

## INTRODUCTION:

Although once known as the “war zone,” the people and community organizations of this area have worked together in collaboration with the City of Albuquerque to improve living conditions in the neighborhoods and have been successful in making numerous positive changes as well as in renaming the area to Albuquerque’s International District. While it is important to recognize the tremendous progress that has been made, it is also essential that one recognize the continued needs of the children and families living in Albuquerque’s Southeast Heights. Youth from this area continues to be exposed to crime and violence and have higher risk of joining gangs.

The majority of families living in the area fall into the “low” or “extremely low” HUD poverty guidelines. Moreover, in step with the neighborhood’s designation of International District, a significant percentage of area residents are immigrants or refugees that encounter great difficulty in financially supporting their families and often encounter problems in accessing basic educational and support services. The most recent census data available indicates that this area of Albuquerque has the highest rate in the city for children under the age of 5 living in poverty and high indexes of adolescent pregnancy, school dropouts, poverty, unemployment, and uninsured families.

Through research and experience we know that young people are more likely to participate in gang activities if they live in an impoverished area, are socially isolated due to culture or limited education, come from single parent households, and are routinely exposed to violence. While significant improvements have taken place, the social conditions of the neighborhoods within the international district continue to place children at risk of gang involvement, delinquency and mental health problems and are indicative of a tremendous need for prevention and intervention services.

## METHODOLOGY:

This research was conducted by accessing information from the Albuquerque Public Schools Resiliency Assessments, the Albuquerque Police Department (APD), The Census and the New Mexico Department of Health using the following key words:

- Gang Prevention
- Gang Numbers and Statistics
- International District
- Crime

- New Mexico

## RESULTS:

### *Poverty*

In 2005, the New Mexico Department of Health revealed that 20.11% of the population living in the 87108 Zip Code (Trumbull/La Mesa neighborhoods) is under fifteen years of age and that 32.64% of the population live below 185% of the federal poverty line<sup>1</sup>. In our experience in working with similar population suggests that the financial situations for many if not most area families are worse due to the recent economic down turn. Area residents increasingly report problems finding work and express great stress due to not being able to provide their families with the most basic needs of food and housing. A recent trend is that more and more area families have to share housing with other relatives or friends due to being at risk of imminent homelessness.

### *Crime*

With respect to crime, the Institute for Social Research, reported that criminal behaviors are more prevalent in this area than in the Albuquerque metropolitan area, the State of New Mexico, and the United States overall.<sup>1</sup> These patterns are consistent for both serious violent crime and serious property crime, and are true for prostitution, weapons offending, and crimes involving gang members. The most prevalent category of serious violent crime in the area is aggravated assault, followed by robbery, rape and homicide, respectively. In their 2007 application to continue Weed and Seed funding, the City of Albuquerque reported that gang-involved criminal offenses are more prevalent in the International district than in Albuquerque as a whole.<sup>2</sup> The application indicated that the Southeast area is one of the major gang-involved hot spots in the metropolitan area, along with the area immediately south of downtown and the far South Valley.

### *Public Concern*

Services requested through the Human social services from area residents and schools also indicate a significant need for continued gang prevention and intervention services. Both medical providers and school officials report an overwhelming need for prevention, counseling and other mental health services. The demand for services for

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<sup>1</sup>

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children and adolescent experiencing problems associated with gang activity, criminal acts and/or other forms of aggressive acting out has grown tremendously. This is most likely due to the stress associated with economic hard times as well as due to changes in the state's behavioral health delivery system, which seems to have reduced the availability of out patient services as well as residential treatment services and other "higher levels" of care. Statistics obtained from Van Buren Middle School from the last academic year indicate that 120 students were referred to the school's health and mental health team for support/intervention services. This number remarkably reflects nearly 20% of the school's total student population. In addition to this increase in demand, the acuity and severity of problems clients present with have increased thus requiring them to receive more intense services as well as to remain in services for longer periods of time.

## RECOMMENDATIONS

Based on the findings of this report and in response to the tremendous social needs of the community, we are recommending the development of a Gang Prevention Program in the International District. A school based project for elementary and middle school youth seems appropriate since prevention programs are most likely to work when given previous to high school.

## WORKS CITED:

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2007 East Side Weed and Seed Application. Prepared by Department of Community and Family Services, City of Albuquerque. February 2007.

IBID

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Becoming a doctor has been my goal in life ever since I can remember. The thought of healing others always greatly appealed to me. I was raised around the hospital setting due to myself, my mom, and a great deal of my family being in and out of the hospital quite often. My family has a very high incidence of medical problems such as cardiovascular disease, diabetes, and obesity. I saw how one exemplary doctor who was willing to listen carefully to the patient and the extended family was able to communicate effectively to attain a better health outcome. They treated patients rather than the symptoms. I was determined as early as the age of 8 that someday I too would have the ability to treat entire families to the best of my ability. In order to do this I knew that I would have to gain as much knowledge as possible to mature into the finest physician I was capable of being.

Holding my mission close to my heart allowed me to approach school with zeal and gain a passion for learning that has endured throughout my undergraduate career. I am a double major in Biochemistry and Biology, a licensed EMT, and an honors student with a 4.0 GPA. The more classes I succeeded in and the more I was familiar with science and the initial stages of medicine, the greater my thirst for knowledge became.

When most students give up and go to bed early, I will stay up all night until I completely understand the concepts and feel confident in the material. As the first person in my family to undertake an intensive science major, I had to slowly train myself to begin preparing for tests and projects much earlier, to contact teachers to ask questions personally, and to study with other classmates.

[In one of my honors classes we studied inequalities in the school systems in New Mexico and our final project was to create our ideal school. A combination of my science background and sensitivity to has inspired me ]

Talk about HMMV for couple sentences!!!!

[As an undergraduate in college, I have proven academic excellence due to the hard work and extra effort I have demonstrated in each of my classes. ]

Challenges such as enrolling in the engineering Physics 1 and Calculus 3 courses taught by more difficult and demanding teachers pushed me to a level of study I did not believe I could achieve. I used to study regularly at the Center for Academic Program Support (CAPS), the undergraduate tutoring service at UNM, just to stay on track in my classes. I worked so hard in fact that when I began working as a tutor for CAPS, most of the tutors thought I was already an employee as I had been there so often. After I was successful in many of the classes others struggled with, I decided to pass on my knowledge and expertise to others having difficulties. In doing so, this experience has enabled me to deepen my knowledge and comprehension of the content, to readily apply my understanding to real-life examples, and to approach problems from multiple perspectives. It is very important to me to share my abilities and help others succeed. Hopefully someday I will teach at the UNM School of Medicine and pass on wisdom given to me during my time as a student. (cut a little)

Due to my interest in healthcare, I attempted things not required but which I believed would increase my ability to help people. As a double major in Biochemistry and Biology, I took extra classes and created many petitions in order for this to be an option, as not many people have

attempted it before. Biology classes taught me about the nuances of the human immune system and the viruses that affect us, while the extra classes in Biochemistry allowed me to connect with teachers currently researching diabetes and obesity, topics I am eager to study due to my family history. I also enrolled in summer for two years in order to become a licensed EMT through CNM. I wanted to prove to myself that I could handle diagnosis, treatment, and overall patient care.

[It strengthened my conviction to enter the healthcare field.]

The enthusiasm and dedication I illustrated in my academics made conducting research in various settings possible.

In addition to my academic coursework, I wanted to gain research experience to be prepared for

as it will always remain a largely influential element of healthcare and I wished to become acquainted with the basic procedures and protocols of a laboratory environment. My personality made me comfortable approaching people and learning about new prospects. My networking skills and my academic record presented me with the opportunity to be a research assistant in both a Biology Department lab and the UNM Emergency ED. I also had the liberty of registering for Parasitology (BIOL 482L) which included researching a specific parasite and its host specificity.

My first research experience was under Tom Turner and Megan Osborne in the Biology Department of UNM. I had gained this position through a friend and also an advisor who were aware that I was interested in acquiring research experience. I worked for 10 months (12/2012-9/2013) in the Turner Lab studying the various haplotypes of the *Hybognathus amarus* (Rio Grande Silvery Minnow), adding up to approximately 560 hours. Most of my duties were performed in the lab. I isolated DNA from fin clips, performed PCR's, clean up protocols, Big Dye's, ran agarose gel electrophoresis, and looked at sequences to determine haplotypes. I also recorded the locations at which these haplotypes were found. Lastly, I assisted in the capture and release of the silvery minnow at predetermined locations on the Rio Grande. By isolating and analyzing specific genetic sequences, we could work closely with NM Game and Fish to promote conservation methods based on variances of the haplotypes throughout the different sites on the river and in the hatcheries around the state. Funding for the project expired and I was unable to assist with the creation of an abstract or presentation concerning the data that was collected.

Performing research on various haplotypes and mapping genetic trees sparked my interest in genetic research. After this experience I longed to concentrate on the link between genetics and diseases. I thoroughly enjoyed my general Genetics class and was fascinated by the genetic code and all of the information it could possibly hold. The fact that DNA could be linked to disease prevalence but there is no clear mechanism as to how it is affected is astounding. I am hoping to work with physicians focusing on genetics and its implications in obesity, diabetes, cardiovascular disease, or cancers.

My second research experience was in a biomedical research class, BIOM 410 (8/2013-12/2013). We were trained in research protocols for current studies in the UNM ED. We became certified research assistants and acquired the skills to explain the reason for the study and the

corresponding risks, ultimately leading to enrollment of willing subjects. We were also required to study the ED and shadow physicians to create a research project based on our observations and experiences. I wanted to research if certain deaths that occur in the ED negatively affect a healthcare provider's care more so than others. I became interested in this subject after witnessing the death of a patient while volunteering in the ED. I watched as the team took a minute to console each other, spoke a few words, and then continued caring for their other patients. I began wondering if certain characteristics of a death are harder to handle. I also wanted to research if the extent of that influence varies across disciplines such as nurses or doctors. The proposed research project I created is attached. I worked closely with Dr. Jon Femling in an attempt to make this project feasible and address all aspects of the research. I learned how to create a research question from observations while considering how to make it plausible and quantifiable.

My most recent research experience was also due to an opportunity presented to me in a course. In Parasitology (1/2014-5/2014), we studied the host specificity of the parasite *Echinostoma paraensei*. We tested the ability of *E. paraensei* to infect two strains of its usual host *Biomphalaria glabrata* in addition to its very distant relative *Biomphalaria pfeifferi*, which are evolutionarily separated by 1-5 million years. We are expected to present the methods, results, and conclusions of the research for the Biology Department's Research Day on April 4, 2014. This laboratory gave me the ability to assist in all stages of the research process. I took part in the infections of snails, subsequent dissections of snails to determine the presence of parasites, and the recording and interpretation of data. I also took part in writing all the sections and contributed to the construction of the poster. The finalized poster is attached. This was a great experience which taught me the skills to discover and study parasite lifecycles in any organism and relate the knowledge to human infections.

Using all of my experiences from these diverse approaches to research, I hope to continue taking part in projects during medical school. I am familiar with Dr. Robert Orlando's work at UNM as I have taken a few classes with him. Genetics may not be a large portion of his research but I know he is striving to detect inflammation earlier so as to warn people even before they are diagnosed with pre-diabetes. Hopefully my experience with patients and the study of inflammation due to infections will aid me in this field of investigation. I am highly interested in this study not only because of my family, but because of the impact it may have on New Mexico and also our country. If I could help further that field of study, I would be ecstatic. Though my higher priority was my academics and research opportunities, I did not let this hinder my involvement in community service. I am an outgoing, kind person, whose genuine love for interaction with people made it simple to be involved in the community and take part in events around campus. I participated in two organizations on campus: the Biology Undergraduate Society (BUGS) and the Pre-Med Organization. I was also involved with the Earth Force Summer of Service and with an informal group of students dedicated to helping each other with the medical school process.

I was involved with BUGS for 3 years of my undergraduate experience at UNM. I spent one year as a member, one year as a departmental relations chair, and one year as Vice President. I took part in Hanging of the Greens, the Biology Graduation setup and takedown, UNM orientation days, Wolf Fest, and bake sales for funding the Junior Scientist Outreach Program (JSOP) among other things. BUGS is one of JSOP's most influential sponsors, second only to Sandia. Thanks to our contributions, this week-long summer program has given historically underprivileged 4<sup>th</sup> and 5<sup>th</sup> grade students the opportunity to engage in science through creative community building projects. BUGS donated both money for materials and volunteers to run the program for the week.



BUGS also teamed up with the Women's Resource Center to give presentations about women in science. As a presenter I gave personal anecdotes about my life and undergraduate career in an attempt to empower female students to pursue the sciences. Lastly, BUGS began UNM's annual Wolf Fest in 2011. This event aims to raise awareness of the rising endangerment of the New Mexico lobo (grey wolf). It also serves as an opportunity to educate children and families on the important native species throughout New Mexico. Total time committed to BUGS community service involvement was approximately 150 hours.

In addition to my involvement with BUGS, I also assisted the Biology Department by giving a presentation to students in the Earth Force Summer of Service in the summer of 2013. This program is available for all 6<sup>th</sup>-9<sup>th</sup> graders in an effort to encourage leadership and educate students in biology, sociology, planning, and psychology. I gave a presentation on the basics of how to take vital signs and held a hands-on workshop during which the students were shown how to obtain a heart rate on each other and were allowed to use a stethoscope and a sphygmomanometer.

Lastly, I was a member of the Pre-Med organization for 2 years and began an informal group filled with students who were preparing to apply for medical school. In the Pre-Med organization I participated in fundraising and advising other students in possible courses to take. My time in the Pre-Med organization focusing on community service was approximately 20 hours. After this I became a member of a small group of students who wanted to assist each other through the medical school application process. We aided each other mostly in preparing for the medical school interview and in studying for the MCAT. We held mock interviews and met monthly to discuss possible questions that may arise and how to manage them.

I firmly believe this difficult undergraduate experience will assist me in meeting the medical school challenges and overcoming them. Only with hard work and dedication have I come this far in my path to a career in medicine, and my academic struggle and achievements in research are most reflective of this.

In addition to all of this, I have been employed consistently since I was 18 except for a short period in my junior year (Not sure if this is needed, but I do think it's important that I wasn't just doing school and research and community service). I believe my ability to juggle academics, research, community service, and employment exceedingly well makes me an impressive candidate for this scholarship. I hope you **agree**.