

**Foundation for the National Institutes of Health**  
**“2009/2010 OMOP Cup – Methods Competition” Sweepstakes**  
**Official Competition Rules**

**Last revision: 13 February 2010**

**NO PURCHASE IS NECESSARY TO ENTER OR WIN.**

Participation constitutes entrant's full and unconditional agreement to and acceptance of these Official Rules.

**I. COMPETITION PERIOD:** The “2009/2010 OMOP Cup – Methods Competition” (the “Competition”) begins 12:01 a.m. Eastern Daylight Time (“EDT”), Thursday, October 1, 2009, and ends 11:59 p.m. EDT, Tuesday, March 31, 2010 (the “Entry Period”). The Entry Periods will comprise of two (2) Challenge Competition Periods. Competition Period I: Start Date is October 1, 2009 and End Date is November 30, 2009. Competition Period II: Start Date is December 1, 2009 and End Date is March 31, 2010. The Competition is sponsored by Observational Medical Outcome Partnership (“OMOP”) (“Sponsor”), a public/private research partnership of the Foundation for the National Institutes of Health (“FNIH”) a non-profit 501(c)(3) public charity. The FNIH main offices are at 9650 Rockville Pike, Bethesda, MD 20814 and OMOP offices located at, 818 Connecticut Ave, N.W. Suite 500, Washington, D.C. 20006.

**II. ELIGIBILITY:** The Competition is open to data analysis experts (“Participants”) from the fifty (50) United States (“U.S.”) and District of Columbia (“D.C.”), who are 18 years of age or older as of Competition start date. All federal, state and local laws and regulations apply. Void in Puerto Rico, the U.S. Virgin Islands, U.S. Military installations in foreign countries, and where prohibited, taxed or otherwise restricted by law. Competition is not open to the general-public. Officers, directors and employees of OMOP and the FNIH, its respective subsidiaries, affiliates, and each of their respective parent, subsidiary and affiliated organizations, advertising, promotional and judging agencies, persons engaged in the development, production or distribution of materials for this Promotion (collectively, the “Released Parties”) and the immediate family members (parent, child, sibling, and spouse) of, or persons living in the same household as, such individuals (whether related or not) are not eligible to participate in the Competition. **Void where prohibited by law.**

**III. COMPETITION DESCRIPTION:**

**Description of Methods Problem**

Methods are concerned with determining the relationship between drugs (medications) and conditions or health outcomes (potential adverse events). The identification of such associations aims to generate hypotheses from observational data by identifying associations between drugs and conditions for which the relationships were previously unknown. This is likely to be considered an initial step of drug monitoring, where many drug-condition pairs are simultaneously explored to prioritize the drugs and outcomes that warrant further attention. The high number of possible combinations represents a large computational challenge. For observational analyses, it is important to recognize that the goal is to provide information about associations between drugs and outcomes across a population of interest. The intended objective is not necessarily to conclusively ascertain whether a specific person had a particular outcome due to a particular drug, but instead to infer whether a population of individuals exposed to a product experiences more of the outcome than otherwise expected had they been unexposed. This population-based approach differs from the spontaneous adverse event reporting systems, which considers each data record a specific self-report of a suspected causal association between a drug and an event.

**Competition:**

The “2009/2010 OMOP Cup-Methods Competition” invites the data analysis community to develop methods that are computationally feasible, incorporate information of known drug-condition associations and identify associations from observational data as accurately as possible. Those who enter the Competition by March 31, 2010, (“Entry End Date”) and are in compliance with the entry process shall be

considered a Participant (“Participant”). There are Two (2) Periods to the Competition: Refer to Date-line Chart.

<b>“2009/2010 OMOP Cup – Methods Competition” Periods</b>	<b>Start Date</b>	<b>End and / or Announcement Date</b>
<b>Period I: Entry of Challenge 1 &amp; 2 Submissions for Progress Period</b>	October 1, 2009	November 30, 2009
<b>Period I: Judges Review to Select Challenge I &amp; 2 “Progress” Winners</b>	November 30, 2009	December 5, 2009
<b>Period I: Challenge 1 &amp; 2 “Progress” Awards Announced</b>		December 5, 2009
<b>Period II: Entry of Challenge 1 &amp; 2 Submissions for Grand Prize Winners</b>	December 1, 2009	March 31, 2010
<b>Period II: Judges Review to Select Challenge I &amp; 2 Grand Prize Winners</b>	March 31, 2010	April 5, 2010

*Note: All dates/times are 2009/2010 Eastern*

#### **IV. DESCRIPTION OF TWO COMPETITION CHALLENGES TO ENTER:**

##### **Challenge 1: Identifying drug-condition associations within an entire observational dataset.**

There is great interest in finding relationships between drugs and adverse events through retrospective exploration of existing observational databases. Methods that can correctly classify drug-condition relationships as true or false associations could greatly contribute to the current pharmacovigilance practice by providing all key stakeholders additional information to inform therapeutic decision-making. This challenge seeks analysis methods that, given an observational database containing multiple different types of drugs and conditions, can identify the relationship between all drug-condition pairs.

Participants must implement an analysis method whose input are data files conforming to the OMOP common data model and whose output is a results dataset that provides a prediction value indicating whether or not an association is apparent for each drug-condition combination. The predicted value may be binary indicating presence or absence of a signal, or a non-negative real number indicating the strength of the signal. Submissions should contain one entry for all drug-condition combinations. There are 5,000 drugs and 4,519 conditions, resulting in 22,595,000 combinations. Drug-condition pairs not included in a submission will be assigned the lowest possible value.

OMOPChallenge1.zip contains all test data, as tab-delimited text files for each of the associated database tables. To support the methods development, the true relationship for 8,000 drug-condition pairs have been revealed, and are provided in a tab-delimited text file (OMOP\_TRUE\_RELATIONSHIPS.txt) with three columns: drug identifier, condition identifier, association (1 if yes, 0 if no). The relationships in this file will not be included in calculating the score of the submission.

##### **Challenge 2: Identifying drug-condition associations as data accumulates over time.**

Timely detection of drug-related adverse events as part of an active surveillance system would allow patients and providers to minimize potential risks and inform their therapeutic decision-making as quickly as possible. This challenge seeks to evaluate methods performance in identifying true drug-condition associations and discerning from false association as data accumulates over time.

As in Challenge 1, participants must implement an analysis method whose input are data files conforming to the OMOP common data model and whose output is a results dataset that provides a prediction value indicating whether or not an association is apparent for each drug-condition combination. The predicted value may be binary indicating presence or absence of a signal or a non-negative real number indicating the strength of the signal. The method must be executed across a series of cumulative data subsets.

For this second challenge, we have identified a subset of drugs that are being more closely scrutinized. The dataset will contain information about all 5,000 drugs, but we are only asking participants to examine the first 500 drugs (drug ids 1-500). Submissions should contain one entry for each such drug-condition combination at each of 10 calendar years, resulting in 10 times 500 times 4519 (22,595,000) total records. Drug-condition pairs not included in a submission will be assigned the lowest possible value.

Ten databases will be provided, each representing cumulative subsets of the entire database at yearly intervals. OMOPChallenge2y1.zip will contain data from time 0 to end of year 1. OMOPChallenge2y2.zip will contain data from time 0 to end of year 2. OMOPChallenge2y10.zip will contain data from time 0 to the end of year 10.

## **V. HOW TO ENTER COMPETITION:**

If you wish to participate in this Competition, you must register at <http://omopcup.orwik.com> (the “Competition Site”) as instructed below during the Entry Period (Refer to Rule #III Timeline Chart), either individually, or as a member of a Team. If you wish to register as a member of a Team, at time of registration, you must identify both, you as an individual and your Team. You cannot change Teams or otherwise remove yourself or anyone else from your Team after the close of the Entry Period.

A Team may be comprised of eligible Participants (each known as a “Team”). A Team must consist of one Participant Representative (“Representative”) who is a legal resident of the U.S.. Limit of One (1) Representative per Team. That Representative is to be the only person to accept the prize and the responsibilities of the Prize as stated in Section XI of these rules, if that Team is chosen as a winner.

### **On-Line OMOP Statistical Methods Submission:**

- Visit <http://omopcup.orwik.com> (“Competition Site”).
- Each Participant or Team is requested to read the “FNIH” Privacy Policy, which is available through a link from the Competition site or from <http://omop.fnih.org/privacypolicy>.
- Visit the Competition Site and follow the links and instructions to log in to create your account. Please note: A Participant must have a valid account in order to be eligible to submit an entry to the Cup. Creating an account is free.
- Upon completion of establishing an account and registering for the Competition, review the two Challenges (refer to Rule IV above). Participants and Teams are encouraged to compete for either or both Challenges 1 and Challenge 2 individually (“Entry”).
- All entry materials must be submitted and presented in the English language.
- By submitting and pushing the submit button, you certify that you have read and agree with these Official Rules and understand that you may be required to sign other documents as listed in the Notification Section (No. VIII), of these Official Rules.

**Anonymity:** All Participants must identify themselves on the Competition Website. However, a Participant may elect to remain anonymous by choosing a nickname. Participant emails will not appear anywhere on the website and will be used only by the organizers to communicate with the participants. To be eligible for prizes the Participants will have to publicly reveal their identity.

The Sponsor assumes no responsibility for lost, late, misdirected or damaged entries, including entries that may be delayed in transmission. No incomplete, illegible or otherwise invalid entries will be accepted. Odds of winning will depend on the quality and total number of eligible entries received.

Please address any questions not covered by the information available herein on the Competition Site at <http://omopcup.orwik.com/messages>. All questions and answers are public and visible to all other contestants. Please allow 24-48 hours for a response.

## **VI. ENTRY SUBMISSION FORMATS:**

To be eligible, the Competition Challenge Entry must be submitted according to Entry Dates (Refer to Chart in Rule #III) in accordance with the online instructions and adhere to the following formats: For a twelve-year database containing three drugs and three conditions, Table 1 shows a schematic representation of a Challenge 1 Entry utilizing binary predicted values. Table 2 shows a Challenge 2 Entry utilizing real-valued scores, in this case, integers between zero and nine.

**Table 1.** Schematic representation of a Challenge 1 competition entry using binary predicted values

Drug	Condition	Value
D1	C1	1
	C2	0
	C3	1
D2	C1	1
	C2	1
	C3	1
D3	C1	0
	C2	0
	C3	0

**Table 2.** Schematic representation of a Challenge 2 competition entry using, for example, a 0-9 scoring scheme

Drug	Condition	Year									
		1	2	3	4	5	6	7	8	9	10
D1	C1	0	0	0	1	2	3	2	4	5	5
	C2	0	0	0	0	0	0	3	1	0	0
	C3	5	3	0	0	0	1	3	5	7	9
D2	C1	4	5	7	9	9	9	9	9	9	8
	C2	0	0	0	0	0	0	0	1	3	5
	C3	6	1	0	0	0	0	0	0	0	0
D3	C1	0	0	0	0	0	0	1	0	0	0
	C2	0	0	0	0	0	0	0	0	0	0
	C3	0	0	0	0	0	0	4	0	4	5

Actual submissions will be in the form of comma-delimited text files.

For Challenge 1 entries, the text file would be comma-delimited with three fields: <drug identifier>, <condition identifier>, <value>.

For Challenge 2 entries, each row in the text file would be in the form <drug identifier>, <condition identifier>, <year>, <value>. Thus for the entry represented in Table 2, the first few rows would be:

1,1,1,0  
1,1,2,0  
1,1,3,0  
1,1,4,1

The file need not be sorted in any particular fashion.

In addition, all participants are encouraged to submit a technical report. The report should include a narrative description of the method, mathematical formulas, and references. Source code should contain a description of resources required to build and run the method.

If more than one submission is made in either Challenge Task and with either dataset, **the last submission** before the task deadline will be taken into account to determine the ranking of participants and attribute the prizes. You may compete in both tracks.

**VII. SUBMISSIONS:** By submitting a Challenge 1 entry and/or a Challenge 2 entry, a Participant or Team warrants and represents that: (a) it is the Participant or Team’s original work and has been legally created, (b) it does not infringe upon the copyrights, trademarks, rights of privacy, publicity or other intellectual property or other legal or moral rights of any person or entity, (c) it does not infringe on any third party rights, and (d) the Participant will indemnify and hold harmless the Released Parties (as defined in Rule XIII below) from any claims and damages (including reasonable attorneys' fees) arising from or relating to the breach or alleged breach of your representations and warranties herein, your Entry, in connection with

this Competition. Sponsor is not obligated to acknowledge or return any Entry however, Participant agrees that Sponsor may post the Entry, with attribution, on the competition website located at <http://omopcup.orwik.com>, <http://omop.fnih.org> or other website(s) authorized by sponsor for the competition (collectively “the website”), at sponsor’s discretion and can be viewed by other website users.

By submitting an Entry, Participant grants Sponsor and their respective agents and contractors an irrevocable, unlimited, worldwide, perpetual, unconditional, royalty free, fully paid up, non-exclusive license under the Participants’ copyrights, patents, or other intellectual property rights necessary to use, review, assess, test, and otherwise analyze the Entry and all its content (including the method, mathematical formulas and references, and source code) in connection with this Contest.

As a condition to receiving a Grand or Progress Prize, the winning Participant agrees to grant Sponsor and their respective agents and contractors an irrevocable, unlimited, worldwide, perpetual, unconditional, royalty free, fully paid up, non-exclusive license under the Participants’ copyrights, patents, or other intellectual property rights relating to the Entry, including the right to use, reproduce, prepare derivative works of, publicly display, publicly perform, distribute, and sublicense under an Apache license or other open source license the Entry and all its content (including the method, mathematical formulas and references, and source code) (the “License”).

FNH anticipates that it will publish the winning Entries under an Apache or other open source license. Accordingly, Participant agrees to sign all legal forms and documentation deemed necessary by Sponsor to establish Sponsor’s License rights in and to the Entry and all its content. Entrant must provide the fully completed legal forms and documentation within five (5) days of the date notice or attempted notice is sent by Sponsor. Failure to provide such documentation and legal forms upon request may result in disqualification and the Participant, whose Entry receives the next highest score may be deemed the alternate potential winner for the applicable prize. Released Parties (as defined in Rule XIII below) are not responsible for lost, late, incomplete, invalid, un-intelligible, garbled, delayed, inaccurate or misdirected Entries; all of which will be disqualified. Sponsor reserves the right to, but is not obligated to, monitor/screen Entries prior to posting them to the Competition Site. By entering, Participant acknowledges that Sponsor has no obligation to use or post Participant’s submitted Entry. BY SUBMITTING AN ENTRY, PARTICIPANT ACKNOWLEDGES AND AGREES THAT HIS/HER ENTRY AND ALL ITS CONTENT MAY BE POSTED, WITH ATTRIBUTION, ON THE COMPETITION WEBSITE LOCATED AT <http://omopcup.orwik.com>, <http://omop.fnih.org> OR OTHER WEBSITE(S) AUTHORIZED BY SPONSOR FOR THE COMPETITION (COLLECTIVELY “THE WEBSITE”), AT SPONSOR’S DISCRETION AND CAN BE VIEWED BY OTHER WEBSITE USERS. This Competition may be cancelled in the event an insufficient number of qualified Entries are received that meet the minimum standards established by the Judges. Any waiver of any obligation hereunder by Sponsor does not constitute a general waiver of any obligation to Participants.

**Additional Submission Conditions:**

- 1.) Sponsor reserves the right to request Participant or Team to resubmit results by executing the method on a different simulated dataset if there is any perceived anomalies with a submission.
- 2.) For Challenge 2, Sponsor must be able to determine that the yearly results datasets were produced using only the appropriate yearly input file, without use of data from later time-points.

**VIII. EVALUATION CRITERIA AND SCORE RANKING:**

At the conclusion of the Entry Period, all eligible Entries received will be reviewed by a qualified panel of adjudicators of Sponsor’s choosing, who will determine the Competition Challenge 1 & 2 Entry winners by mathematical and statistical score combinations.

**Evaluation Criteria**

We will assign each competition entry a score,  $S$ , as follows. First we define some notation. Let  $y_{dc} = 1$  if the  $d$ th drug causes the  $c$ th condition and zero otherwise,  $d=1, \dots, D$ ,  $c=1, \dots, C$ .

Let  $M = \sum_{d,c} y_{dc}$  denote the number of causal combinations and  $N = D \times C$  the total number of combinations. Note it is generally the case that  $M \ll N$ . Let  $z_{dct}$  denote the predicted value for the  $d$ th drug and the  $c$ th condition at time  $t$ ,  $t=1, \dots, T$ . For submissions of Challenge 1 we denote by  $z_{dc}$  the single predicted value for each combination ( $T=1$ ). For a given set of predicted values  $\bar{z}_t = (z_{11t}, \dots, z_{dct})$ , we define “precision-at- $K$ ” denoted  $P_t^{(K)}(\bar{z}_t)$  as the fraction of causal combinations amongst the  $K$  largest predicted values in  $\bar{z}_t$ . Specifically, let  $z_{(1)t} > \dots > z_{(N)t}$  denote the ordered values of  $\bar{z}_t$ . Then:

$$P_t^{(K)}(\bar{z}_t) = \frac{1}{K} \sum_{i=1}^K y_{(i)t},$$

where  $y_{(i)t}$  is the true status of the combination corresponding to  $z_{(i)t}$ . We score submissions using the “Average Precision” at time  $t$  as:

$$S_t = \frac{1}{M} \sum_{K: y_{(K)t}=1} P_t^{(K)}(\bar{z}_t),$$

If there are ties in  $\bar{z}_t$ , the results are ordered such that negative combinations ( $y_{dc} = 0$ ) are first. The precision of all tied positives ( $y_{dc} = 1$ ) is calculated as if they were all encountered at the same time. If  $z_{(K)t} = z_{(K+1)t}$ , then  $P_t^{(K)}(\bar{z}_t) = P_t^{(K+1)}(\bar{z}_t)$ . As an example, if three values are tied for the highest predicted value, two of which are positive,  $P_t^{(1)}(\bar{z}_t) = 0$ ,  $P_t^{(2)}(\bar{z}_t) = P_t^{(3)}(\bar{z}_t) = 2/3$ .

For Year 10 in the example of Table 2, suppose D1-C1, D1-C2, D1-C3, D2-C1 and D2-C2 are causal combinations and the remainder are not. Table 3 illustrates the scoring process for Year 10. Table 4 illustrates the scoring when binary results are returned, resulting in more ties.

Average Precision is very similar to the area under the precision-recall curve. As is illustrated by Tables 3 and 4, methods that return a numeric value will often score slightly better under this evaluation criteria than methods that only return binary values.

Finally the “Mean Average Precision” takes an average across time periods:

$$S = \frac{1}{T} \sum_t S_t$$

**Table 3.** Illustration of the scoring methodology for a Challenge 1 submission for a specific year. The green cells represent causal combinations and the pink cells represent non-causal combinations.

Drug	Condition	Original Values		Sorted Values		$P^{(K)}$
		$z_i$	$y_i$	$z_{(i)}$	$y_{(i)}$	
D1	C1	5	1	9	1	1/1=1
	C2	0	1	8	1	2/2=1
	C3	9	1	5	0	
D2	C1	8	1	5	1	4/5=0.8
	C2	5	1	5	1	4/5=0.8
	C3	0	0	0	0	
D3	C1	0	0	0	0	
	C2	0	0	0	0	

	C3	5	0		0	1	5/9=0.55
<b>Total Score</b>							(1+1+0.8+ 0.8+0.55)/5 =0.83

**Table 4.** Illustration of the scoring methodology for a binary submission for a specific year. The green cells represent causal combinations and the pink cells represent non-causal combinations.

Drug	Condition	Original Values		Sorted Values		$P^{(k)}$
		$z_i$	$y_i$	$z_{(i)}$	$y_{(i)}$	
D1	C1	1	1	1	0	
	C2	0	1	1	1	4/5=0.8
	C3	1	1	1	1	4/5=0.8
D2	C1	1	1	1	1	4/5=0.8
	C2	1	1	1	1	4/5=0.8
	C3	0	0	0	0	
D3	C1	0	0	0	0	
	C2	0	0	0	0	
	C3	1	0	0	1	5/9=0.55
<b>Total Score</b>						(0.8+0.8+ 0.8+0.8+ 0.55)/5 =0.75

The score  $S$  penalizes both types of misclassification: identifying an association when no relationship exists (false positive) and failing to identify true associations (false negative). Averaging across different time points rewards methods that properly classify known associations and non-associations as quickly as possible.

The winning method will produce the maximum  $S$ .

#### IX. SELECTION OF WINNERS & PRIZES:

Two Periods of Winner Selection: (Refer to Timeline Chart in Rules #III)

Period I: The Challenge 1 & 2 “Progress” Winners who meet the panel’s criteria and scores will be awarded:

- One (1) First Prize Challenge 1 Progress winner \$2,500
- One (1) Second Prize Challenge 1 Progress winner \$1,000
- One (1) First Prize Challenge 2 Progress winner \$1,000
- One (1) Second Prize Challenge 2 Progress winner \$500

Period II: The Challenge 1 & 2 Grand Prize Winners who meet the panel’s criteria and scores will be awarded:

- One (1) Grand Prize Challenge 1 winner \$10,000
- One (1) Grand Prize Challenge 2 winner \$5,000
- Total Prize Pool Value is \$20,000

Competition Entries will be available to view on Sponsor’s Website. The decisions of the judges are final and not subject to challenge and/or appeal.

Participant or Team with promising Methods may be invited to participate on the OMOP Methods Development Team to implement and test their Methods within the OMOP data consortia.

**X. NOTIFICATION AND COMPETITION DOCUMENTS:** Sponsor will require all Prize recipients (Participant or Team Representative) to complete and execute an Affidavit of Eligibility, Rights of Submission, Release and Compliance Statement (“Affidavit”) on or about December 15, 2009 for the Four (4) Progress Challenge 1 & 2 Prize Winners, and April 10, 2010 for the Two (2) Grand Prize Challenge 1

& 2 Winners in compliance with these Official Rules. The Affidavit will be sent to potential winners in writing via USPS mail, or other home or business delivery service of Sponsor's choice. Affidavit must be received from the Winner, within 5 business days of issuance by Sponsor. Non-compliance with official contest rules by a potential winner will result in potential Winner status being forfeited and status, being awarded to an alternate.

**XI. PRIZE CONDITIONS:** All federal, state and local laws and regulations apply. Prize recipients are responsible for all applicable federal, state, and local taxes on a prize; if applicable, First and Second Place Winners will receive an IRS Form 1099 for the value of the prize. Upon forfeiture for any reason stated in these Official Rules, no compensation will be given except at the sole discretion of Sponsor. A Participant or Team is not eligible to receive a prize until final Challenge Entry has been selected as a potential winner in the Competition, and the winner has been verified in accordance with these Official Rules, and the winner has fully complied with these Official Rules. Failure to comply with these Official Rules may result in disqualification from the Competition. A winner's entry and acceptance of the prize offered constitutes permission (except where prohibited) for the Sponsor to use said winner's name, photograph, likeness, statements, biographical information, voice and address (city and state), in all forms of media, in perpetuity, without notice or further compensation. Participant agrees to be bound by these Official Rules and by the decisions of the Administrator, which are final and binding in all respects.

**XII. LIMITATIONS OF LIABILITY:** If for any reason, this Competition is not capable of running as planned due to infection by computer virus, bugs, tampering, unauthorized intervention, fraud, technical failures, or any other causes beyond the control of the Sponsor which corrupts or affects the administration, security, fairness, integrity or proper conduct of the Competition, the Sponsor reserves the right, at its sole discretion, to disqualify any individual who tampers with the entry process (if applicable), and to cancel, terminate, modify or suspend the Competition in whole or in part, at any time, without notice and award the prize using all non-suspect eligible entries received as of the termination/suspension date. Sponsor assumes no responsibility for any error, omission, interruption, deletion, defect, delay in operation or transmission, communications line failure, theft or destruction or unauthorized access to, or alteration of, entries. The Sponsor also is not responsible for any problems or technical malfunction of any telephone network or telephone lines, computer on-line systems, servers, or providers, computer equipment, software, failure or delay of any email or entry to be received by Sponsor on account of technical problems, human error or traffic congestion on the Internet or at any website, or any combination thereof. Sponsor is not responsible for any damage to a Participant's system, which is occasioned by participating in this Competition or by downloading any information necessary to participate in the promotion. Sponsor also is not responsible for incorrect or inaccurate entry information whether caused by Internet users or by any of the equipment or programming associated with or utilized in the Competition or by any technical or human error, which may occur in the processing of the entries in the Competition. If any provisions of the Official Competition Rules are determined by a court of competent jurisdiction to be invalid or unenforceable, such determination shall not affect the validity or enforceability of any other provision. CAUTION: ANY ATTEMPT TO DELIBERATELY DAMAGE ANY WEBSITE OR UNDERMINE THE LEGITIMATE OPERATION OF THE COMPETITION IS A VIOLATION OF CRIMINAL AND CIVIL LAWS AND SHOULD SUCH AN ATTEMPT BE MADE, THE SPONSOR RESERVES THE RIGHT TO SEEK DAMAGES OR OTHER REMEDIES FROM ANY SUCH PERSON(S) RESPONSIBLE FOR THE ATTEMPT TO THE FULLEST EXTENT PERMITTED BY LAW. In the event of a dispute regarding the identity of an individual who actually submitted an On-Line entry, the entry will be deemed submitted by the authorized account holder of the email account. "Authorized account holder" is defined as the natural person who is assigned to an email account by an Internet access provider, On-Line service provider or other Organization (e.g., business, educational, institution, etc.) that is responsible for assigning email addresses for the domain associated with the submitted email address.

**XIII. RELEASE:** By entering, each Participant agrees to release and hold harmless Sponsor, and their respective parent company or organization, subsidiaries, affiliates, suppliers, distributors, advertising/promotion agencies, and prize suppliers, and each of their respective officers, directors, employees and agents (collectively, the "Released Parties") from and against any claim or cause of action, including, but not limited to, personal injury, death, or damage to or loss of property, arising in whole or in part, directly or indirectly, out of participation in the Competition or any Competition related activity;

receipt or use or misuse of any prize; Released Parties' use of the rights granted herein; or for any printing, production, typographical, human, or other error in the printing, offering or announcement of any prize. Participant or Team further acknowledge that said Release Parties have neither made nor are in any manner responsible or liable for any warranty, representation or guarantee express or implied, in fact or in law, relative to the prize, including, but not limited to, its quality or fitness for a particular purpose. Any person attempting to defraud or in any way tamper with the Competition mechanics and/or implementation will be prosecuted to the fullest extent of the law. By participating, Participants or Teams agree to waive any right to claim ambiguity in the Competition or these Official Rules. Sponsor reserves the right to disqualify any entrant that Sponsor determines, in its sole discretion, violates these Official Rules. **This Competition is void where prohibited.**

**XIV. DISPUTES:** Except where prohibited, as a condition of participating in this Competition, Participant agrees that any and all disputes which cannot be resolved between the parties, claims and causes of action arising out of, or connected with this Competition, or any prizes awarded, or the determination of winners shall be resolved individually (without resort to any form of class action and with the understanding and agreement that these Official Competition Rules shall apply), and shall be submitted to arbitration pursuant to the commercial arbitration rules of the American Arbitration Association, then effective. Further, in any such dispute, under no circumstances will Participant be permitted to obtain awards for, and hereby waives all rights to claim punitive, incidental or consequential damages, or any other damages, including attorneys' fees, other than Participant's actual out-of-pocket expenses (e.g., costs associated with entering this Competition), and Participant further waives all rights to have damages multiplied or increased. The arbitration shall be conducted in the State of Maryland, in the City of Bethesda, County of Montgomery, and judgment on the arbitration award may be entered into any court having jurisdiction thereof. In the event that arbitration is prohibited, in a particular state/territory then any such claim shall be brought and maintained in the federal or state courts of the State of Maryland, in the City of Bethesda, County of Montgomery. Any dispute or claim arising out of the entry of this Competition, or any disputes with site users which arise as a result of the use of this website, shall be governed by the laws of the State of Maryland, without respect to conflicts of laws principles.

**XV. WINNERS LIST/OFFICIAL COMPETITION RULES REQUEST:** For the names and city/state of residence of prize Winners or a copy of these Official Competition Rules, send a request specifying a copy of the Winners List or Official Competition Rules along with a self-addressed, stamped envelope postmarked by 04/16/10 and received by 04/23/10. Mail to: Compliance/ 2009/2010 OMOP Cup-Methods Competition Winners List, 106 Elm St, Stonington, CT 06378. Vermont and Washington residents may omit return postage.

**XVI. SPONSOR:** The FNIH 9650 Rockville Pike, Bethesda, MD 20814 and OMOP , 818 Connecticut Ave, N.W. Suite 500, Washington, D.C. 20006.