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| NLM Minority Professions Database Training Program, Phase 1*A look at SISs Training Classes with the Student National Medical Association* |
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Abstract

BACKGROUND: The National Library of Medicine (NLM) Division of Specialized Information Services (SIS) has been providing training classes to the members of the Student National Medical Association (SNMA) for 13 years. Now, SIS is analyzing data collected from course participants during training sessions and looking for key trends in this data to better understand the impact the SIS training class are having on the SNMA.

The objectives for this project require the extracting of data from excel spreadsheets and making it useful through data visualization. The project also aims to give an NLM Associate a better understanding of the type of training SIS conducts.

METHODS: A qualitative assessment method was used for this study. An Associate examined spreadsheets that contained demographic data from participants of the SIS training courses given to members of SNMA. This study looked at the participants’ occupation, school/organization of affiliation as well as how they planned to use the information that was learned in the class.

RESULTS: This data was taken from excel and was visually mapped into charts and graphs. Then the Associate used this visually mapped data to isolate key trends.

CONCLUSIONS: The trends included:

* A broad audience participates in SIS database training classes offered to the SNMA.
* The perception of the purpose of SISs training classes has shifted over time.
* There is a constant desire to learn about NLM databases, and this desire has increased with time.
* SIS training classes provide a forum for broad dissemination of NLM resources.
* Many participants take the SIS training classes with a specific research topic in mind.

Introduction

In 2014 the Student National Medical Association (SNMA) will celebrate its 50th anniversary. This milestone will also mark 13 years of the National Library of Medicine (NLM) Division of Specialized Information Services (SIS) working with the SNMA to provide training to medical professionals.

“The Student National Medical Association is the nation’s oldest and largest independent, student-run organization focused on the needs and concerns of medical students of color. Membership includes more than 8,000 medical students, pre-medical students, residents and physicians. Established in 1964 by medical students from Howard University School of Medicine and Meharry Medical College, SNMA boasts over 40 years of service to underserved communities and medical students. SNMA is dedicated both to ensuring culturally sensitive medical education and services, as well as increasing the number of African American, Latino and other students of color entering and completing medical school.

In 2001, NLM became aware of SNMAs projects, including its international medical missions and pipeline projects and started an NLM database training project for SNMA members. Initially, medical students coming to Washington, D.C. before traveling to Ghana for an International Medical Mission were targeted. These students spent a day at NLM where they received database training and attended presentations by NLM staff about their projects. The database class is now taught at SNMAs Annual Medical Education Conference.”

(Source: <http://sis.nlm.nih.gov/outreach/outreachsnma.html>)

Methods

1. An Associate was presented with excel spreadsheets that housed the attendance data for database training classes that were taught to members of the Student National Medical Association. This data covered the years 2002 to 2012 with the exception of 2006. The classes were given by staff members in the U.S. National Library of Medicine Division of Specialized Information Services. The classes were taught once a year for 10 years in preparation for SNMAs medical mission or at the SNMAs Annual Medical Education Conference (AMEC).

The attendance data spreadsheets contained several fields, including: First name, Last name, Title, Organization, Department, Phone number, Email Address, Address and Purpose for taking the class. The Associate looked at the fields that indicated a participant’s title, their institution as well as their indicated purpose for taking the class.

1. The data from the spreadsheets was transformed into pie charts and bar graphs as well as tables in order to facilitate the isolation of key trends.
2. While going through the data, the Associate saw that many of the training class participants were affiliated with enrichment programs. So, he researched these programs and included information on these programs in the report.
3. The Associate then searched online for more information on SNMA, and found information concerning their medical mission trips. He included this information in the report as well.

Outcomes

# **Key Trends**

**Trend: The SIS training classes provide a forum for broad dissemination of NLM resources.**

This means that the participants of the SIS training classes represented a wide variety of academic and professional institutions, and came from many states across America.

The purple shading in the table below indicates that as time progressed more institutions, on average, were represented in the SIS training classes. From 2002 to 2005 the classes had approximately 11 institutions represented per class. From 2007 to 2012 the classes had an average of 17 institutions represented per class. Over the course of 10 years, participants came from 29 out of the 50 United States, including the District of Columbia.

| Year | Affiliation: Number of Institutions Represented Per Class |
| --- | --- |
| 2002 | 12 |
| 2003 | 8 |
| 2004 | 11 |
| 2005 | 10 |
| 2006 | Data Not Available  |
| 2007 | 13 |
| 2008 | 21 |
| 2009 | 13 |
| 2010 | 13 |
| 2011 | 22 |
| 2012 | 20 |

\*Those training class participants that did not indicate their institution were excluded from these calculations.

## **Trend: The perception of the purpose of SIS training classes has shifted over time.**

The SIS database training classes offered to SNMA went from being seen as a medical mission trip requirement, to being taken for a variety of reasons.

When SIS first began offering the training classes to SNMA, these classes were conducted at NLM as a prerequisite to the medical mission trip. SNMA members would come to NLM for the day, take the class and then depart for the medial mission trip.

| Year | Purpose: Percentage of Participants Attending SIS Classes as a Medical Mission Trip Requirement  |
| --- | --- |
| 2002 | 33% |
| 2003 | 22% |
| 2004 | 56% |
| 2005 | 40% |
| 2006 | Data Not Available  |
| 2007 | 17% |
| 2008 | 21% |
| 2009 | 0% |
| 2010 | 9% |
| 2011 | 0% |
| 2012 | 0% |

\*Those training class participants that did not indicate their purpose for attending the class were excluded from these calculations.

By the year 2010 only 9% of participants were taking the classes for as preparation for the SNMA medical mission trips, and by the years 2011 and 2012 none of the participants indicated they were taking the class solely to prepare for the SNMA medical mission trips. Instead, participants began taking the classes for a number of different reasons. (This will be explained by the next trend.)

**Trend:** **Many participants take the SIS training classes with a specific research topic in mind.**

It was seen that participants enter the SIS training classes guided by their own interests. They know what they want to get out of the classes. In the years 2002-2004 participants did not usually come to the SIS training classes with a specific research topic in mind. The purple shading shows that from 2005-2012 there was a large increase in the number of participants that came to the class with a specific research topic in mind. Presumably this topic guided their learning. Some of these reasons for taking the class include:

* Preparation for a new career
* Preparation for medical school
* To understand international medicine and public health
* To understand problem- based learning
* In order to see examples of evidence-based medicine
* To learn about Spanish-language resources
* To combine medical and business knowledge
* Participating in a Johns Hopkins University enrichment program
* In order to learn how to conduct literature searchers and systematic reviews
* Participating in a SNMA enrichment program

| Year | Purpose: Percentage of Participants with a *Specific Research Topic* |
| --- | --- |
| 2002 | 8% |
| 2003 | 7% |
| 2004 | 0% |
| 2005 | 20% |
| 2006 | Data Not Available  |
| 2007 | 30% |
| 2008 | 17% |
| 2009 | 12% |
| 2010 | 38% |
| 2011 | 28% |
| 2012 | 44% |

**Trend: There is a constant desire to learn about NLM databases, and this desire increases with time.**

The following table shows that throughout the 10 year history of the SIS training classes being taught to SNMA members, there has always been a sustained desire to learn more about NLM resources. Years 2011 and 2012 (indicated in purple shading) show a large increase in those participants taking the course in order to learn more about NLM resources. This shows that those taking the course are still enthusiastic about the course’s content and that the course is still satisfying information needs.

| Year | Purpose: Percentage of Participants Attending SIS Classes to learn about NLM Databases and Resources |
| --- | --- |
| 2002 | 4%  |
| 2003 | 22% |
| 2004 | 13% |
| 2005 | 20% |
| 2006 | Data Not Available  |
| 2007 | 3% |
| 2008 | 12% |
| 2009 | 13% |
| 2010 | 10% |
| 2011 | 36% |
| 2012 | 24% |

**Trend: The SIS database training classes have to be tailored to fit a broad audience.**

SIS training classes are attended by: medical students, high school students, undergraduate students and graduate students. Thus, the content has to be applicable to students with a wide variety of backgrounds.

In addition, a large percentage of the training class participants are not students at all, they are faculty/ staff of universities as well as medical professionals.

Even though SNMA is a student organization, faculty and staff from universities as well as practicing medical clinicians, participate in the activities SNMA has to offer. This participation includes the SIS database training class. This shows that what is learned is not only being carried to academic institutions across America, but is also being shared with those that work in clinics and hospitals as well.

| Year | Occupation: Percentage of *High School Students* in the training classes |
| --- | --- |
| 2002 | 0 |
| 2003 | 0 |
| 2004 | 0 |
| 2005 | 54% |
| 2006 | Data Not Available  |
| 2007 | 6% |
| 2008 | 0 |
| 2009 | 0 |
| 2010 | 0 |
| 2011 | 8% |
| 2012 | 0 |

| Year | Occupation: Percentage of *Undergraduate Students* in the training classes |
| --- | --- |
| 2002 | 0 |
| 2003 | 0 |
| 2004 | 9% |
| 2005 | 15% |
| 2006 | Data Not Available  |
| 2007 | 5% |
| 2008 | 17% |
| 2009 | 12% |
| 2010 | 0 |
| 2011 | 8% |
| 2012 | 20% |

| Year | Occupation: Percentage of *Graduate Students* in the training classes |
| --- | --- |
| 2002 | 0 |
| 2003 | 0 |
| 2004 | 0 |
| 2005 | 54% |
| 2006 | Data Not Available  |
| 2007 | 6% |
| 2008 | 0 |
| 2009 | 0 |
| 2010 | 0 |
| 2011 | 8% |
| 2012 | 0 |

| Year | Occupation: Percentage of *Medical Students* in the training classes |
| --- | --- |
| 2002 | 79% (8% of these students were enrolled in dual doctoral programs, 17% were also enrolled in an MPH program in addition to their doctoral program) |
| 2003 | 67% |
| 2004 | 57% |
| 2005 | 31% |
| 2006 | Data Not Available  |
| 2007 | 58% |
| 2008 | 46% |
| 2009 | 41% |
| 2010 | 86% |
| 2011 | 68% |
| 2012 | 64% (8% of these students were enrolled in dual doctoral programs) |

| Year | Occupation: Percentage of *Staff/ Professionals* in the training classes |
| --- | --- |
| 2002 | 21% |
| 2003 | 33% |
| 2004 | 5% |
| 2005 | 0% |
| 2006 | Data Not Available  |
| 2007 | 27% |
| 2008 | 12% |
| 2009 | 6% |
| 2010 | 14% |
| 2011 | 4% |
| 2012 | 12% |

Discussion

# **What was significant about the results?**

There were several surprising results. It was suprising to see that participant of the classes were in a variety of different stages of their academic and professional careers. The Associate thought the only participants in the training classes would be medical school students. This assumption was formed because the courses were targeted to medical school students and presented at a conference for medical school students. However, the attendance data showed that there were high school students, undergraduate and graduate students, educators as well as practicing clinicians attending the SIS training classes.

The Associate thought the reasons people gave for taking the classes were surprising. The Associate thought the major reason people would want to take the course was to learn about NLM and NLM Web resources. However, the participants’ purpose for the classes went beyond this. Some people took it in preparation for medical mission trips or in preparation for medical school. Other people took the course to learn how to do a literature review and to learn about evidence based medicine. Finally, others took the course to prepare for a career shift or to increase their efficiency in their current career track.

# **Were there benefits to the Associate? What was learned?**

## **Benefit to the Associate**

## He gained a better understanding of the work that NLM Division of Specialized Information Services does, and how SIS partners with associations and organizations to disseminate NLM resources.

## **What was learned**

The Associate also received valuable practice in taking raw data and turning it into tables and graphs. He also gained experience interpreting these tables and graphs in order to extract meaning.

Recommendations

# Future Steps

It would be useful to contact some of the participants of the SIS database training classes in order to follow-up with them. This would allow the Associate to see how impactful and useful they felt the SIS database training classes were. It would be great to see if the participants still use what they learned.

In the future the contact information collected from class participants should be utilized sooner. It would probably be best to send a follow-up survey to participants no later than one-month after the class is completed. The survey should include multiple choice and ranking question, but also a free text field where participants can share their own thoughts and testimonials about the SIS training class they took.

Charts and Graphs

#### **Graphs Generated from Spreadsheets**

# **2002**

# **2003**

# **2004**

# **2005**

# **2007**

# **2008**

# **2009**

# **2010**

# **2011**

# **2012**

# **Geographic Origin of Training Class Participants 2002-2012**