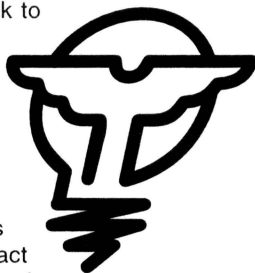


# I N F O S P H E R E

## ITS/HIR TO PRESENT AT SYMPOSIUM

The acknowledged premier informatics conference is the Annual AMIA Fall Symposium. Held this year in Nashville at the Opryland Hotel, October 25-29, the themes of the symposium will be, "The Emergence of 'Internetable' Health Care," and "Systems That Really Work." These speak to the issues of making data networks public while simultaneously ensuring confidentiality of private health records, as well as evaluating the impact of information technologies with regard to cost containment. Members of Health Informatics Research (HIR) and Integrated Technology Services (ITS) submitted to the conference, and all were accepted. This is a significant achievement in an environment where a 50 percent acceptance rate is common. Presenting at the symposium are:



- Gary Allen, D.V.M., Ph.D
- Adam Asare, B.J.
- Andrew Balas, M.D., Ph.D.
- Michael Barnes, M.D.
- Jesse Bowen, Ph.D.
- J. Craig Klimzak, D.V.M., M.S.
- Santosh Krishna, Ed.S.
- Mauricio Leon, M.D.
- James Marshall, Ph.D.
- David Moxley, M.A.
- Tim Patrick, Ph.D.
- John Reid, Ph.D.
- Michael Ruiz, R.N., M.B.A.
- Mary Ellen Sievert, Ph.D.
- David M. Witten II, Manager of Research, Support & Development at ITS.

## BIOSTATISTICIAN — BIO\*STAT\*IS\*TI\*CIAN — \BI-O-STA-TE'STI-SHEN\ N.

Four out of five dentists surveyed choose Trident sugarless gum. The average life span of women is 79 years, for a man 72.3 years. The average number of children in an American family is 2.5. Chance of rain today is 20 percent, increasing to an 80 percent chance on Friday. Such proclamations are heard frequently in our daily lives. Where do such statistics come from? Who provides the data and why? The answer can be found in a department called Biostatistics, a division of Integrated Technology Services.

### Investigating the Research Problem

One of the roles of the statisticians is to manage and analyze "data" presented in health-related research projects from the School of Medicine, Veterinary Sciences, Biology, Education and a few other academic departments. In addition they interpret the results of the data analyses. "The investigator comes to our department with a supposition, question or hypothesis relevant to the data that they have collected," said Jane Johnson, M.A., statistician. "The investigator is looking to see if his or her data supports the hypothesis." There are usually six steps in the journey of a research project.

1. Develop research question
2. Develop the hypothesis
3. Design the experiment
4. Investigator conducts the experiment
5. Data is analyzed
6. Interpretation of results

Statisticians can accept the project at any step, however, the statisticians are also trained to help in the "planning" stages of the research project. To insure the most accurate results, it is recommended that the investigator schedule a meeting with the statisticians in the beginning.

### Tools, Technique and Time

The statistical methods employed must match how the data were collected. To say that technology has had an impact on statistical techniques and analyses would be an understatement. "The computer has revolutionized statistics," said Dr. John Hewett, professor of Biostatistics. The Statistical Analysis System (SAS) is the software the statisticians primarily use for data analysis. In addition to SAS, traditional tools are used such as pen, paper, personal computers and scanners. Finally, decision making skills are required from the human side.

### Under the Microscope of Methodology

There are several commonly used statistical tests. These statistical methods are developed from pre-established criteria. Research can be grouped into "types or models." Some examples: *Group Comparisons*, a type that will test whether the "new" is better than the "old" such as in the testing of prescription drugs; *Regression*, developing models to predict outcome variables regarding daily living such as depression; *Survival analysis*, what factors have an influence on life and death, i.e. tumors, cancer, etc.

Statistical analysis is also used in the study of disease, surgical techniques and rehabilitation. Some tests attempt to answer such questions as:

Can arthritis patients safely exercise in order to improve their cardiovascular state? Is the pain threshold for victims of polio different from that of arthritis sufferers or patients with spinal cord injuries? When performing a tonsillectomy, should additional suturing be performed?

*continued*

## NEW STAFF

### Lola Eames

Computer Programmer  
Analyst I  
UP Business Applications

### Colleen Meyer

Predoctoral Fellow  
Health Informatics Research

### Catherine Craven

Research Librarian  
Health Informatics Research

### Deanna DuPriest

Senior Computer  
Programmer  
Hospital Business and  
Administrative Applications

### Janpen Palipatana

Computer Programmer  
Analyst II  
Hospital Business and  
Administrative Applications

## CONGRATULATIONS

### Jill McGinnis

Promoted to Computer  
Programmer Analyst II  
Hospital Business and  
Administrative Applications



### EDITORIAL STAFF

**Linda Cooperstock:** Manager, Planning and  
Coordination

**Alan Arnold:** LAN Manager, Internal Medicine

**Karen Apple:** Senior Information Specialist, ITS

**Rebecca S. Graves:** Information Services

Librarian, J. Otto Lottes Health Sciences Library

**Lamar Henderson:** Senior Information Specialist,  
ITS

**Debra Wheeler:** Information Specialist, ITS

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<http://www.hsc.missouri.edu/infosphere/docs/infosphere.html>.

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Statisticians are also critical members of multi-disciplinary research teams. An example is the team Marilyn Rantz, RN, PhD, assistant professor in the Sinclair School of Nursing has put together consisting of herself, a doctor, biostatistician, and research assistant. This team is investigating how to improve the quality of care and life for Missouri nursing care residents. This project is funded by a grant from the Missouri Division of Aging.

### Grants, Publications and Questionnaires

The statisticians also offer other services, too. Assistance is provided to the investigator who needs to include statistical methodology in a grant application. If publishing the manuscript, the statisticians will help with the portion of the manuscript regarding the statistical information. They can design questionnaires specific to your needs and analyze the results. The initial consultation is free followed by the regular consultation rate of \$40.00 per hour. Consulting is available to the private sector.

### Sign Me Up

An investigator with a research project may schedule an appointment with one of the biostatisticians by calling Barbara Barman-Julius at (573) 884-6627. If you would like more information you can visit their website at [www.hsc.missouri.edu/its/itsbs01.html](http://www.hsc.missouri.edu/its/itsbs01.html).

## MANAGEMENT HIGHLIGHT

Lynn Diel, Manager  
Technical and Data Integration Services

Technical and Data Integration Services encompasses four specific areas: Technical Services, Interfaces, Data Integration and Data Quality Services. Each of these groups perform vital and typically behind-the-scene functions in the Health Sciences Center.

The Technical Service team provides technical support for Systems Administration, High-availability and Recoverability and act as a technical liaison to the Integrated Technology Services (ITS) areas and their customers for application servers. The team provides support for the hardware and the operating system, including IBM AIX, Hewlett-Packard MPE, Digital Equipment Corporation Open VMS and Microsoft NT. This team provides the technical and hardware foundation for the enterprise.

As the HSC moves into the future of healthcare, it will become increasingly important to establish communications between the myriad of computer systems, which will ease data transfers. The Interface Engine team provides the expertise to design, implement and carry forward these mission-critical tasks.

Just as important as getting the data from system to system is the work of the Data Integration team. The enterprise recognizes that a key to success for modern hospital organizations is access to the right information at the right time at the right place in the right form. In order to be successful, the Health Science Center community needs rapid access to all information before making any decision that may impact patient care.

While recognizing the need to get the data to the desktop and make it useable, it is also important that the data is clinically and financially correct. The Data Quality Services team provides system data support to various customers of the Health Science Center and community facilities. The primary focus is to ensure that the data being used by the various customers of the Health Science Systems Enterprise.

Some major accomplishments for the teams include: the installation of the hardware and software for the Patient Centered Care Online (PCCO) initiative ahead of schedule; the completion of the majority of the interfaces required for the first phase of the Cerner implementation of OCF; the implementation of a website featuring Oracle documentation, ODBC drivers, SQL commands to assist in report writing, support notes and non-confidential Cerner documentation; and identifying and taking corrective actions to ensure that the Patient Registration database is above national standards.

The four teams are not only involved heavily with the PCCO project but are in the process of several major initiatives, which include: backup and recovery systems for enterprise data and functions; high-availability data center; data modeling—showing the relationships of data elements; data cataloging—identifying and documenting data elements; and identifying data quality processes for improvement.

## TUESDAY NOON SEMINARS

Seminars are at GL03-11 in the basement tunnel between the Hospital and McHaney Hall

November 4

### **Steven Staniford MD**

Medical Director,  
Breast Cancer Services,  
Ellis Fischell Cancer Center,  
and Chair, Health Sciences  
Institutional Review Board  
*Ethics Issues*

November 11

### **Jesse Bowen, Ph.D.**

Medical Informatics Fellow

November 18

### **Harry Tryer, Ph.D.**

Professor,  
Computer Engineering and  
Computer Science  
*High Speed Computing  
Performance for Medical  
Informatics*

## CONFERENCES

November 20, 1997

### **Microsoft Internet/Intranet Solutions**

The Pfister Hotel  
Milwaukee, Wisconsin  
[www.microsoft.com/events/](http://www.microsoft.com/events/)

November 30-December 5, 1997

### **Radiological Society of North America RSNA '97**

McCormick Place  
Chicago, Illinois  
[www.rsna.org/rsna97/  
index.html](http://www.rsna.org/rsna97/index.html)

December 2-5, 1997

### **The 21st Annual CAUSE Conference on Information Resources in Higher Education**

The Walt Disney World  
Dolphin  
Lake Buena Vista, Florida  
[www.cause.org/conference/  
c97/hotel.html](http://www.cause.org/conference/c97/hotel.html)

December 10-12, 1997

### **Internet World Fall '97**

Jacob Javitts Convention  
Center  
New York, New York  
[events.internet.com/fall97](http://events.internet.com/fall97)

## ITS REPORT

Integrated Technology Services (ITS) will publish a quarterly task list of accomplishments that span the entire enterprise from accounting to Medical Records, patient and community education, to University Physicians. The list of tasks accomplished and a new list of tasks proposed to be completed in the upcoming quarter will be published. The task lists are now available on the Web from the ITS page at [www.hsc.missouri.edu/its](http://www.hsc.missouri.edu/its).

ITS management is also working to perfect a project management process by which managers describe each project in their area with dates of request, completion, status, etc. This will help track resources and time spent on all the projects and will help decision makers prioritize projects where conflicts occur.

The annual ITS Cost Survey will soon be conducted with all the Health Sciences Center departments. This tool is used to track what the enterprise spends on information technology in the areas of personnel, hardware, software and services.

## FROM THE J. OTTO LOTTES HEALTH SCIENCES LIBRARY

### NOT JUST FOR NURSES

New on HSLNET is *Lippincott's Complete Nursing Reference on CD-ROM*, which includes the complete text and images from the following five books:

- *Bates' Guide to Physical Examination and History Taking*;
- *Fischbach's Manual of Laboratory & Diagnostic Tests*;
- *The Lippincott Manual of Nursing Practice*;
- *Carpenito's Nursing Care Plans & Documentation: Nursing Diagnoses and Collaborative Problems*;
- *The Lippincott Nursing Drug Guide*.

Every word in each of the five texts is searchable. You may choose to search in one or more of the books, or search the entire collection at once. It is also possible to browse the table of contents of each book. First, select the book you want to examine from the left side of the screen. Then click on the words "Table of Contents" which appear in the oval in the window on the right. Software features include hyperlinks, thumbnails, and the ability to print, save or copy to the clipboard. Hyperlinks are provided to the table of contents listings, figures and tables, and chapter references, allowing you to jump between related text and figures. Miniature versions of the tables and figures in each chapter, called thumbnails, are displayed on the right side of the screen, and can be enlarged by clicking on the blue hyperlinks in the text. This new resource is available from the workstations on the second floor of the library under "Electronic Books." Any Windows workstation on the campus network can be configured to use it as well. Contact Denise Hooks, the Library Computer Support Specialist, at 882-6141 for more information.

The Lippincott CD resides on the Library's new HSLNET file server, which was installed this summer. It will be jointly managed by the library and ITS. The new server will allow access to up to 28 CD-ROMS from any networked computer on the campus. A complete list of HSLNET resources appears at: <http://www.hsc.missouri.edu/library/docs/ebooks.html>, as well as from the library web page. The Library, ITS and the Office of Medical Education are developing mechanisms to evaluate and select additional electronic resources to be placed on the HSLNET server, which will be described in a forthcoming issue of InfoSphere. In the meantime, if you are interested in recommending a product for HSLNET, contact Diane Johnson in the Library at 882-6141.

**MEDLINE /  
CINAHL /  
PSYCINFO  
WORKSHOP  
SCHEDULE**

**October**

Medline 3:30-5:00  
Thursday 9  
CINAHL 10-11:30  
Wednesday 15  
PsycINFO 10-11:30  
Wednesday 22

**November**

Medline 10-11:30  
Wednesday 5  
CINAHL 3:30-5  
Tuesday 11  
PsycINFO 3:30-5  
Monday 17

**December**

Medline 10-11:30  
Tuesday 2  
CINAHL 3:30-5  
Monday 8  
PsycINFO 3:30-5  
Thursday 11

You can search journal literature on the OVID system using Windows or DOS. These workshops focus on Windows; you may request DOS instructions. Enrollment is limited to eight each. Special dates available. Call **882-6141** or go to <http://www.hsc.missouri.edu/library/docs/wsreg.html> to register or for more information.

**PATIENT CENTERED CARE  
ONLINE (PCCO)**

**OCF/PowerChart Work Group**

The OCF/PowerChart Work Group is responsible for implementation of the "OCF (Open Clinical Foundation)/PowerChart" product from the Cerner Corporation. This product is an enterprise-wide multimedia database that contains all the information captured in the various clinical and core systems and will be used to form the basis for the electronic health care record. It includes clinical workstation applications that allow clinicians to view patient results and information supporting clinical decision making and health planning.

Members of this work group are: Gloria Wakefield (FCG), Work Group Leader; Helen Jankowski (ITS), Associate Work Group Leader; Barbara Bedford (EFCC); Alan Bernhardt (UHC); Jim Huesgen (UHC); Tom McCord (UHC); Mike Ruiz (ITS); DeeDee McKinley (UHC); Kim Carl (Cerner); and Allan Roth (Medical Informatics Fellow).

Their current accomplishments and activities include: Learning software tools—Cerner OCF/PowerChart software, including the designer's workbench, as well as Microsoft Word and Excel, Visio, etc.

The organizations and in-patient locations have been loaded into the database. Currently, they are loading the event codes for MARS, ALG and Maxima into the database. The standard ADT code sets have been loaded into the database. The ADT interfaces are working. External System Inbound feeds for PCS and Citation are operational.



**JACK HAMMER, NETWORK DETECTIVE**

by Alan Arnold



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