact, research has shown that incorporating geriatric education into medical training curricula can produce positive results. One study describes how when a medical school's curriculum increased its required geriatrics content for its students throughout its four-year program, students' self-efficacy, knowledge, and communication skills were improved.<sup>106</sup> Additionally, a structured communication curriculum aimed at teaching surgical residents to incorporate patient-centered communication skills into their practice was shown to improve surgical residents' attitudes toward older patients and increase their ability to communicate effectively with cancer patients.<sup>107</sup>

Training programs that aim to improve physician and patient communication skills have also proven to be effective. When physicians participated in a communication skills training program and patients were trained to be active participants in their care, the following results were noted: improved patients' satisfaction with information and overall care; increased willingness to recommend the physician; increased physicians' counseling (as reported by patients) about weight loss, exercise, and quitting smoking and alcohol; increased physician satisfaction with physical exam detail; increased independent ratings of physicians' sensitive, connected communication with their patients; and decreased physician satisfaction with interpersonal aspects of professional life. A notable finding was that when only the physician or patient was trained, physician stress increased and physician satisfaction decreased.<sup>108</sup> Additionally, a shared decision making training program that educated physicians and their fibromyalgia patients to use this communication method in their interactions improved the quality of physician-patient interaction from patients' perspective.<sup>109</sup>

## Program Impact

Evaluations have demonstrated that between 2008 and 2013, the Resident Geriatric Training Program has been well-received by audiences who have learned a great deal from 17 resident-led programs. Speakers received high ratings for their knowledge of the topic, ease of understanding, and answers to audience questions, while participants expressed satisfaction with instructors' exercise demonstrations and assistance when needed. Results also showed that 84% of participants stated that they learned something new from the programs they attended. In addition, 89% of participants have reported that speakers demonstrated sensitivity in answering audience questions, indicating that residents have been utilizing the communication skills they are being taught through the training program.

Moreover, resident evaluations have demonstrated that the program was able to sensitize residents to the needs and issues of older adults. Specifically, pre/post evaluations showed that there was a 12% increase in knowledge score, 11% increase in positive attitudes toward older patients, 13% reduction in personal anxiety toward aging, and 14% increase in preparedness to present literacy-appropriate material to older adults. In addition, the program was well-received by the residents, as 87% rated the program and guidance from the Greenberg Academy Program Coordinator and physical therapist positively, while 90% of residents indicated that they would likely use the information derived from the program in the future.

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<sup>106</sup> Nagoski, M.H., Tanabe, M.K.G., Sakai, D.H., Masaki, K.H., Kasuya, R.T., & Blanchette, P.L. (2008). The impact of curricular changes on the geriatrics knowledge, attitudes and skills of medical students. *Gerontology & Geriatrics Education*, 28(3), 47-58.

<sup>107</sup> Chandawarkar, R.Y., Ruscher, K.A., Krajewski, K., Garg, M., Pfeiffer, C., Singh, R., Longo, W.E., Kozol, R.A., Lesnikoski, B., & Nadkarni, P. (2011). Pretraining and posttraining assessment of residents' performance in the fourth Accreditation Council for Graduate Medical Education Competency. *JAMA: Archives of Surgery*, 146(8), 916-921.

<sup>108</sup> Haskard, K.B., Williams, S.L., DiMatteo, M.R., Rosenthal, R., White, M.K., & Goldstein, M.G. (2008). Physician and patient communication training in primary care: Effects on participation and satisfaction. *Health Psychology*, 27(5), 513-522.

<sup>109</sup> Bieber, C., Müller, K.G., Blumenstiel, K., Hochlehnert, A., Wilke, S., Hartmann, M., & Eich, W. (2008). A shared decision-making communication training program for physicians treating fibromyalgia patients: Effects of a randomized controlled trial. *Journal of Psychosomatic Research*, 64(1), 13-20.

## Measurable Outcomes

Over the next three years, the Resident Geriatric Training Program will continue to measure participant satisfaction with resident presentations in its post-evaluation. In addition, the evaluation will measure pre/post changes in resident knowledge of older adults, attitudes toward aging and older patients, and preparedness to present material to older adults at the appropriate literacy level. Standardized and validated measures are currently used in the resident pre/post evaluation, including an assessment of attitudes using the Geriatric Attitudes Scale and Geriatric Medicine and Palliative Medicine Rotation Comprehensive Rotation Survey; personal anxiety toward aging using the Kafer Personal Anxiety Scale, and knowledge of the older adult population using the Palmore's Facts on Aging. In addition, the program will explore incorporating a process evaluation to assess program effectiveness by assessing resident and participant responses to the program and areas for improvement. The use of standardized and validated tests to measure changes in participant self-efficacy around communication with providers will also be explored.

During each of the next three years, the following measures will be assessed:

- % of residents who increased knowledge about older adults
- % of residents who changed attitudes regarding older adults
- % of residents who changed personal anxiety, beliefs regarding aging
- % of residents who increased self-rated level of preparedness to present material to older adults at the appropriate literacy level
- Level of older adult satisfaction with educational session/resident presentations
- % of older adults who indicate improved self-efficacy around communication with health care provider

## **Three – Year Plan: Resident Geriatric Training Program**

### **HSS Aligns with Prevention Agenda Goals:**

- Priority area: Chronic disease
- Focus area: Increase access to high quality chronic disease preventive care and management in both clinical and community settings
- Goal: Promote culturally relevant chronic disease self-management education; promote use of evidenced-based care to manage chronic disease

### **Residents and older adult participants will learn:**

Residents will learn how to:

- Increase their awareness and knowledge of the specific needs of the older adult population
- Change their attitudes about aging
- Better communicate with older adults on an appropriate health literacy level

Older adults will learn how to

- Become effective partners in their own health care

### **Internal Partnerships:**

- Academic Training Department
- Department of Rehabilitation
- Orthopedic Surgery Department

### **Measuring Program Outcomes and Benchmarks:**

Year 1 – 2014

- Develop formalized process evaluation to assess program effectiveness
- Implement 3-4 older adult education programs, facilitated by 7-10 residents, reaching 60-90 older adults
- Facilitate 3-4 Resident training groups per year
- Refine current program evaluation
- Explore and implement ways to broaden evaluation to include assessment of older adult increased self-efficacy around communication with healthcare provider

Year 2 – 2015

- Implement any necessary changes to curriculum and evaluations based on results of process evaluation in Year I
- Continue to implement program from Year 1 with new year of 7-10 residents (3-4 educational sessions reaching 60-90 older adults)
- Explore appropriate venues for poster/oral presentation or journal article

Year 3 – 2015

- Implement any necessary changes to curriculum and evaluations based on results of process evaluation in Year II
- Continue to implement program from with new year of 7-10 residents (3-4 educational sessions reaching 60-90 older adults)
- Implement any interim changes based on results of process evaluation
- Submit data for acceptance to 1 national conference or journal article

## Chronic Disease Priority Area

### Focus Area 3: Increase access to high-quality chronic disease preventive care and management in both clinical and community settings

#### VOICES 60+ Senior Advocacy Program

As specialists in the treatment of orthopedic and rheumatologic conditions, HSS recognizes the many challenges older adults face in coping with arthritis and navigating the complex medical care environment. Research demonstrates that ethnically diverse older adults experience significant health disparities in access to care, doctor-patient communication, and treatment adherence. VOICES 60+ is designed to enhance the medical care experience of low income, ethnically diverse (primarily Hispanic) HSS patients 60 and older in these areas, by helping them to navigate and access the support, education and communication resources they need to manage their rheumatologic or musculoskeletal disorders to improve their quality of life. In addition, the program provides services focused on identifying and addressing communication barriers between older adult patients and healthcare providers to optimize health outcomes, which will be the main program focus for the 2014 – 2016 CSP.

#### Background

Widely recognized peer reviewed literature demonstrates that older adults face multiple health disparities in the quality of communication with healthcare providers, which can have a significant impact on health outcomes and medical adherence.<sup>110</sup> Older adults receive less health education and counseling than younger patients, ask fewer questions, and doctors spend less time on psychosocial issues during medical appointments.<sup>105</sup> Language and cultural barriers also impact communication.<sup>111</sup> In addition, Hispanic older adults report that they receive poor service from their healthcare providers. Interacting with doctors productively and feeling that their physicians respect and listen to them is especially important to achieving good health outcomes.<sup>112</sup>

The growth of the NYC older adult population in recent years demonstrates that there is a need for targeted health education around provider/patient communication. The NYC total older adult population, which increased from 1.25 million in 2000 to 1.41 million in 2010, has significantly changed in age composition. From 2000 to 2010, New Yorkers in the 60-64 age category increased dramatically (31.9%), and those 85 and older increased by 16.2%. In 2010, fifty-three percent of New Yorkers 65 and older were members of minority groups, compared to 43% in 2000 and 35% in 1990. Between 2000 and 2010, the Hispanic older adult population increased by 42%.<sup>113</sup> Hispanics are the fastest growing ethnic group in the country, growing from 22 million in 1990 to 44.3 million in 2006; by 2050, it is estimated that Hispanics will total 102 million. In addition, from 2004 to 2050, the proportion of Hispanic older adults will increase by 200% in contrast to a decreasing older adult white population (from 80% to 60%). This rapid growth of the older Hispanic population will dramatically increase the demand for health promotion programs, particularly for programs relevant to culturally diverse elders.<sup>114</sup> Further, the communities in which VOICES 60+ will focus its interventions have a large demographic of Hispanic older adults: Washington Heights (73%) and East Harlem (52%). Programs will also be implemented on the Upper East Side, HSS's immediate surrounding community, where 20.8% of the population are community dwelling older adults.<sup>115</sup>

HSS CHNA data underscore the need for identifying and addressing communication barriers between older Hispanic patients and healthcare providers to optimize health outcomes. Data indicate health literacy was an issue for certain respondents. Nearly 20% of the Ambulatory Care Services (ACS) subsample indicated that they generally needed assistance when reading materials from doctors or pharmacies. Communication with healthcare providers was also an

<sup>110</sup> Williams, S.L., Haskard, K.B., & DiMatteo, M.R. (2007). The therapeutic effects of the physician-older patient relationship: Effective communication with older patients. *Clinical Interventions in Aging*, 2(3): 453–467.

<sup>111</sup> Preciado, J., & Henry, M. (1997). Linguistic barriers and health education and services. In Garcia, J.G. and Zea, M. C. (Eds.). *Psychological intervention and research with Latino populations* (pp. 235-254). Boston, MA: Allyn and Bacon

<sup>112</sup> National Hispanic Council on Aging. (2012). *State of Hispanic Older Adults: An Analysis and Highlights from the Field*. Presented at the 2012 NHCOA National Summit, October 2012. Retrieved from <http://www.nhcoa.org/wp-content/uploads/2012/10/State-of-Hispanic-Older-Adults-Brief-2012-.pdf>

<sup>113</sup> NYC Department for the Aging. (2012). *Annual Plan Summary April 1, 2013-March 31, 2014* Retrieved from [http://www.nyc.gov/html/dfta/downloads/pdf/publications/annual\\_plan\\_summary\\_1314.pdf](http://www.nyc.gov/html/dfta/downloads/pdf/publications/annual_plan_summary_1314.pdf)

<sup>114</sup> National Council on Aging. (NCOA). *Making the Case for Health Promotion and Older Adults*. Retrieved from <http://www.ncoa.org/improve-health/center-for-healthy-aging/online-training-modules/module-1-making-the-case-for.html>

<sup>115</sup> Olson EC, Van Wye G, Kerker B, Thorpe L, Frieden TR. Take Care Upper East Side. NYC Community Health Profiles, Second Edition; 2006; 23(42):1-16

issue, as only 46% “sometimes” or “fairly often” reported moderate patient-healthcare provider communication, underscoring the need for interventions to improve provider-patient communication. Low patient-healthcare provider communication was found in samples of those with lower levels of education, income, and health literacy. In addition, significant associations were noted between preferred spoken/written language and health literacy, as respondents who preferred English when discussing healthcare or reading medical materials were also less likely to report issues with health literacy vs. their non-English-speaking counterparts: 24% vs. 84% for discussing healthcare, and 24% vs. 86% for reading medical materials.

## Program Description

VOICES 60+ Senior Advocacy Program was launched in 2006 in recognition of the multiple challenges older adults face in effectively utilizing high quality chronic disease care to optimize health outcomes, and access needed social supports, particularly for those who are from low-income and Spanish speaking communities. More recently, the program facilitated Spanish language focus groups to understand the health education needs of the communities served. Feedback revealed health disparities and access to care issues experienced during medical encounters. Overriding themes included: navigating rotating doctors, communication styles of doctors, managing time constraints, and language and cultural barriers. Participants wanted more personal relationships with doctors and to share information about complementary interventions, faith-related practices and coping strategies.

Over the next three years, VOICES 60+ will implement evidence-based strategies to improve patient-healthcare provider communication through interventions that target both culturally diverse community-dwelling older adults, and their professional service providers. These strategies include the use of focus groups, small group workshops as well as health (and group) coaching, facilitated in English and Spanish, and will take into account low literacy and verbal response needs of participants, in a culturally sensitive manner. Learning these interventions will enable service providers to replicate them with their clients who are primarily homebound.

## Specific Program Goals

By the end of 2016, VOICES 60+ will:

- Increase self-management skills of culturally diverse older adults through coaching techniques, to empower patients to better understand their arthritis-related illness and treatment.
- Train professional service providers at community-based settings to assess for health literacy of their older adult clients and train them in evidence-based coaching methods to utilize during client-provider encounters.

## Supporting Evidence for VOICES 60+ Initiatives

Evidence-based strategies support addressing disparities in patient-healthcare provider communication. The focus group method is a proven, effective assessment strategy to understand and define the needs of the older adult population, specifically Hispanic older adults.<sup>116</sup>

In addition, patient education programs utilizing small group process are proven methods to increase positive health outcomes.<sup>117</sup> Two validated assessment tools include the Single Item Literacy Screen (SILS), to identify adults who need help understanding health information, and the Stanford Patient Education Research Center’s Communication with Physicians 3 question scale.<sup>118</sup> The SILS is of particular interest, as a disproportionate number of minorities and immigrants are estimated to have literacy problems (50% of Hispanics and more than 66% of US adults over 60 have either inadequate or marginal literacy skills.)<sup>119</sup>

Methods to improve patient-healthcare provider communication have been well-researched, including Ask Me 3, read aloud and teach back strategies, which are included in the American Medical Association’s toolkit targeted to health care

<sup>116</sup> Loeb, S., Penrod, J., & Hupcey, J. (2006). Focus groups and older adults: Tactics for success. *Journal of Gerontological Nursing*, 32(3), 32-38.

<sup>117</sup> Weiss, B. D. (2007). Health literacy and patient safety: Help patients understand. (2nd ed.). American Medical Association Foundation and AMA Retrieved from <http://www.ama-assn.org/ama/pub/upload/mm/367/healthlitclinicians.pdf>.

<sup>118</sup> National Patient Safety Foundation (NPSF). (2011). *Health Literacy: Statistics at-a-glance*. [http://www.npsf.org/wp-content/uploads/2011/12/AskMe3\\_Stats\\_English.pdf](http://www.npsf.org/wp-content/uploads/2011/12/AskMe3_Stats_English.pdf)

<sup>119</sup> Chew, L. D., Bradley, K. A., & Boyko, E. J. (n.d.). Brief questions to identify patients with inadequate health literacy. (2004). *Family Medicine*, 36(8), 588-594.

<http://www.stfm.org/fmhub/fm2004/September/Lisa588.pdf>, Ask Me 3 Partnership for Clear Health Communication at the National Patient Safety Foundation. <http://www.npsf.org/askme3/>

providers for improving communication.<sup>120</sup> The toolkit recommends the teach-back technique to encourage question asking, and the use of the Ask Me 3 questions to promote understanding. In the teach-back technique patients are asked to explain or demonstrate what they have been told. Research indicates that when providers use these techniques both patients' understanding and outcomes are improved.<sup>121</sup> For example, a pilot project on a collaborative effort by eight organizations, reported that implementing the Ask Me 3 tool with patients and healthcare providers yielded findings and lessons about the potential effectiveness of Ask Me 3. The project had three goals: to increase patient engagement in their care, satisfaction with medical visits and improving patient-healthcare provider communication. Findings showed that patients were better informed about their conditions and more highly satisfied with communication with clinical staff. Physicians using Ask Me 3 found higher levels of patient satisfaction than those in the control group. Two-thirds of the 443 patients who used Ask Me 3 reported improved communication with their provider.<sup>122</sup>

Patient coaching prior to medical visits has been a well-studied approach to improve patient-doctor communication. A meta-analysis was conducted of 33 randomized controlled trials with 8,244 patients, of interventions designed to address patient question asking, patient participation, patient anxiety, knowledge, satisfaction and consultation length. Results demonstrated that interventions before the clinical encounter showed statistically significant increases in question asking and patient satisfaction. These techniques demonstrate efficacy for "health coaching" interventions, which have been demonstrated to prepare and empower older adults for their medical encounters and result in increases in question asking and patient satisfaction.<sup>123</sup>

## Measureable Outcomes

Implementation of measurable outcomes will take into account evidence-based strategies most applicable for low literacy older adults, with a focus on Hispanic older adults. The Hospital will explore using specific validated/standardized items which were used in its CHNA, such as the Stanford Chronic Disease Self-Efficacy Scale. In general the program will measure knowledge gained, intended behavior change and likelihood of utilizing methods taught. Qualitative measures will glean feedback and program suggestions.

The following measures will be assessed in each of the next three years:

- % of professional service providers likely to use the SILS
- % of professional service providers who increased understanding of the impact of impaired health literacy in medical encounters on health outcomes
- % of older adult and professional service providers who intend to use the Ask Me 3 questions
- % of older adults who intend to prepare a list of questions for doctor visit
- % of older adults who plan to ask questions about the things they don't understand about their treatment

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<sup>120</sup> Chew, L. D., Bradley, K. A., & Boyko, E. J. (2004). Brief questions to identify patients with inadequate health literacy. *Family Medicine*, 36(8), 588-594. Retrieved from <http://www.stfm.org/fmhub/fm2004/September/Lisa588.pdf>. Ask Me 3 Partnership for Clear Health Communication at the National Patient Safety Foundation. <http://www.npsf.org/askme3/>

<sup>121</sup> Weiss, B. D. (2007). Health literacy and patient safety: Help patients understand. (2nd ed.). American Medical Association Foundation and AMA. Retrieved from <http://www.ama-assn.org/ama/pub/upload/mm/367/healthlitclinicians.pdf>.

<sup>122</sup> Wisconsin Department of Health Services. (2010). Ask Me 3™ in Wisconsin's Community Health Centers: Evaluation Report. Madison, WI: Wisconsin Department of Health Services. Retrieved from <http://www.dhs.wisconsin.gov/aboutdhs/OPIB/policyresearch/AskMe3Report.pdf>

<sup>123</sup> Kinnorsley, P., Edwards, A., Hood, K., Cadbury, N., Ryan, R., Prout, H., Owen, D., MacBeth, F., Butow, P., & Butler, C. (2007). Interventions before consultation for helping patients address their information needs (Review). *The Cochrane Library*: Issue 3. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004565.pub2/pdf>

### **Three -Year Plan: VOICES 60+**

#### **HSS Aligns with Prevention Agenda:**

- Priority area: Chronic disease
- Focus area: Increase access to high-quality chronic disease preventive care and management in both clinical and community settings
- Goals: Promote use of evidence-based care to manage chronic diseases. Promote culturally relevant chronic disease self-management education.

#### **HSS VOICES 60+ program participants will learn:**

Older adults will:

- Appreciate the impact of patient-healthcare provider communication on health outcomes
- Feel empowered to express their concerns and needs, including cultural preferences
- Utilize specific strategies to enhance communication with healthcare providers (Ask Me 3, teach back)

Professional service providers will:

- Understand how research demonstrates that healthcare disparities may result from communication barriers during the medical encounter
- Utilize validated health literacy measures to identify and assess level of health literacy to insure optimal health outcomes (SILS)
- Incorporate evidence-based techniques to prepare their clients for their medical visit (health coaching, Ask Me 3, teach back)

#### **Community Partnerships:**

- Dorot, Inc.
- East Side Council on the Aging (ESCOTA)
- Greenberg Academy for Successful Aging
- HealthOutreach New York Presbyterian Weill Cornell
- HSS Public and Patient Education Department (PPED)
- Isabella Geriatric Center
- Lenox Hill Neighborhood House
- Liz Krueger State Senator Annual Senior Health Fair
- Medicare Rights Center
- New York Foundation for Senior Citizens
- Stanley Isaacs Community Center
- West Side Interagency Council on the Aging (WSIACA)

#### **Program Benchmarks:**

Year 1 – 2014

- Meet with 6 established and 3 new community partners to assess collaborations
- Pilot two focus groups for English and Spanish speaking older adults to assess concerns about their medical encounter and challenges
- Identify, select and pilot potential evidence-based outcome measures related to enhancing patient-healthcare provider communication
- Determine number, feasibility, resources and impact of educational programs
- Pilot 2-4 educational programs for 40-50 older adults and service providers on health literacy and techniques to enhance patient-healthcare provider communication with a focus on managing arthritis
- Participate in 2-3 community senior health fairs (over 500) to disseminate information on communication with healthcare providers and arthritis

#### Year 2 – 2015

- Meet with community partners to assess Year 1 interventions, share impact and analyze results from interventions
- Refine, continue to deliver and adapt evidence-based health education programs through a network of agencies to sustain benefits achieved
- Analyze and adjust the interventions as needed
- Build on collaborative initiatives and develop new partnerships
- Implement 4-6 health education programs for 50-60 older adults and service providers incorporating findings from previous year
- Participate in 2-3 community senior health fairs (over 500)
- Collect, organize and analyze data
- Present, report and share outcomes with community partners and multiple venues

#### Year 3 – 2016

- Implement 4-6 health education programs reaching 50-60 older adults as per predetermined plan with community partners
- Use selected measures to assess program outcomes
- Collect and analyze data, both quantitative and qualitative, and revise interventions as necessary
- Report outcomes to community partners and discuss further collaborations
- Participate in 2-3 community senior health fairs
- Disseminate results and outcomes to various community and national venues



## Chronic Disease Priority Area

### Focus Area 3: Increase access to high-quality chronic disease preventive care and management in clinical and community settings

#### Charla de Lupus/Lupus Chat®

HSS is well recognized for its outstanding expertise in lupus clinical care, education and research. With more lupus support and education programs than any other hospital in the country, HSS leads in the development of culturally specific model programs that reach women, adolescents and families who can benefit from these programs. Charla de Lupus/Lupus Chat® (Charla) is a unique national program offering people with SLE (systemic lupus erythematosus), a multisystem autoimmune disease, and their families, peer health support and education in both English and Spanish. It is the only hospital-based national lupus peer support and education program culturally tailored to meet the needs of Latino and African American communities, who are affected by this illness at a higher rate.

#### Background

Lupus is a life-threatening, multi-system autoimmune illness, which disproportionately affects African American, Asian, and Latina women. Research has demonstrated that these communities also experience significant health disparities in illness severity and outcomes, pointing to the need for sound interventions. Women of color with SLE are more likely to experience more severe symptoms, higher mortality rates and overall damage from the disease<sup>124</sup>.

Effective reproductive health care is crucial for teens/young adults with lupus, given the multiple risk of pregnancy and high risk of sexually transmitted disease that often makes medical management of lupus complex. According to the Youth Risk Behavior Surveillance Survey of 2009, 62% of US high school seniors have engaged in sexual intercourse. In concordance with US data, adolescents in NYC are at risk for engaging in unsafe sexual practices among other high risk behaviors. Bronx youth are disproportionately impacted by poor reproductive and sexual health outcomes, with the highest rates of teen pregnancy and sexually transmitted infections (STIs) in NYC's five boroughs, as well as one of the highest rates of teen pregnancy in the nation and a rate of sexually transmitted infections much higher than national averages.<sup>125</sup>

Socio-economic status (SES) also plays a role in these communities which are served by the Charla program. Low SES and access to care are barriers to many adolescents obtaining quality health care. Low income Hispanic teens with lupus may face increased adverse outcomes related to participating in risky behaviors such as unsafe sexual practices. The Bronx experiences the highest poverty rate of NYC's boroughs, with over 25% of families below the poverty line. Adolescents who live in high poverty neighborhoods have a greater likelihood of dropping out of school and becoming a pregnant teen.<sup>131</sup> Low levels of education are linked with poorer health outcomes.<sup>131</sup> Locally, residents in Inwood/Washington Heights are more likely to be uninsured than those in Manhattan overall (20% vs. 13%). The groups with the highest rates of STDs are often the same ones for whom access to health services is the most limited.<sup>126</sup>

Due to the changes that lupus and its treatment can have on the body, such as weight gain, rashes, and hair loss, teens with lupus may experience low self-esteem, impacting negatively on sexual behaviors. Women with disabilities and limited knowledge as well as low self-esteem may lack the self-efficacy to advocate for themselves in relation to their reproductive health.<sup>127</sup> Adolescents with chronic conditions were found to have more negative consequences regarding their sexual behavior, including being more likely to report having had an sexually transmitted disease (STD) and to have been sexually abused.<sup>128</sup>

<sup>124</sup> Alarcón, G.S., et al. (1999). Systemic lupus erythematosus in three ethnic groups: III. A comparison of characteristics early in the natural history of the LUMINA cohort. *Lupus in minority populations: Nature vs. Nurture*. *Lupus* 3, 197-209.

<sup>124</sup> Alarcón, G.S., et al. (1988). Systemic lupus erythematosus in three ethnic groups: II. Features predictive of disease activity early in its course. *Arthritis and Rheumatism*, 41, 1173-1180.

<sup>124</sup> Bertoli, M.A., et al. (2008). Systemic Lupus erythematosis in a multiethnic US cohort (LUMINA) LIII: Disease.

<sup>125</sup> Fact Sheet Adolescent Reproductive and Sexual Health Disparities: The Case of Youth in the Bronx. (n.d.) Retrieved from [http://www.clafh.org/files/press-releases/03\\_whitepaperfactsheet.pdf](http://www.clafh.org/files/press-releases/03_whitepaperfactsheet.pdf)

<sup>126</sup> Marie, J. (2013). STD rates are rising –Should you be worried? Retrieved from: <http://www.takepart.com/article/2013/04/10/high-price-minorities-pay-when-it-comes-stds>

<sup>127</sup> Becker, H., Stuijbergen, A., & Tinkle, M., (1997) Reproductive health care experiences of women with physical disabilities: A qualitative study. *Arch Phys Med Rehabil*, 78(12), S26- 33.

<sup>128</sup> Suris, J., Resnick, M., Cassuto, N., & Blum, R. (1996) Sexual behavior of adolescents with chronic disease and disability. *Journal of Adolescent Health*, 19(2), 124-131

Quality of communication between patients and clinicians can significantly impact health outcomes. However, health professionals are often unprepared to counsel women with chronic illnesses about the potential adverse side effects of pregnancy and contraception on underlying disease.<sup>129</sup> In addition, physician insensitivity or lack of awareness of disability issues and how they impact reproductive health is often seen as a barrier.<sup>134</sup> Providers may hesitate to prescribe contraception to women with lupus due to concerns about the risk of lupus complications.<sup>130</sup> HSS CHNA results support this data as the survey indicated that low communication was found among those with lower levels of education, income and health literacy. Only 28% of teens surveyed had discussed HIV/STD prevention and even less, 11%, had discussed decision making regarding sexual behavior.

The effects of lupus and its impact on reproductive health, in addition to limited access to appropriate health care, are confounding factors that can influence patient outcomes negatively. These are the challenges that the Charla program will be addressing over the next three years.

## **Program Description**

The Charla de Lupus/Lupus Chat (“Charla”) program was developed in 1994 to address health disparities among African American and Latina women with lupus. Based on a comprehensive needs assessment and best practices, HSS initiated a social work led program to engage and train peer volunteers to become empowering role models. These volunteers provide culturally relevant strategies to help increase understanding of this complex illness and its treatment, improve medical adherence, and enhance coping and healthy behaviors. Comprehensive bilingual (English/Spanish) services include: the Charla Line, a toll-free national support and education helpline; weekly Onsite Peer Support Outreach at four hospital-based clinics, monthly Charla Teen and Parent Lupus Chat Groups; numerous community/professional education and government collaborations.

Advancing the understanding of the impact of lupus and its treatment on reproductive health is crucial for both reproductive health professionals, and people living with lupus. Over the next three years, the program will focus specifically on improving reproductive health care in teens/young adults with lupus. This focus is driven by significant disparities in teen reproductive health, teen pregnancy rates, and STDs for Latino and African American teens/young adults in NYC. These issues are further compromised by SLE health disparities, access to high quality reproductive health care and effective self-management for these underserved communities. To accomplish this, Charla will use a two-tiered approach to provide lupus specific trainings for reproductive health care providers serving diverse communities, promoting a team based model, as well as initiate a teen reproductive health program targeted to the teen/young adult population with lupus. An identified focus will be on leveraging relationships with current partners and expanding program reach with new partners to increase access to appropriate reproductive health care in the community.

## **Specific Program Goals**

By the end of 2016, the Charla program will:

- Increase access to high quality reproductive health care for culturally diverse teens with lupus, by partnering with designated reproductive health care centers in underserved communities, to provide training to reproductive health providers, to increase knowledge of lupus and reproductive health care issues specific to lupus
- Improve culturally relevant knowledge, self-management skills, and self-efficacy related to reproductive health care and sexual health among traditionally underserved, culturally diverse teens/young adults with lupus, with a focus on serving Latino/African American communities

## **Supporting Evidence for Charla’s Reproductive Health Prevention Plan**

Charla’s training of reproductive health professionals will be informed by evidence-based and promising practice models. It is well documented throughout the literature that medical education inadequately prepares students for interdisciplinary collaborations, which is an essential component to the delivery of quality care.<sup>131</sup> The American College of

<sup>129</sup> Forman, F. S. & Woods, R. E. (2012). Preserving adolescents’ reproductive health services safety net. *Current Opinion in Pediatrics*, 24:437-438. doi: 10.1097/MOP.0b013e328354ccfg

<sup>130</sup> Schudrich, W., Gross, D., & Rowshandel, J. (2012). Lupus and community-based social work. *Social Work In Health Care*, 51(7), 627-639. doi:10.1080/00981389.2012.683694

<sup>131</sup> Fineberg, I.C., Wenger, N.S., & Forrow, L., (2004). Interdisciplinary education: Evaluation of a palliative care training intervention for pre-professionals. *Academic Medicine Research Report*, 79(8), 769-776. Retrieved from [http://journals.lww.com/academicmedicine/Fulltext/2004/08000/Interdisciplinary\\_Education\\_Evaluation\\_of\\_a.12.aspx](http://journals.lww.com/academicmedicine/Fulltext/2004/08000/Interdisciplinary_Education_Evaluation_of_a.12.aspx)

Rheumatology (ACR) strongly supports the education of medical professionals around rheumatologic illnesses such as lupus, stating “raising greater awareness among medical students and health care providers is critical to improving diagnosis and treatment”.<sup>132</sup> The ACR’s Lupus Initiative<sup>®</sup>, a national educational program to address health disparities, developed a professional toolkit that is a promising practice model to engage and educate health care professionals about lupus, to better identify and treat lupus specific issues. Since its national roll out in 2012 there are no published outcomes, but the program is based on a peer-reviewed curriculum that is delivered by rheumatology health professionals<sup>133</sup> and includes content on reproductive health/pregnancy.

Studies have identified programs that delay sexual activity, improve contraceptive use among sexually active teens and/or prevent teen pregnancy. Curriculum based sex education that addresses abstinence and contraceptive use are among the identified effective programs.<sup>134</sup> The goal of the *S.P.E.E.K. Peer Education Program* at Mount Sinai Adolescent Health Center is to reduce the incidence of adolescent pregnancy and the risk of contracting HIV and/or STI among youth 12-21 years old. The program uses two evidenced based curriculums, *Be Proud Be Responsible* and *Making Proud Choices* that helps to motivate adolescents to make healthy sexual decisions and decrease risky sexual behavior.<sup>135</sup> Outcomes include significantly higher levels of condom use, reduced frequency of unprotected intercourse, reduced multiple sexual partners, and STD rates.<sup>136</sup> Three months after intervention participants were significantly more likely to report using a condom during intercourse.

A review of 41 randomized controlled trials of interventions for preventing unintended pregnancy among adolescents, mostly representing lower SES communities, demonstrated that all interventions including education, contraception education and promotion, and combinations of both, reduced a significant level of unintended pregnancy over the medium term and long term follow up period.<sup>137</sup>

In addition, *Cuidate!*, an HIV/STD prevention program for Latino teens in the 8<sup>th</sup>-11<sup>th</sup> grade, consists of six one-hour sessions over consecutive days. At three, six and twelve months after the program ended, teens in the intervention group were significantly less likely than those in the control group to have had sex and to have had multiple partners; they were significantly more likely to report consistent condom use, and the intervention was particularly effective for Spanish speaking teens. Spanish speaking teens in the intervention group were five times more likely than Spanish speaking teens in the control group to report using a condom at last sex.<sup>142, 143</sup>

Another study tested outcomes of a group psycho-educational intervention (PEI) by nurses on sexual health risks and psychosocial adaptation in young adults with chronic illness, specifically genital herpes, which is a high-risk population. The intervention group had significantly more knowledge than the controls. Participants in the intervention group used condoms 87% of the time, used spermicide an average of 41% of the time, and planned to tell their partners about their condition more often. The PEI included disease-related information, self-management skills, how to promote feelings of self-worth and development of support and sexual risk reduction, including assertiveness skills.<sup>138</sup>

## Measurable Outcomes

Charla will focus on measuring the impact of its interventions on health professionals and teen/young adult participants over the next three years. Specifically, evaluations will measure knowledge gained through its educational training for reproductive health professionals by using established post evaluation tools, with a focus on intent to enhance practice outcomes. For teen/young adult participants, Charla will explore the use of validated questions from two widely used national surveys: CDC’s YRBSS<sup>139</sup> and IOM’s Guidelines for Adolescent Preventive Services (GAPS)<sup>140</sup> to assess sexual

<sup>132</sup> American College of Rheumatology. (2013). Retrieved from <http://globenewswire.com/news-release/2013/05/16/547858/10033146/en/The-Lupus-Initiative-Unveils-Free-Curriculum-and-Education-Materials-to-Advance-Care-for-Patients-Fighting-Devastating-Autoimmune-Disease.html>

<sup>133</sup> The Lupus Initiative. (2013). Retrieved from <http://thelupusinitiative.org/about-us/>

<sup>134</sup> Alford, S. (2008). *Science and Success: Sex Education and Other Programs that Work to Prevent Teen Pregnancy, HIV & Sexually Transmitted Infections(Second Edition)*. Washington, DC: Advocates for Youth. Retrieved from <http://www.advocatesforyouth.org/programsthatwork/index.htm>

<sup>135</sup> U.S Department of Health & Human Services. (2013). Retrieved from [http://www.hhs.gov/ash/oah/oah-initiatives/tpp/programs/be\\_proud\\_responsible.pdf](http://www.hhs.gov/ash/oah/oah-initiatives/tpp/programs/be_proud_responsible.pdf)

<sup>136</sup> The SPEEK Peer Education Program. (2009). Retrieved from [http://www.speekpeered.org/about\\_us.html](http://www.speekpeered.org/about_us.html)

<sup>137</sup> Oringanje, C., Meremikwu, M.M., Eko, H., Esu, E., Meremikwu, A., & Ehiri, J.E. (2009). Interventions for preventing unintended pregnancies among adolescents. *Cochrane Database of Systematic Reviews*, 4(CD005215). DOI:10.1002/14651858.CD005215.pub2.

<sup>138</sup> Swanson, J., Dibble, S., & Chapman, L., (1999) Effects of psycho-educational interventions on sexual health risks and psychosocial adaptation in young adults with genital herpes. *Journal of Advanced Nursing*, 29(4), 840-851

<sup>139</sup> CDC. (2013). Adolescent and School Health Youth Risk Behavior Surveillance System (YRBSS). Retrieved from <http://www.cdc.gov/HealthyYouth/yrbss/index.htm>

<sup>140</sup> American Medical Association. (2013). Guidelines Adolescent Preventive Services. Retrieved from <http://www.ama-assn.org/ama/pub/physician-resources/public-health/promoting-healthy-lifestyles/adolescent-health/guidelines-adolescent-preventive-services.page>

risk behaviors among teens/young adults before and after the intervention. The program will also explore the use of validated measures from *The Handbook of Sexuality Related Measures*<sup>141</sup> to specifically measure self-efficacy after the intervention. Additionally, validated evaluation tools will be tailored from the already established *S.P.E.E.K.* program to measure knowledge gained and self-efficacy of program participants. Further, Charla plans to use relevant questions from The Young Adult Health Care Survey (YAHCS)<sup>142</sup> to quantitatively and qualitatively assess access, quality, and impact of reproductive health care services for teens with lupus who participate in the intervention and/or are referred to partner reproductive health care centers.

Year 1 – 2014:

- % of participants who increase their overall knowledge of SLE, including diagnosis, treatment, and management goals
- % of participants who report that the in-service training enhanced their understanding of adolescent health issues as it relates to teens/young adults with SLE
- % of participants who report an increased ability to identify key issues around fertility/ pregnancy, sexual health and lupus
- % of participants who report increased knowledge of the most effective and safe contraception options for teens/young adults with lupus
- % of participants who reports intent to increase utilization of the rheumatology community as a resource when caring for teen/young adults with lupus

Year 2– 2015:

- % of participants who increase knowledge and comfort on how to access reproductive health services throughout the boroughs
- % of participants who increase knowledge about STDs, fertility, pregnancy and conception as it relates to teens/young adults with SLE
- % of participants who reports an increased ability to negotiate sexual decisions
- % of participants who reports increased skills on how to communicate with partners and health care providers about sexual health in order to effectively advocate and optimize their own health
- % of participants who reports increased self-efficacy

Year 3 – 2016:

- # of patients referred to reproductive health using established protocol and identified resources
- # of patients who followed-up with referral to reproductive health and accessed care
- % of patients satisfied with/impact of reproductive health care experience

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<sup>141</sup> Davis, C.M., Yarber, W.L; Bauserman R.; Schreer, G.E.; & Davis, S.L. (1998). Contraceptive Attributes Questionnaire. *Handbook of Sexuality-Related Measures*. 153-155.

<sup>142</sup> The Child and Adolescent Health Measurement Initiative. (2009). Young Adult Health Care Survey (YAHCS) Fast Facts. Retrieved from <http://cahmi.org/ViewDocument.aspx?DocumentID=84>

## **Three Year Plan: Charla de Lupus/Lupus Chat ® Program**

### **HSS Aligns with Prevention Agenda:**

- Priority area: Chronic disease
- Focus area: Increase access to high-quality chronic disease preventive care and management in clinical and community settings
- Goal: Promote use of evidence-based care to manage chronic disease; promote culturally relevant chronic disease self-management education

### **HSS Charla Lupus/Reproductive Health participants will learn:**

Reproductive health professionals will learn to:

- Increase their overall knowledge of SLE, including diagnosis, treatment and management goals
- Enhance their understanding of adolescent health issues as they relate to teens/young adults with SLE
- Identify key issues around fertility pregnancy, sexual health and SLE
- Identify and utilize the most effective and safe contraception for teens/young adults with SLE
- Increase utilization of the rheumatology community as a resource when caring for teens/young adults with lupus

Teens/young adults with lupus will learn to:

- Access reproductive health care throughout the boroughs of NYC
- Enhance their communication skills with partners and health care providers about sexual health in order to effectively advocate and optimize their own health
- Increase their knowledge about STDs/STIs, fertility, pregnancy and contraception to enhance their ability to negotiate sexual decisions

### **Community Partnerships:**

- Children's Aid Society
- Community Healthcare Network
- Mount Sinai Adolescent Health Center
- Mount Sinai Peers Encouraging Empowerment through Knowledge (S.P.E.E.K) Peer Education Program
- NewYork-Presbyterian, Columbia University Medical Center
- Morgan Stanley Children's Hospital, Pediatric Rheumatology Department
- Audubon Family Planning Practice and Young Men's Clinic
- NewYork-Presbyterian Hospital, Cornell Medical Center

### **Program Benchmarks:**

Year 1 – 2014

- Identify two adolescent health centers in underserved zip codes appropriate to our population to partner with.
- Meet together to define the problem, and establish common goals and roles
- Identify rheumatology health professionals to conduct in-service trainings with partnered reproductive health centers
- Collaborate with rheumatology health professionals and community partners to develop and conduct two pilot in-service trainings, reaching 30 reproductive health staff
- Develop and pilot outcome measures and evaluation strategies for in-service trainings
- Assess program efficacy through identified outcome measures and refine program accordingly
- Identify liaisons at each reproductive health centers to help improve access to our population, and identify rheumatology health professional(s) to act as a direct resource to reproductive health care professionals
- Collect and analyze data from teens with lupus on sexual risk behaviors, and reproductive health needs using validated measures

#### Year 2 – 2015

- Utilize data collected from teens in Year 1 to inform educational programming for teens/young adults
- Meet with SPEEK Program director and staff to learn more about the SPEEK Peer Education Program and to educate them about the Charla program and our goals
- Collaborate with the SPEEK program to plan educational intervention specific to teens with lupus
- Adapt/Utilize as needed validated pre/post measure from SPEEK intervention curriculum and analyze results/outcomes
- Implement SPEEK program 8 week educational intervention for approximately 20 Charla program members

#### Year 3 – 2016

- Work with community partners and rheumatology staff to develop a protocol for referrals to partner with reproductive health care centers
- Develop and distribute reproductive health resources list along with referral protocol to rheumatologist and other health care professional in the multi-disciplinary lupus team for use with lupus patients
- In collaboration with community partners develop tools and protocol to assess if program participants are accessing reproductive health care at partner centers
- Sustain engagement with identified partners through invitations to be guest speakers to share professional expertise to staff and patients and solicit ongoing feedback as we plan next steps
- Disseminate evaluation results with relevant professionals and community

## Chronic Disease Priority Area

### Focus Area: Increase access to high-quality chronic disease preventive care and management in both clinical and community settings

#### LANtern® Lupus Asian Network

HSS demonstrates its outstanding commitment to lupus care through the provision of more support and education programs for lupus, including those which specifically seek to meet the needs of underserved communities, than any other hospital in its area of specialty. Lupus is a complex and multi-system life-threatening autoimmune disease that affects Asians two to three times as frequently as their White counterparts, with significant health disparities such as worse outcomes and higher mortality. LANtern® (Lupus Asian Network) is the only national telephone peer support and education program designed specifically for Asian Americans with lupus. The program was inspired by a lack of knowledge about lupus, heightened by socioeconomic and psychosocial stressors within the community. These factors, if not addressed, may result in family disharmony and social isolation, especially in an Asian culture that values group harmony and social esteem.

#### Background

There has been a tremendous growth of the Asian American population, both nationally and in NYC, which has received increasing public attention. Asian Americans have the fastest growth rate of any racial/ethnic population in the US (46% growth between 2000 and 2010 censuses), with New York having the second highest number of Asians of any state. The Asian population in NYC increased by 30% (251,341) since 2000, and comprises about 14% of the city's population. The four largest Asian communities of all Asians are Chinese (33%), Asian Indians (29%), Koreans (11%), and Filipinos (10%). Queens is home to 49% of all Asians, followed by Brooklyn and Manhattan. Immigrants comprised a major proportion of the Asian population, at 68% compared to 27% of the city's population who are foreign-born. Forty-nine percent of Asian New Yorkers of working age (18 - 64) have limited English proficiency, and 17% do not have a high school diploma. Community data have also underscored health disparities in health status, access to quality health care, insurance coverage, poverty rate, and suicidal risk.<sup>2</sup>

Although additional research is needed, the peer-reviewed literature available to date has demonstrated health disparities in the Asian community specifically related to lupus. This involves prevalence, clinical features such as higher rates of cardiovascular and renal involvement; severity; and worse outcomes, including higher mortality, among Asians with lupus. This is further complicated by socioeconomic variables such as access to health care (indicated above), health beliefs and cultural factors that are confounding issues<sup>143 144 145 146</sup> underscoring the importance of addressing the needs of this underserved community.

HSS's CHNA further confirms these data showing that health disparities exist with regard to healthcare access, as Asians reported the lowest rates of insurance coverage, difficulties with accessing a healthcare provider and had minimal provider – patient communication relative to their Black, Hispanic, and White counterparts. In a further analysis of a subset of 42 LANtern members, 58% reported they needed help with reading instructions, pamphlets or other written materials from a doctor or pharmacy. In fact, 50% indicated that language barriers as well as lack of coverage were barriers to accessing care in the past year. Seventy-four percent reported that their physical health and 81% their mental health was “not good” for at least part of the past 30 days. Fatigue, pain, changes in memory and mood changes related to their lupus were among the most frequent symptoms reported.

#### Program Description

Since its inception in 2003, LANtern has been a national model for support and education of Asian Americans with lupus and their families. Through the program's Support Line, community programs, participation in conferences, and

<sup>143</sup> Connelly, K., Morand, E.F., & Hoi, A.Y. (2013) Asian ethnicity in systemic lupus erythematosus: An Australian perspective. *Intern Med J.* 43(6), 618-24.

<sup>144</sup> Jakes, R.W., Bae, S.C., Louthrenoo, W., Mok, C.C., Navarra, S.V., & Kwon, N. (2012) Systematic review of the epidemiology of systemic lupus erythematosus in the Asia-Pacific region: Prevalence, incidence, clinical features, and mortality. *Arth Care Res*, 64(2), 159-168.

<sup>145</sup> Mok, M.Y., & Li, W.L. (2010). Do Asian patients have worse lupus? *Lupus*. 19, 1384-1390.

<sup>146</sup> Ward, M.M. (2004). Education level and mortality in systemic lupus erythematosus (SLE): Evidence of under ascertainment of deaths due to SLE in ethnic minorities with low education levels. *Arthritis Rheum.* 51 (4), 616-624.



publications, the program seeks to meet a gap to enhance awareness, understanding, coping and knowledge regarding lupus for this community.

Over the next three years, LANtern will utilize a multi-tiered approach to enhance quality lupus care and self-management. Evidence based literature will be utilized to plan and implement educational programs among health and social services providers, to provide high quality preventive care for the Asian community. Programs will be delivered by board-certified rheumatologists, or related health professionals experienced in the care and treatment of lupus. To improve the clinical management of lupus, LANtern will identify and coordinate professional education programs in collaboration with community partners to increase awareness and appropriate evidence-based treatment and referral of Asian American patients with lupus. In addition, the program will address capacity building for increased understanding of lupus among providers serving the Asian American community.

To reach its goal of service expansion, LANtern will also further develop the role of peer volunteers with lupus, many of whom are bilingual/bicultural. The program will implement a revised peer training program, which will provide skills for community outreach, planning, promotion and participation in educational programs on lupus health, wellness and related initiatives, in addition to their traditional peer counseling/education roles. Based on demonstrated interest, the program will also explore the possibility of a new psycho-educational group forum, in which peer volunteers will participate.

### **Specific Program Goals**

By the end of 2016, LANtern will:

- Provide educational programs to professionals to improve knowledge, clinical skills and dialogue about lupus as an Asian American health issue, to ensure the provision of quality care
- Recruit and train additional Asian American lupus peer health educators and expand LANtern's peer training curriculum to reflect their enhanced role in community engagement
- Develop and implement culturally relevant educational and psychosocial support initiatives to increase chronic disease self-management knowledge and skills for Asian American patients with lupus and their loved ones

### **Supporting Evidence for LANtern® Initiatives**

Early recognition, diagnosis and treatment of lupus, is consistent with the American College of Rheumatology (ACR) and the National Institute for Arthritis and Musculoskeletal and Skin Disorders (NIAMS) practice. In fact, the ACR has recently developed the Lupus Initiative, a curriculum designed to address and reduce health disparities in lupus patient populations.<sup>147</sup> Although no evidence-based studies are yet available, this promising practice will serve as a resource to further LANtern's goals.

In addition to programs targeting a professional audience, self-management strategies, which involve peers as community health workers/volunteers, is increasingly recognized as a promising model to engage patients in their care, and has been endorsed by the Institute of Medicine. National programs such as the Stanford Arthritis Self-Management Program,<sup>148</sup> which utilizes patients as co-leaders and role-models, have shown significant improvements demonstrated in fatigue, coping skills, self-efficacy and depression. Another program, based on the Braden self-help model, included 231 SLE patients in Taiwan, with an analysis of self-help constructs demonstrating the greatest impact on quality of life.

Depression in lupus is a strong predictor of adherence difficulties, and a greater number of outpatient rheumatology visits.<sup>149</sup> A study of 153 users of LupusLine®, an HSS telephone peer counseling service, found that over 60% reported a change in six "feeling" categories (ability to cope, better understanding, more in control less depressed, less anxious, less alone).<sup>150</sup> A meta-analysis of seven studies of peer support telephone calls to improve health involving 2492 participants

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<sup>147</sup> The Lupus Initiative (n.d.) Retrieved from <http://www.thelupusinitiative.org>

<sup>148</sup> Lorig, K., Ritter, P.L., & Plant, K. (2005). A disease-specific self-help program compared with a generalized chronic disease self-help program for arthritis patients. *Arth & Rheumatism*, 53(6), 950-957.

<sup>149</sup> Julian, L.J., Yelin, E., Yazdany, J., Panopalis, P., Trupin, L., Criswell, L.A., & Katz, P. (2009). Depression, medication adherence, and service utilization in systemic lupus erythematosus. *Arthritis Rheum*, 61(2), 240-246.

<sup>150</sup> Horton, R., Peterson, M.G., Powell, S., Engelhard, E., & Paget, S.A. (1997) Users evaluate LupusLine, a telephone peer counseling service. *Arthritis Care Res*, 10(4), 257-263.



demonstrated that certain health-related concerns were improved (reduced depression, changes in diet adherence to screenings), with the need for further study recommended.<sup>151</sup>

Health related quality of life has been improved by psychoeducational interventions, including telephone counseling, self-help courses, and group psychotherapy.<sup>152</sup> A randomized control trial of a psychoeducational intervention in lupus with 122 patients demonstrated higher couples communication, self-efficacy, and mental health status, and lower fatigue scores.<sup>153</sup> Participation in a group psychosocial support program conducted in Hong Kong by 56 people with SLE demonstrated significant improvement in self-esteem, psychological well-being, coping, social dysfunction, anxiety, and sleep disturbance.<sup>154</sup>

## Measureable Outcomes

Over the next three years, LANtern will assess the impact of its programs, using Likert scale and open ended questions. Post evaluations for the patient-oriented programs will assess changes in understanding of lupus, and intent to utilize specific self-management strategies. To examine the impact of professional education, pre/post evaluations will assess knowledge gained, and clinical practice lessons learned. Satisfaction with program content/format/clarity will also be examined, and qualitative responses will obtain participant feedback.

In addition, LANtern will explore the use of validated measures to assess patient-related outcomes, focusing on those already tested for their validity and reliability in Chinese language versions. These include the SLE Health Related Quality of Life(HRQOL)<sup>155</sup> the SF-36<sup>156</sup>, and the Short-form of the Chronic Disease Self-Efficacy Scale.<sup>157</sup> The program will also consider using additional measures developed by Stanford's Chronic Disease Self-Management program,<sup>158</sup> and the short form of the Patient Activation Measure.<sup>159</sup> Several validated measures drawn from the HSS CHNA will also be considered. Additionally, the program will take into account domains of cultural relevance to the community served by LANtern, for example, family relationships, burden and stigma, which have not always been captured by current outcome measures.<sup>160</sup>

During each of the next three years, the following measures will be assessed:

- % of participants in patient-oriented programs who increased their knowledge/understanding of lupus and related health issues;
- % of patients who expressed intent to utilize specific self-management strategies, improved self-efficacy, treatment adherence, and social support
- % of professionals who improved awareness and knowledge of lupus;
- % of professionals who expressed that knowledge gained could improve their clinical practice

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<sup>151</sup> Dale, J., Caramlau, I.O., Lindenmeyer, A., & Williams, S.M. (2008). Peer support telephone calls for improving health. *Cochrane Database Syst Rev* 8(4), CD006903.doi:10.1002/14651858.CD006903.pub2.

<sup>152</sup> Thumboo, J., & Strand, V. (2007). Health-related quality of life in patients with systemic lupus erythematosus: An update. *Ann Acad Med Singapore*, 36(2), 115-122.

<sup>153</sup> Karlson, E.W., Liang, M.H., Eaton, H., Huang, J., Fitzgerald, L., Rogers, M.P., & Daltry, L.H. (2004) A randomized clinical trial of a psychoeducational intervention to improve outcomes in systemic lupus erythematosus. *Arthritis and Rheumatism*, 50(6), 1832-1841.

<sup>154</sup> Ng, P., & Chan, W. (2007). Group psychosocial support program for enhancing psychological well-being of people with systemic lupus erythematosus. *Journal of Social Work Disability Rehabilitation*, 6(3), 75-87.

<sup>155</sup> Kong, K.O., Ho, H.J., Howe, J., et al. (2007). Cross cultural adaptation of the systemic lupus erythematosus quality of life questionnaire into Chinese. *Arthritis Rheum*, 57 (6), 980-985.

<sup>156</sup> Li, L., Wang, H.M., & Shen, Y. (2003) Chinese SF-36 health survey: Translation, cultural adaptation, validation, and normalization. *J Epidemiology and Community Health*, 57, 259-263.

<sup>157</sup> Chow, S.K., & Wong, F.K. (2013) The reliability and validity of the Chinese version of the Short-form chronic disease self-efficacy scales for older adults. *J Clin Nurs*, doi:10.1111/jocn.12298.

<sup>158</sup> Stanford School of Medicine Patient Education in the Department of Medicine (2013). Retrieved from <http://patienteducation.stanford.edu/research>

<sup>159</sup> Hibbard, J., Mahoney, E.R., Stockard, J., & Tusler, M. (2005). Development and testing of a short form of the patient activation measure. *Health Services Research*, 39(4), Part I.

<sup>160</sup> Ow, Y.L.M., Thumboo, J., Cella, D., Cheung, Y.B., Fong, K.Y., & Wee, H.L. (2011) Domains of health-related quality of life important and relevant to multiethnic English-speaking Asian systemic lupus erythematosus patients: A focus group study. *Arthritis Care Research* 63(6), 899-908.

## **Three-Year Action Plan: LANtern® Lupus Care Initiatives**

### **HSS Aligns with Prevention Agenda:**

- Priority area: Chronic disease
- Focus area: Increase access to high-quality chronic disease preventive care and management in both clinical and community settings
- Goals: Promote use of evidenced-base care to manage chronic diseases. Promote culturally relevant chronic disease self-management education.

### **HSS LANtern® program participants will learn to:**

- Provide culturally relevant and best practices in lupus care (among health care and social service provider)
- Enhance self-management strategies through increased knowledge, social and psychological support (among Asian Americans with lupus and their loved ones)

### **Community Partnerships:**

- Charles B. Wang Community Health Center
- University Settlement
- HSS Rheumatology Division (including MDs, RNs, and other HSS specialists)
- Asian American Federation of New York
- Gouverneur Healthcare Services
- Asian Health and Social Service Council
- API Medical Student Association at SUNY Downstate
- Asian American / Asian Research Institute at CUNY

### **Program Benchmarks:**

#### **Year 1 – 2014**

- Pilot a culturally relevant educational program on lupus health and wellness for lupus patients and their loved ones, in collaboration with community partner(s), reaching 40 participants
- Continue to incorporate an Annual Lunar New Year Luncheon as a community based forum to provide peer connections and lupus education from peers and professionals in a context of social support, reaching 60 Asian lupus patients and significant others
- Revise and pilot a peer-based training curriculum for approximately 6 Asian American peer educators as cultural liaisons for lupus support and education, community outreach and health promotion, with the goal to further enhance peer-led programming
- Develop and pilot outcome measures to determine the impact of patient-focused programs, targeting knowledge, self-efficacy, specific self-management skills and social support
- Explore and finalize with current and new community partners planning and implementation for professional education programs, with goal of implementing on program for 15 – 20 participants

#### **Year 2 – 2015**

- Assess results of pilot outcome /evaluation measures, and make adjustments in measures as well as programming consistent with feedback
- Implement a second educational program for lupus health and wellness with community partner(s), reaching 50 Asian Americans with lupus and their significant others
- Develop, administer and analyze results of a survey to assess lupus related concerns, and interest in a support group forum for lupus
- Pilot support group forums (frequency to be assessed) that are culturally relevant to Asian lupus patients, based on thematic analysis of the patient-oriented survey administered, reaching approximately 30
- Develop and pilot outcome measures to determine impact of group
- Assess progress of the integral role of lupus peer volunteers in meeting chronic disease self-management program goals, to evaluate the kinds of activities they are involved in, and their level of satisfaction with their role as community peer health educators.

- Implement 2 professional education programs with community partners, reaching 30 service providers and interested professionals
- Analyze outcome measures for professional programs, and make adjustments as needed

#### Year 3 – 2016

- Continue to pilot support group forums
- Outcome measures will continue to be administered for each support group forum
- Conduct a follow-up evaluation for participants who have attended patient education programs, support group forums, and related LANtern initiatives, to assess overall impact of the CSP on self-management strategies, and intended behavioral change
- Sustain a network of 5 peer volunteers for their integral role in programmatic initiatives
- Plan and implement Annual Lupus Health and Wellness event, reaching 50
- Plan and implement LANtern Lunar New Year Luncheon, reaching 60
- Plan and implement 2-3 education programs for providers and professionals serving the Asian American community, reaching 30 service providers and interested professionals
- Continue to apply outcome measures, and track progress to assess efficacy of our Community Service Plan and disseminate results

## Chronic Disease Priority Area: Program 10

### Focus Area 3: Increase access to high-quality chronic disease preventive care and management in clinical and community settings

#### HSS Nursing Community Education Outreach

HSS is the leader in musculoskeletal health and aims to be the most trusted educator in the fields of orthopedics, rheumatology, and their related disciplines. A strong pillar within HSS's structure is their Magnet<sup>®</sup>-accredited Department of Nursing, which has retained this designation for eleven consecutive years. The Magnet Recognition Program of the American Nurses Credentialing Center recognizes healthcare organizations for quality patient care, nursing excellence and innovations in professional nursing practices.<sup>161</sup> Community service is an important attribute of Magnet organizations, which HSS demonstrates through its HSS Nursing Community Education Outreach public education initiative. This initiative works with local senior centers and community based organizations to provide self-management education to older adults.

#### Background

Musculoskeletal conditions, which include back pain, arthritis, bodily injuries and osteoporosis, are reported by Americans more than any other health condition. Men and women aged 65 and older, totaling 12 – 13 % of the US population as of 2011,<sup>162</sup> report the bulk of these musculoskeletal diseases. Applying these numbers at the local level, the 2010 US Census reports that in NYC alone, there were 993,158 residents aged 65 and older,<sup>163</sup> with estimates that by 2030 the total NYC senior population is to have an increase of nearly 75%.<sup>164</sup>

Given the projected growth of the older adult population and the expected impact of musculoskeletal issues in the future, health education regarding prevention and management by experienced medical professionals is greatly needed. Nurses, by the nature of their training and scope of practice, are well positioned to provide wellness and self-care education to the community. In fact, according to the Magnet Recognition Program, nurse leaders within organizations have an obligation to demonstrate proactive efforts to address the health needs of the communities they serve.<sup>161</sup> The specialized knowledge of nurses makes them a logical choice for teaching individuals about health issues and to help those afflicted develop confidence and competency in the skills needed to self-manage chronic disease. Nurses are adept at holistic assessment of individuals and families with a special focus on self-care, environmental management, access to resources and support systems.

The collaboration of HSS nurses and community groups in servicing the education needs of NYC seniors fills an established public health gap as evidenced by HSS 2013 CHNA results, which reveal that musculoskeletal issues such as OA and OP affected 57% and 43% of older adults. Additionally, falls and fracture prevention was found to be a high priority as 37% of older adults reported a fall within the past year with 17% resulting in fracture. Other identified needs included depression associated with lupus and fibromyalgia, and nutrition, which was also cited as a priority, as 17% of older respondents rated their diet negatively and identified numerous barriers to eat healthily.

#### Program Description

In 2009, the Nursing Community Education Subcommittee of the Patient Education Council met at regular intervals to formulate a strategy to enhance RN participation in community education. The group reviewed patient survey data conducted in 2008 by the HSS Public Education Advisory Committee. Participation (40%) indicated that programs that support successful aging were extremely needed or inadequate. Based on these findings, the HSS Nursing Community Education Outreach initiative was launched in August 2012, growing from a small circle of nurse volunteers to a more robust and structured program to address the health education needs of elderly NYC residents.

Nurse committee members meet monthly to review educational needs, develop evidence based content and assign speakers with appropriate expertise and interest to deliver educational programs that best meet the needs of the NYC older

<sup>161</sup> American Nurses Credentialing Center. (2013). Magnet recognition program overview. Retrieved from <http://www.nursecredentialing.org/Magnet/ProgramOverview>

<sup>162</sup> Andersson, G., & American Academy of Orthopaedic Surgeons (2008). The burden of musculoskeletal diseases in the United States: Prevalence, societal and economic cost. Rosemont, IL: American Academy of Orthopaedic Surgeons.

<sup>163</sup> US Census Bureau. (2010). Census Summary File 1. Retrieved from [http://www.nyc.gov/html/dcp/pdf/census/census2010/t\\_sf1\\_p1\\_nyc.pdf](http://www.nyc.gov/html/dcp/pdf/census/census2010/t_sf1_p1_nyc.pdf)

<sup>164</sup> NYC Department of Planning. (2006). NYC population projections by age/sex & borough 2000–2030 report. Retrieved from [http://www.nyc.gov/html/dcp/pdf/census/projections\\_report.pdf](http://www.nyc.gov/html/dcp/pdf/census/projections_report.pdf)

adult population. The aim of the initiative is to develop self-care knowledge and provide self-management support strategies on issues germane to seniors. Educational topics are selected based upon participant feedback, including falls prevention, nutrition and medication safety.

Thus far, programs have mainly targeted older adults living in the Inwood/Washington Heights section of NYC, where 32% of residents are likely to be without a doctor and nearly 1 in 10 residents go to the Emergency Department when they are sick or in need of health advice.<sup>165</sup> Over the next three years the initiative hopes to expand programming to a larger service area.

### **Specific Program Goals:**

Program goals aimed for 2016 include:

- Increase module library to include topics identified in the 2014 needs assessment
- Expand outreach to seniors beyond the Inwood/Washington Heights locale
- Explore the health education needs of other populations
- Provide education sessions in Spanish and Chinese to address a more diverse audience
- Update teaching methods to be more interactive
- Measure knowledge gained and behavior changes with respect to health care utilization

### **Supporting Evidence for HSS Nursing Community Education Outreach**

The HSS Nursing Outreach Community Education Initiative chooses peer reviewed and validated programs and uses evidence based resources to develop customized content. An example of this is the Reach, Efficacy/Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework developed by Glasgow and colleagues.<sup>166</sup> The model is a best practice recommended by the Stanford Patient Education Research Center for use in planning community outreach programs. The paradigm describes approaches to health promotion and chronic disease self-management in varying settings. The RE-AIM model is used by nurses to identify teaching as a key strategy to promote self-care in older adults. In addition, chronic disease management is one of the major challenges facing healthcare systems and patients.<sup>167</sup> Lorig and colleagues have studied the impact and effectiveness of self-management programs and have found long-term improvements in health status and perceived self-efficacy, as well as reduced healthcare costs in populations with diverse chronic diseases.<sup>168</sup>

### **Program Impact**

Success of the HSS Nursing Community Education Outreach program is demonstrated by participant class evaluation data. To date, seven classes have been provided to 73 participants. All participants ranked classes from good to excellent. Eighty-four percent indicated that they learned something new and 96% reported that they would recommend courses to a friend. HSS nurses have established a strong relationship with both providers and participants alike.

### **Measurable Outcomes**

Over the next three years, the HSS Nursing Community Education Outreach team will continue to focus on measuring changes in knowledge and behavior as well as program satisfaction using a pre/post-test methodology. Additional information will also be collected specific to gender and ethnicity. A survey tool for nurses will be added to measure nurse satisfaction, time commitment and estimated hours of preparation to assess the value to individual nurse presenters and to identify resource allocation needs.

During each of the next three years, the following measures will be assessed:

- % of participants who increased knowledge
- % of participants who attended sessions
- % of participants who changed behavior related to educational activity
- % of participants who increased ability to manage self-care

<sup>165</sup> NYC DOHMH. (2006). Community Health Profiles: Take Care Inwood and Washington Heights. Retrieved from <http://www.nyc.gov/health>

<sup>166</sup> Glasgow, R.E., Vogt, T.M., & Boles, S.M. (1999). Evaluating the public health impact of health promotion interventions: the RE-AIM framework. *American Journal of Public Health*, 89(9), 1322-1327.

<sup>167</sup> Nielsen-Bohlman, L., Panzer, A. M., Kindig, D. A., & Institute of Medicine. Committee on Health Literacy. (2004). *Health Literacy: A Prescription to End Confusion*. Washington, D.C.: National Academies Press.

<sup>168</sup> Lorig, K.R., Ritter, P., Stewart, A.L., Sobel, D.S., Brown, B.W., Bandura, A., Gonzalez, V.,M., Laurent, D.D., & Holman, H.R. (2001). Chronic disease self-management program: 2-year health status and health care utilization outcomes. *Med Care*, 39(11), 1217-1223.

- % of participants per gender and ethnicity
- Number of educational sessions provided
- Number of community centers
- Number of other sites (schools or other settings)

## **Three Year Plan: HSS Nursing Community Education Outreach**

### **HSS Aligns with Prevention Agenda Goals:**

- Priority area: Chronic disease
- Focus area: Increase access to high-quality chronic disease preventive care and management in clinical and community settings
- Goal: Increase access to high quality patient education within the community that highlights preventive self-care and disease management strategies

### **HSS Nursing Community Education Initiative participants will learn:**

- About topics that are important to their personal health and safety
- How to use medications more safely
- How to improve their health and maintain a healthy lifestyle
- Strategies to organize treatment regimens to make self care more manageable, how to protect themselves from environmental challenges such as severe weather, communicable disease and emergency preparedness
- How to communicate with their health care provider and caregivers
- How to identify increased risk for falls and how to prevent likelihood of falls

### **Community Partnerships**

- Washington Heights & Inwood (YM&YWHA)
- Other community senior centers
- Local schools
- Other community health centers

### **Measuring Program Outcomes and Benchmarks:**

#### **Year 1 – 2014**

- Comprehensive educational needs assessment
- Expand library of instructional material from 7 topics to 15
- Explore increasing the number of sites to reach seniors and community at-large outside Washington Heights
- Explore partnerships with local schools
- Increase quantity/quality of outcome data to include age and ethnicity and increase participants from 70 to 120

#### **Year 2 – 2015**

- Expand library of instructional material from 15 topics to 20
- Collaborate with multi-disciplinary colleagues to co-present activities
- Expand to 3 community sites
- Build interactive and alternative methods of teaching such as real time audience-response and standardized post-tests
- Continue to build structure of HSS Nursing Community Education Initiative by increasing the number and visibility of RNs who provide community education through creation of a speakers' bureau/faculty listing
- Connect with partners in the community to expand education to disease specific populations
- Partner with community leaders on health promotion initiatives based on findings from the 2013 needs assessment
- Expand language beyond English to reach more members of the community
- Increase quantity/quality of outcome data to include age and ethnicity and increase participants from 120 to 200

#### **Year 3 – 2016**

- Increase quantity/quality of outcome data to include age and ethnicity and increase participants from 200 to 400
- Expand library of instructional material from 20 topics to 25
- Maintain community partnerships
- Disseminate program findings through presentations at local and national professional conferences and publication in orthopedic and patient education specific journals

**Section 6: Dissemination of the Plan to the Public**

HSS is dedicated to improving the health of its patients and the public through the design, implementation and evaluation of cutting-edge community programs and services which are included in its community service plan. Communicating these programs to diverse audiences as widely as possible is essential. To this end, the Hospital will disseminate its CSP to community partners, affiliated institutions and the public through the Hospital's website [www.hss.edu](http://www.hss.edu), which averages 267,000 unique visitors monthly, as well as digital media and through its annual community benefit report. In addition, CSP best practices are presented at national professional conferences to disseminate/promote the highest quality of care.

**Section 7: Maintaining Engagement with Community Partners**

Effective and sustainable relationships with key stakeholder groups are crucial to the success of HSS community health initiatives. The Hospital works very closely with its community partners in the development, implementation and evaluation of hospital and joint hospital/partner programs. Ongoing communication is vital to sustained community partner engagement and is accomplished through regular meetings to discuss community needs, hear feedback about programs and their effectiveness, plan future programs and share results of evaluations. In addition, HSS is in the midst of reformulating its Public and Patient Education Advisory Committee to be a committee of the Hospital's Board of Trustees. Furthermore, specific departments within the Hospital have Advisory councils/boards to help guide programming. For example, LANtern has an advisory board comprised of community partners, HSS medical staff, community members and HSS social work staff that help to guide this Initiative about raising awareness of Lupus within the Asian community. Furthermore, HSS staff has been asked to participate in community partner advisory groups/committees i.e. Arthritis Foundation, New York Chapter's Program Committee.

HSS, in conjunction with its community partners, is continually tracking and evaluating its programs to ensure they are effective and meet the needs of patients and the public. This is done through regular program evaluations assessing program effectiveness as well as patient/public needs and interests. Any necessary changes are discussed among program staff and, where applicable, community partners and implemented as quickly as possible. The CSP taskforce will meet twice a year to identify and discuss any necessary mid-course programmatic corrections.