



## HARTFORD AREA SAS® USERS GROUP

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## **Chairperson's Notes**

(Karol Katz, Yale University)

There was an excellent turnout at our August meeting at the Glastonbury SAS office. Thanks to Janet Stuelpner for serving as hostess. Thanks also to our presenters, Dwight Fowler and the Coder's Corner team.

Did you ever get a "Free ticket"? Al Lavoie, a past chairman, wrote this several years ago and it holds true today.

Consider the fact that HASUG may be the only local users group that is completely free. There are no annual membership dues. There is no charge for the Flash. The quarterly meetings are available to everyone to attend without an entrance fee. How is this possible? In the background, there is a fairly large network of very talented SAS users who volunteer and donate personal resources to make this organization possible. Area corporations typically provide meeting space, (including the SAS Regional Office in Glastonbury). Members often donate meeting refreshments. Meeting speakers are either volunteers from our own ranks, SAS supplied speakers, or independent SAS experts funded with the NESUG speaker sharing funds.

If you haven't already, we are asking our members to sign up with the new HASUG Google Group that we created specifically for our membership. All of the instructions to join this group are on our web page [www.hasug.org](http://www.hasug.org) . Only the List administrator can post anything to this 'read-only' group.

We are always looking for User presentations for upcoming meetings, whether it is a quick 5 minute tip or a

full 30-45 minute presentation. This is an excellent opportunity to not only share your knowledge and your experience with your peers, but also get feedback and ideas on the work that you are doing with SAS. If you are interested in contributing, please contact one of our steering committee members.

As we cover CT, our meeting location moves from Glastonbury in the North to Pfizer, New London in the East. Please use our online registration form to register. I look forward to seeing you at our November meeting.

## **August Meeting Highlights**

(Helen Wang, Ingenix)

The 2009 third quarter meeting was held on August 20, 2009 at the SAS Institute offices in Glastonbury.

The first presentation was about SAS Version 9 Web based reporting by Dwight Fowler from SAS Institute. This continued Dwight's ongoing 'SAS 9 Technology Concepts' overview for HASUG with a focus on Web Report Studio and the SAS Information Delivery Portal. Dwight showed some sample reports and cool features to the audience, especially the animated graph in Version 9.

The second section was a Coder's Corner from HASUG members. Barbara Barrett from Bristol-Myers Squibb presented "Two Useful Macros for Your SAS Toolbox". The macro "Parse.sas" was for counting the number of items in a string and putting each item in the string into individual macro variables. "Empty.sas" was for creating a null report when there was no data.

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Next Rob Krajcik from Bristol-Myers Squibb talked about how Picture format saved the day (versus a lot of if-then coding) by providing custom formats. Then Chuck Patridge from ISO Innovative Analytics talked about a handy macro - procfreq\_compare. It compares the differences in the frequencies of the variables on two SAS datasets and produces a Proc Print of the distributions with their differences. Last Janet Stuelpner from SAS Institute presented "Enterprise Guide. Conditional Logic: Which Way to Go". Being able to set a condition is a very nice feature in Enterprise Guide 4.2.

## CALENDAR OF EVENTS

### Future General Meetings and Conferences:

November 19, 2009  
Pfizer, New London, CT  
February 25, 2010  
Yale Health Systems, New Haven, CT  
April 11-14, 2010  
SAS Global Forum, Seattle WA

### HASUG Steering Committee Meetings:

November 19, 2009  
Immediately after HASUG meeting  
Dec 17, 2009  
Conference call 11:30-12:30  
February 25, 2010  
Immediately after HASUG meeting

## NEXT HASUG MEETING ANNOUNCEMENT

Our next meeting is on:  
**Thursday, November 19, 2009**  
at  
**Pfizer Global Research & Development Headquarters**  
**50 Pequot Avenue**  
**New London, CT 06320**

**from 9:00 am to noon**

*Registration will be open until 4:00pm on Friday, Nov 13<sup>th</sup>.*

*Please bring picture ID.*

*Refreshments to be served & time for conversation beginning at 8:30.*

*Our host will be Tom Mansfield.*

Our topics and Speakers are:

**“SAS BI 9.2 Implementation: Work, Challenges & Success”**  
**Jay Swan, Wellpoint**

The presentation will describe the work, discuss the challenges, and relate the successes of implementing an Enterprise SAS BI 9.2 environment at Wellpoint. Also to be covered are the steps required to migrate users from a PC SAS 9.1.3 environment to a SAS BI 9.2 environment. There are over 700 current PC SAS users at Wellpoint. Gaurav Agrawal will be presenting along with Jay.

**Jay Swan** is a Senior IT Manager at WellPoint responsible for SAS BI 9.2 deployment. He has worked in healthcare and pharmaceutical corporations developing web reporting and intranet applications.

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Prior to his time in business he served in the US Navy and US Coast Guard Reserves including working as a US Naval message coordinator for Trident Command & Control Systems Maintenance Activity (TRICCSMA) in Newport RI. His education, beginning with computer programming, led to a Business degree from Quinnipiac University. He is also a Project Management Professional (PMP) and a member of the Southern New England PMP Chapter (SNEC).

**“A SAS Application: PK/PD Support Automated Quality Checking”  
Rene Laurencot, Pfizer**

Using SAS version 9, ODS, and SAS macros, we at Pfizer have put together some software to assist our external programmers in the process of doing quality checking (QC) on their results. The two most important goals are always speed and quality. Delivering fast results without quality always leads to disaster and later rework.

This presentation will walk through the QC output, some of the rational and requirements behind the various QC checks, and as time permits we can review the SAS code that has been created for this application. This fairly generic PK/PD application reads in the PK/PD NONMEM data files (in CSV format) along with a SAS data set and a few parameter settings, then it rechecks various formulas, checks SAS descriptive variable labels, cross references delivered NONMEM results against the request form received from the pharmacometrician, clinical pharmacologist, or analyst. NONMEM

stands for Non Linear Mixed Effects Modelling. PK/PD here means Pharmacokinetics / Pharmacodynamics.

The application design is made modular by using 18 SAS macros (or subroutines). Most of these 18 are utility macros. The QC checks look for duplicate PK assay values, illogical combination of variables, data sort order errors are trapped, some single variable and multiple variable frequencies are performed to check on variable ranges and for outliers, and comparisons between the raw data and final delivered data are made. The application mostly utilizes SAS but some small functions to allow the passing in of some data into the main program have been written in Microsoft visual basic. The SAS application is submitted through a GUI interface we have here named CDARS.

**Rene Laurencot** has during the last 22 years worked for engineering, health insurance, financial and pharmaceutical companies (Lockheed, CSAR, Blue Cross Blue Shield, Aetna, Pfizer). While with his current employer, Pfizer (joined in 1998) he has had roles as CDARS developer (senior programmer 3 years), StAR (statistical analysis and reporting) technical manager (4 years), and is currently in Global PK/PD support (manager 4 years). He has 16 years experience with SAS programming.

## **Continuing With Education...**

(Peter Prause, The Hartford)

### **The SAS Institute Regional Training**

**Center** in Glastonbury, CT is offering the following courses. Course information for these courses and many other non-local courses is available on the Internet at the [support.sas.com](http://support.sas.com) web site. To register for a course or to get more information, phone SAS Institute at 1-800-333-7660.

SAS Programming 1: Essentials	Nov 11 - 13
SAS Macro Language 2: Developing Macro Applications	Nov 16 - 17
SAS Enterprise Guide 1: Querying and Reporting	Dec 3 - 4
SAS Programming 2: Data Manipulation Techniques	Dec 9 - 11
SAS SQL 1: Essentials	Dec 17 - 18
SAS Programming 1: Essentials	Jan 20 - 22
SAS Programming 2: Data Manipulation Techniques	Feb 22 - 24
SAS Report Writing 1: Using Procedures and ODS	Mar 10 - 12
SAS Programming 1: Essentials	Mar 15 - 17
SAS Programming 3: Advanced Techniques and Efficiencies	Apr 7 - 9
SAS Macro Language 1: Essentials	Apr 15 - 16
SAS Programming 1: Essentials	May 12 - 14
SAS Macro Language 2: Developing Macro Applications	May 24 - 25
SAS Enterprise Guide 1: Querying and Reporting	Jun 3 - 4
SAS Programming 2: Data Manipulation Techniques	Jun 9 - 11
SAS SQL 1: Essentials	Jun 17 - 18

When time and distance are an issue, SAS Institute offers Live Web classes and self-paced e-learning to help you get the training you need while accommodating your busy schedule. Call for more details.

**Destiny Corporation** is offering Instructor Assisted Virtual SAS® training courses in their Rocky Hill, CT office. A live instructor, in person, will support and answer all questions. The attendees are provided the supporting Online Virtual Course and materials. The Online Course is valid for 1 year from course dates.

Please visit the Destiny Corporation website for more training dates. To register for a course or to get more information, please contact Destiny on 1-800-7-TRAINING or [www.destinycorp.com](http://www.destinycorp.com).

### **Course Schedule**

**All courses are offered on the following dates in 2009:  
October 26 - 27**

#### 2-day courses:

Introduction to Programming  
Programming III: Advanced Techniques  
Output Delivery System (ODS) Basics  
Version 9 Changes and Enhancements  
Enterprise Guide Querying and Reporting  
SQL Processing with SAS® Software

#### 3-day courses:

Programming I SAS® Essentials  
Programming II: Data Manipulation Using the Data Step  
Report Writing: A Programming Approach  
Macros in SAS® Software

## Tips & Techniques

Charles Patridge, ISO Innovative Analytics

### Tips from, “Questions from the Field”, SAS Institute

**Question:** *How do I print the last 10 observations from a SAS data set?*

**Answer:** Determine how many observations there are in the data set and instruct your PROC PRINT to start printing with the final 10 observations, rather than starting with observation number one.

**Here's how:** The DATA step is used to create a data step variable named TOTOBS. Note that the SET statement will never execute; it will only compile. At compile time, the NOBS option populates TOTOBS with the number of observations residing in the input SAS data set. Subtract 9 from TOTOBS, because the ultimate goal is to print only the final 10 observations. SYMPUTX is used to create a macro variable named START, the value of TOTOBS-9 is placed in this macro variable, and this macro variable will be available to PROC PRINT. The STOP statement is optional. The program would function correctly without it, but there would be a note in the LOG indicating that data step looping had ceased. The STOP statement suppresses this expected note.

The macro variable named START is referenced in the PROC PRINT statement. The FIRSTOBS data set option causes PROC PRINT to start printing with this observation number. Therefore, only the final 10 observations are printed!

```
data _null_;
  if 0 then set prog2.people nobs=totobs;
  call symputx('start',put(totobs-9,15.));
  stop;
run;
```

```
proc print
data=prog2.people(firstobs=&start);
run;
```

**Question:** *How do I permanently remove the format associations from a SAS data set so that the unformatted values are used, not the formatted values?*

**Answer:** Use the format \_all\_ statement.

```
/* Create a data set with formatted values*/
data formats;
  input a b c d;
  format a dollar8.2
         b comma5.0
         c date7.0
         d mmdyy8.;
cards;
1111 2222 3333 4444
5555 6666 7777 8888
;
run;
/* Remove all formatted values from a data set*/
data noformats;
  set formats;
  format _all_;
run;
```

Note: If you are importing data into SAS, this statement can help remove formats associated with values as they come into SAS.

## **Book Review**

**Kathleen Alber, Service National Corporation**

**Title:** *Data Preparation for Data Mining Using SAS*

**Author:** Mamdouh Refaat

**Publisher:** Morgan Kaufmann

**Publishers**

**ISBN:** 978-0-12-373577-5

**Pages:** 399 pages

**Price:** \$74.95

**Copyright:** 2007

It's been estimated that eighty percent of time expended on data mining is devoted to data exploration and preparation. With the quality of models greatly dependent on the quality of data modeled, techniques employed in this phase are of crucial importance to a successful project outcome.

The book starts with an excellent, concise overview of data mining methodology, terminology and techniques, detailing types of preparation typically required for each commonly used modeling technique. Subsequent chapters focus on individual data preparation and analysis tasks, first explaining what needs to be accomplished and why, then offering one or more strategies to do so and finally presenting SAS macro implementations of each of these strategies. Among the tasks covered are exploratory data analysis, sampling and partitioning, data transformation, treatment of missing data, and variable reduction.

Many data miners of course have access to comprehensive data mining software packages such as SAS Enterprise Miner which include data preparation capabilities. This book is directed mainly towards those who do not, providing the

means to accomplish these tasks independent of any modeling package. However, the success of a model built using even the most sophisticated of software is dependent on the ability of the data miner to ascertain which preparation tasks are required and to choose the optimal method of accomplishing them. This book serves as a valuable reference to any data miner in this pursuit.

Though there is a short review of SAS macros, the author assumes at least a basic knowledge of SAS and some familiarity with the use of macros. While SAS novices are not the intended audience, SAS programmers with minimal data mining experience could certainly benefit by reading this book.

In conclusion, this book is a solid resource for explaining thorough data preparation procedure. Additionally, for those without access to a data mining software package, it provides a valuable reference of useful macros, saving the reader coding time and effort. Even for those who use a data mining software package, this book would be worthwhile, providing insight into what's going on behind the scenes in that software and leading to a better understanding of the methodology and more accurate results.

## **HASUG EMAIL DISTRIBUTION LIST**

This service is provided free of charge to all who wish to subscribe to the email notification process. In order to sign up for this service, you need to point your browser to the HASUG web site, <http://www.hasug.org>, and click the hyperlink, "Join HASUG Email List".

Your name and email address are not displayed nor given out to any party, including members of the HASUG steering committee. Only the list administrators have access to subscription information. Only List administrators will be able to send out email messages to the HASUG members.

If you should change your email address under which you subscribed, you will need to unsubscribe with your old email address, and then re-subscribe using your new email address. Typically, a notice is sent approximately 3 weeks before meetings, as well as a couple of days beforehand to remind people of the date, time, and location.

To subscribe to the HASUG list you will need to follow the following steps:

1. From the HASUG website pick "Join HASUG Email List". Enter your email address and click on the SUBSCRIBE button. You will receive an email from [oreply@googlegroups.com](mailto:oreply@googlegroups.com).
2. Open the email and click on the confirmation URL in the email.
3. There are no questions to answer. Just click on "Apply to this Group" .
4. You will receive an email saying you have been added to the distribution list.

You must complete steps 1-3 to be added to the list.

## **THE HASUG RECRUITING POLICY**

HASUG's primary mission is to provide a forum for SAS professionals to meet and share experiences. HASUG also recognizes that searching for new employment opportunities is a normal activity when professionals meet. Since we depend on our respective employers to support HASUG by providing time for members to attend, prepare presentations, and provide meeting facilities, we do not wish to jeopardize those relationships we have all nurtured.

Therefore, when attending any of our quarterly meetings, we request that all parties engaged in recruiting activities be "professional and discreet", and suggest that such activities be carried outside and after our meetings. Those seeking or offering positions may display materials at a location designated by HASUG at each quarterly meeting. The materials may include resumes, job openings, contract opportunities, business cards, etc. None of the materials may include salary information. All such materials left after the meeting will be discarded. Violators of this policy may be asked to leave the meeting.

## **THE HASUG SPONSORSHIP POLICY**

All parties are encouraged and welcome to attend our quarterly HASUG meetings scheduled during the months of February, May, August, and November of each year. Usually these meetings are scheduled the 3rd Thursday from 9:00 am to noon at various locations throughout Connecticut. Past locations have included Hartford, Meriden, Middletown, Norwalk, Glastonbury, Stamford and New Haven. We are always looking for new hosts within the state of Connecticut. If you feel your organization can host a meeting of up to 70 or so people, please contact one of the Steering committee members.

## HASUG Steering Committee

<u>Name</u>	<u>Organization</u>	<u>Telephone</u>	<u>E-Mail</u>
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**Directions to:  
Pfizer Global Research & Development Headquarters  
50 Pequot Avenue  
New London, CT 06320**

**From the North (Hartford):**

- Route 2 East toward Norwich
- Route 11 South (towards New London) to Salem/Hadlyme Exit 4 (last exit), approx. 6.5 miles
- LEFT off the ramp onto Route 82 East, follow to traffic light, approx. 1.2 miles
- RIGHT at traffic light onto Route 85
- Follow Route 85 into Waterford to I-95, approx. 9.68 miles
- Take I-95 northbound
- Follow directions below for I-95 Northbound

**From Interstate 95 Northbound:**

- I-95 north to Exit 83, Downtown New London
- STRAIGHT through the traffic light onto Huntington Street
- Continue on Huntington through three traffic lights (approx. 0.7 miles)
- STRAIGHT at the stop sign
- STRAIGHT at the next stop sign onto Tilley Street
- Continue STRAIGHT through the traffic light
- RIGHT at next traffic light onto Bank Street
- LEFT at the next traffic light on Howard Street
- Follow Howard Street to the rotary, circle around to go under train bridge
- Circle around 2nd rotary to Visitor Center on 25 Pequot Avenue
- Do Not pass through the gates. See Parking Below

**From Interstate 95 Southbound:**

- I-95 South to Exit 84 (Downtown New London)
- Bear left onto Exit 84S to Eugene O'Neill Boulevard
- Go STRAIGHT through two traffic lights
- Go STRAIGHT through stop sign
- Continue STRAIGHT through traffic light
- RIGHT at next traffic light onto Bank Street
- LEFT at the next traffic light on Howard Street
- Follow Howard Street to the rotary, circle around to go under train bridge
- Circle around 2nd rotary to Visitor Center on 25 Pequot Avenue
- Do Not pass through the gates. See Parking Below

**Visitor Parking:**

- Park your vehicle in the Visitor Parking Lot and walk to the Visitor Center
- Please bring a picture ID for identification
- Again, please register in advance to attend this meeting

