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# Health Economics and Outcomes Research Competencies Framework™

## Overview and Survey Results

May, 2018  
Annual ISPOR International Meeting, Baltimore MD.



### ISPOR HEOR Competencies Framework™ Working Group

Institutional Council

Faculty Advisor Council

ISPOR HEOR Competencies Framework™

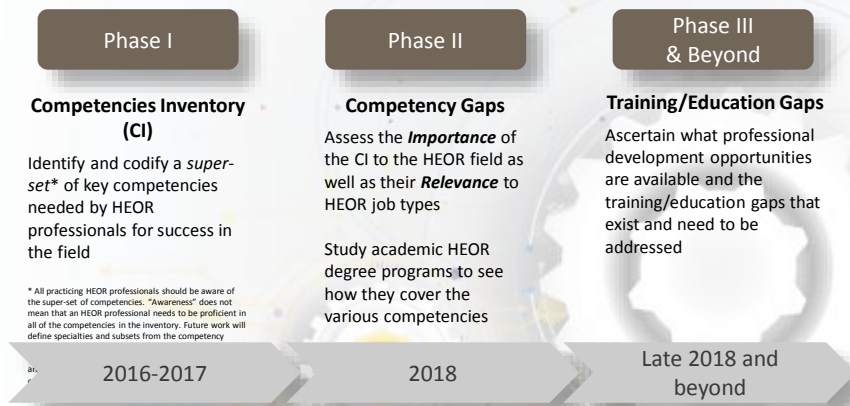
## ISPOR HEOR Competencies Framework™

### Initiatives Objectives:

- To comprehensively define the health economics and outcomes research discipline, including:
  - Competencies professionals need for success in the field
  - Competency gaps that are often seen in candidates and employees
  - Training/education gaps that need to be addressed

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## ISPOR HEOR Competencies Framework™ Scope, Phases, and Timeline



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## ISPOR HEOR Competencies Framework™

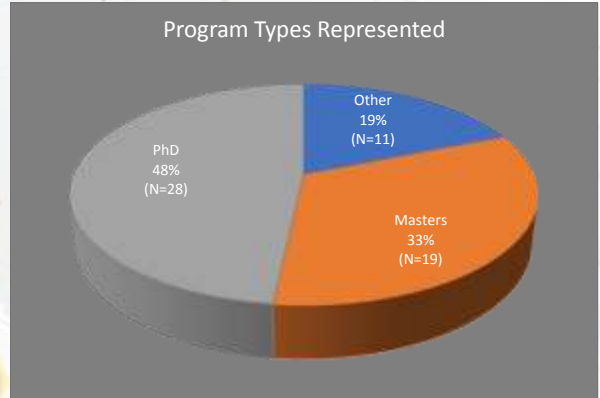
### Competency Domains



## ISPOR 2018 Competency Surveys

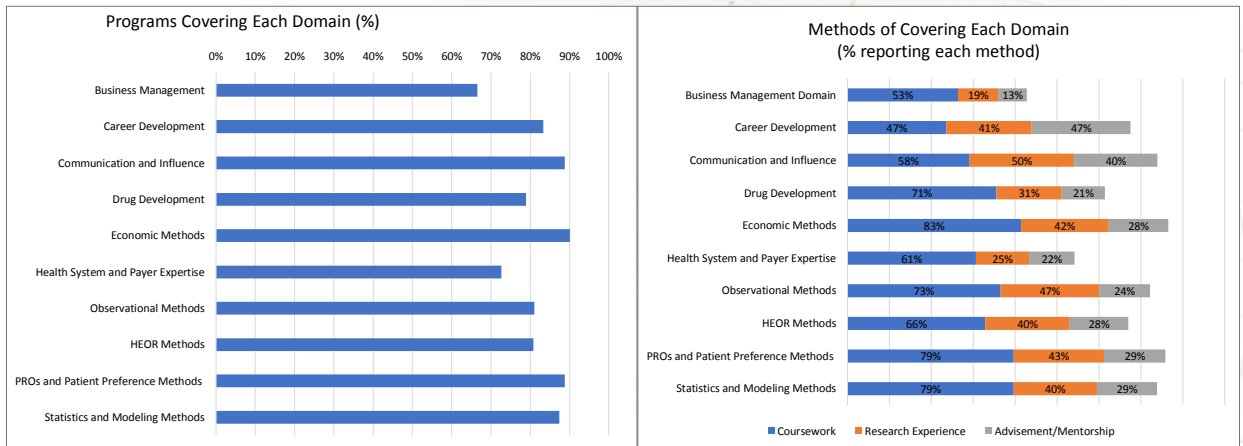
- Two surveys were conducted to understand the importance & relevance of the ISPOR Competencies to the general members as well as the academic offerings from relevant HEOR-related degree programs that are available to acquire them
- Academic Member Survey
  - Survey sent to 1191 ISPOR members who self-identified as “Academics”
  - Students excluded (to be surveyed at later date)
  - Goal was to determine how the individual competencies *are* or *are not* covered in their degree programs
    - Courses
    - Research Experience
    - Advisement/Mentorship
    - Not Offered (i.e., it was not covered in any of the above)
  - 58 complete responses received

## Academic Survey Results Responses by Region and Program Type



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## Academic Survey Results Coverage of the Competency Domains



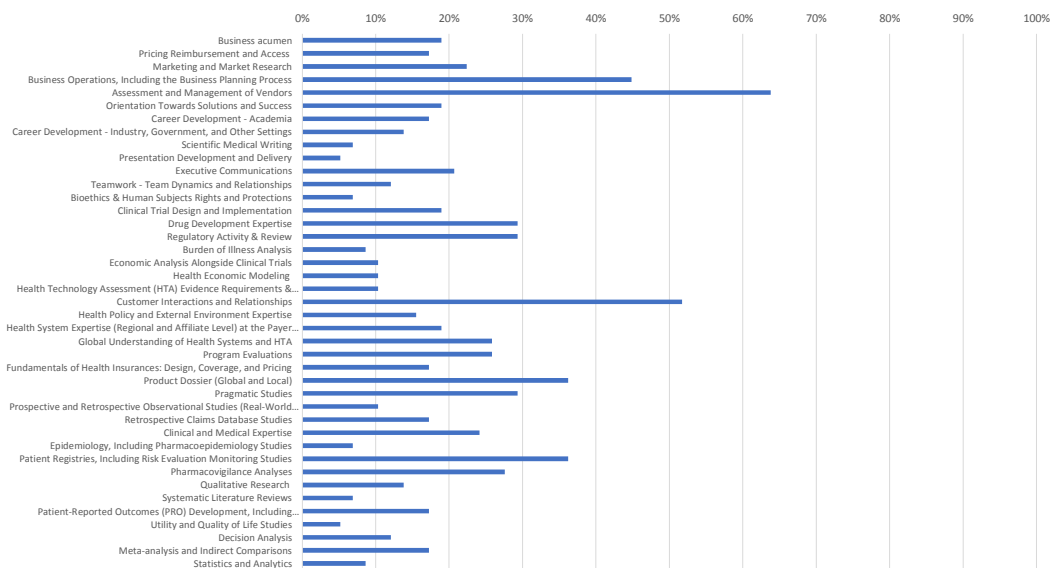
## Academic Survey Results Most and Least Frequently Reported Individual Competencies

Top 10 Most Frequently Reported Competencies	
Presentation Development and Delivery	95%
Utility and Quality of Life Studies	95%
Scientific Medical Writing	93%
Bioethics & Human Subjects Rights and Protections	93%
Epidemiology, Including Pharmacoepidemiology Studies	93%
Systematic Literature Reviews	93%
Burden of Illness Analysis	91%
Statistics and Analytics	91%
Economic Analysis Alongside Clinical Trials	90%
Health Economic Modeling	90%

Top 10 Least Frequently Reported Competencies	
Assessment and Management of Vendors	36%
Customer Interactions and Relationships	48%
Business Operations, Including the Business Planning Process	55%
Patient Registries, Including Risk Evaluation Monitoring Studies	64%
Product Dossier (Global and Local)	64%
Pragmatic Studies	71%
Regulatory Activity & Review	71%
Drug Development Expertise	71%
Pharmacovigilance Analyses	72%
Program Evaluation	74%

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## Academic Survey Results: Competencies NOT Reported as Covered

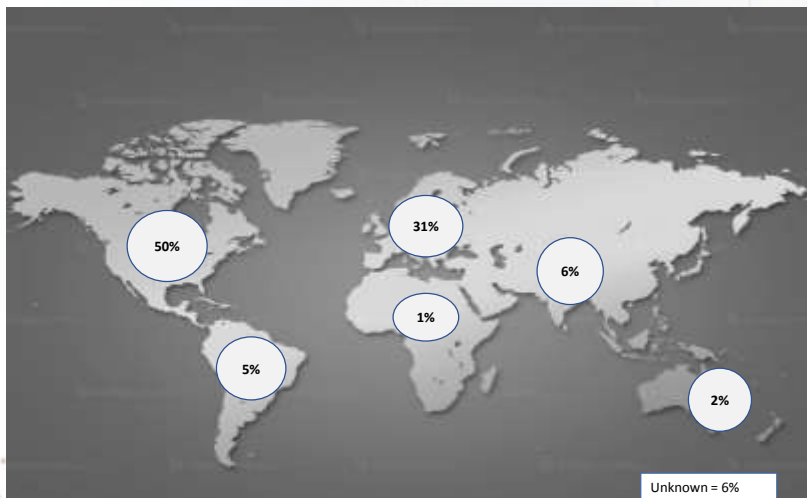


## ISPOR 2018 Competency Surveys General Member Survey

- Targeted all ISPOR members excluding Academics and Students. We asked their opinion on the **Importance** of each Competency to the overall HEOR discipline and the **Relevance** of each competency to the specific job held by the respondent.
  - **Importance** is the degree to which a competency has significant value within the HEOR discipline, rated on 5 point scale: "
    1. Critical Importance to HEOR Discipline
    2. Important to HEOR Discipline
    3. Somewhat Important to HEOR Discipline
    4. Little Importance to HEOR Discipline
    5. No Importance to HEOR Discipline
    - "Not familiar"
  - **Relevance** as rated on how relevant the competency is to their current job responsibilities, rated on 5 point scale:
    1. Critically relevant to my job
    2. Relevant to my job
    3. Somewhat relevant to my job
    4. Little relevance to my job
    5. No relevance to my job
    - "Not familiar"
- On May 17 we pulled data to present here; we had 200 responses from ~11,000 ISPOR members (response ~2%)

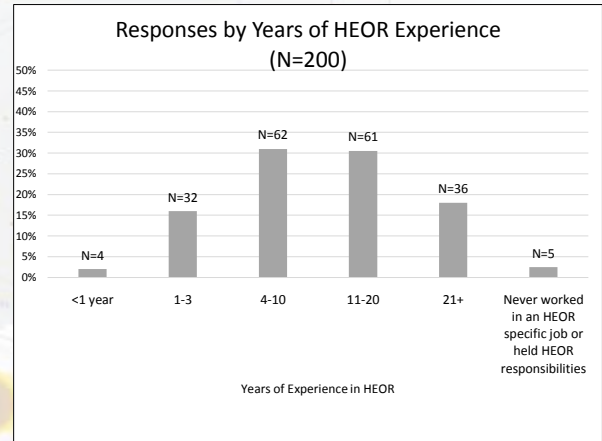
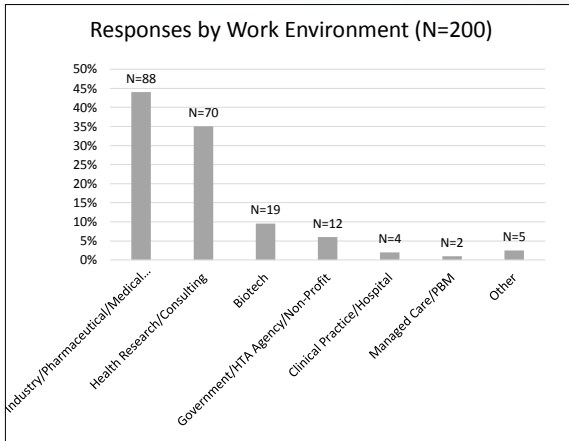
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## General Member Survey Results Responses by Region (% shown; N=200)



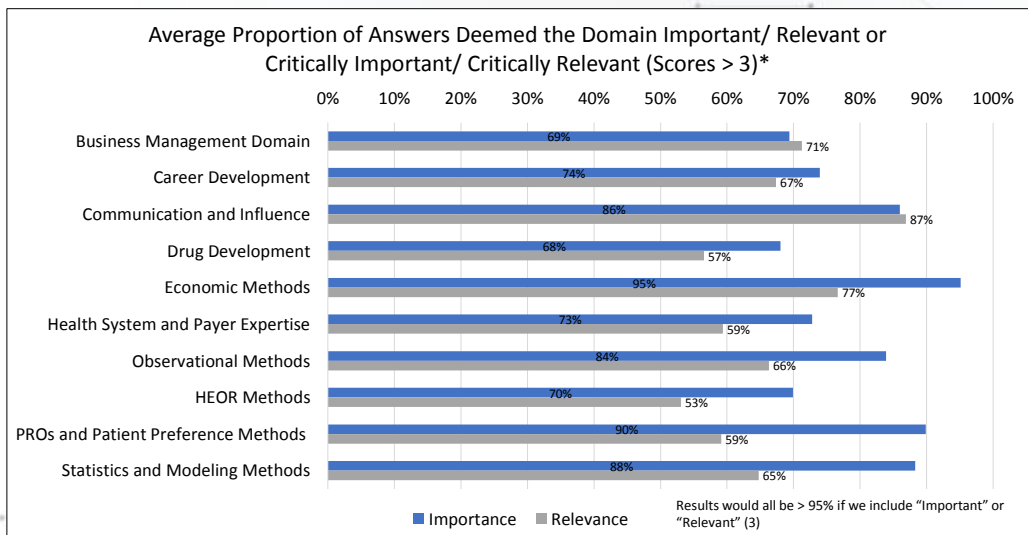
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## General Member Survey Results Responses by Work Environment and Years of HEOR Experience



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## General Member Survey Results Importance and Relevance of the Competency Domains



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## General Member Survey Top 10 Individual Competencies by Importance

Individual Competency	Proportion of answers “Important” or “Critically Important”
Burden of Illness Analysis	97%
Health Economic Modeling	97%
Health Technology Assessment (HTA) Evidence Requirements & Development	95%
Statistics and Analytics	95%
Pricing Reimbursement and Access	93%
Systematic Literature Reviews	93%
Utility and Quality of Life Studies	92%
Prospective and Retrospective Observational Studies (Real-World Evidence)	92%
Economic Analysis Alongside Clinical Trials	92%
Presentation Development and Delivery	91%

## General Member Survey Top 10 Individual Competencies by Relevance

Individual Competency	Proportion of answers “Relevant” or “Critically Relevant”
<b>Teamwork - Team Dynamics and Relationships</b>	92%
<b>Business acumen</b>	91%
<b>Executive Communications</b>	87%
<b>Orientation Towards Solutions and Success</b>	87%
Presentation Development and Delivery	87%
Burden of Illness Analysis	83%
Scientific Medical Writing	82%
Pricing Reimbursement and Access	80%
Prospective and Retrospective Observational Studies (Real-World Evidence)	78%
Health Economic Modeling	77%



## General Member Survey

### Highest 10 correlations between Relevance and Importance

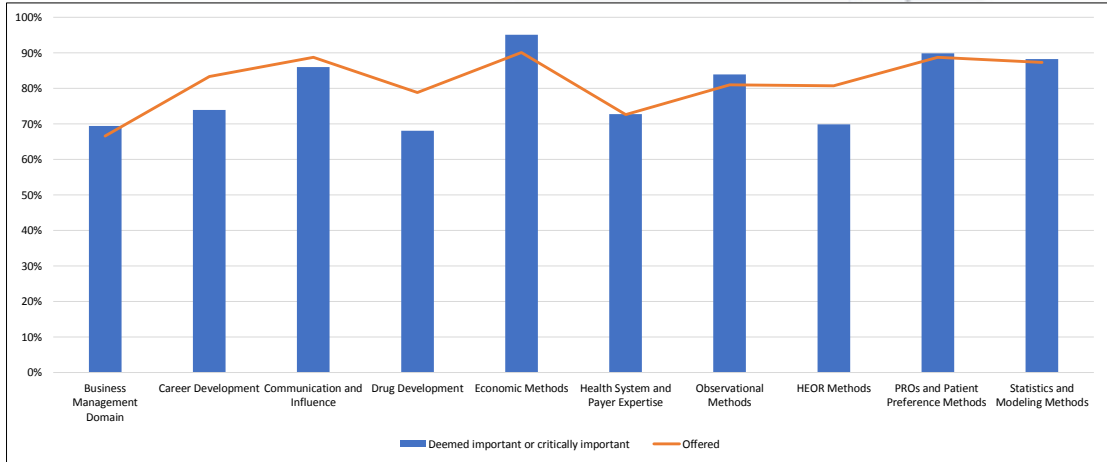
Individual Competency	Pearson's Correlation between Importance and Relevance
Marketing and Market Research	0.619
Program Evaluations	0.608
Decision Analysis	0.597
Orientation Towards Solutions and Success	0.588
Qualitative Research	0.559
Career Development - Industry, Government, and Other Settings	0.557
Pragmatic Studies	0.555
Business Operations, Including the Business Planning Process	0.554
Epidemiology, Including Pharmacoepidemiology Studies	0.554
Regulatory Activity & Review	0.546

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## Top 10 Most Relevant Competencies by Job Type

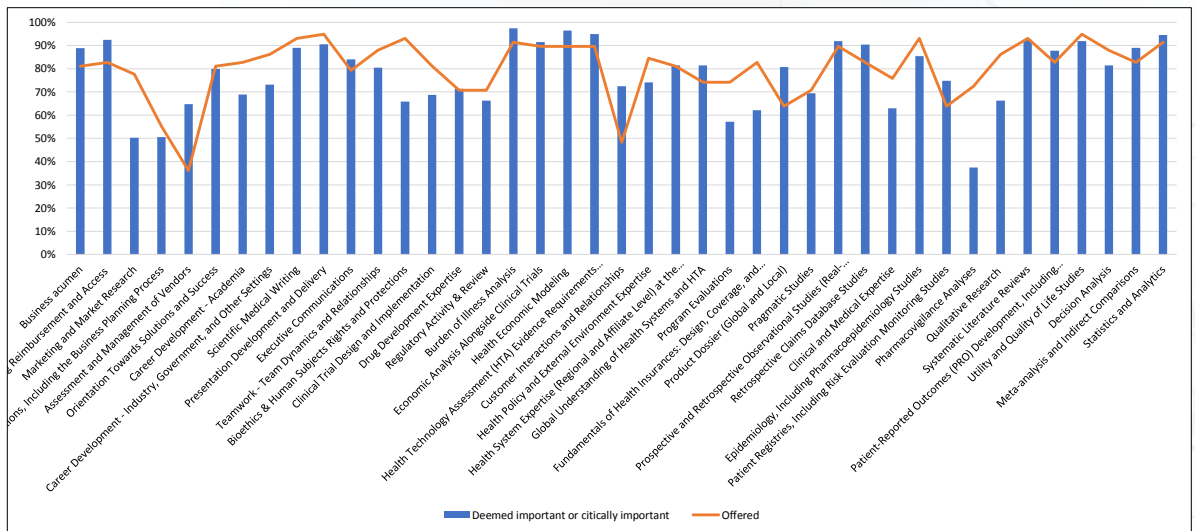
Competency	HEOR Grnlist	Health Econ	HEOR Mgmt	PRO/COA	HTA
Assessment and Management of Vendors		X			
Burden of Illness Analysis	X	X	X		X
Business acumen	X		X		X
Epidemiology, Including Pharmacoepidemiology Studies		X	X		
Executive Communications	X		X		X
Fundamentals of Health Insurances: Design, Coverage, and Pricing			X	X	
Global Understanding of Health Systems and HTA			X	X	
Health Economic Modeling	X		X		X
Health Policy and External Environment Expertise					X
Health Technology Assessment (HTA)					X
Orientation Towards Solutions and Success	X			X	
Patient-Reported Outcomes (PRO) Development, Including Psychometrics			X		
Pharmacovigilance Analyses				X	
Presentation Development and Delivery	X	X		X	X
Pricing Reimbursement and Access	X	X		X	X
Product Dossier (Global and Local)		X			X
Prospective and Retrospective Observational Studies (Real-World Evidence)	X	X			
Retrospective Claims Database Studies			X		
Scientific Medical Writing	X	X		X	X
Statistics and Analytics				X	
Systematic Literature Reviews				X	
Teamwork - Team Dynamics and Relationships	X	X	X	X	
Utility and Quality of Life Studies		X			

## Competency Domain Importance vs Academic Offerings

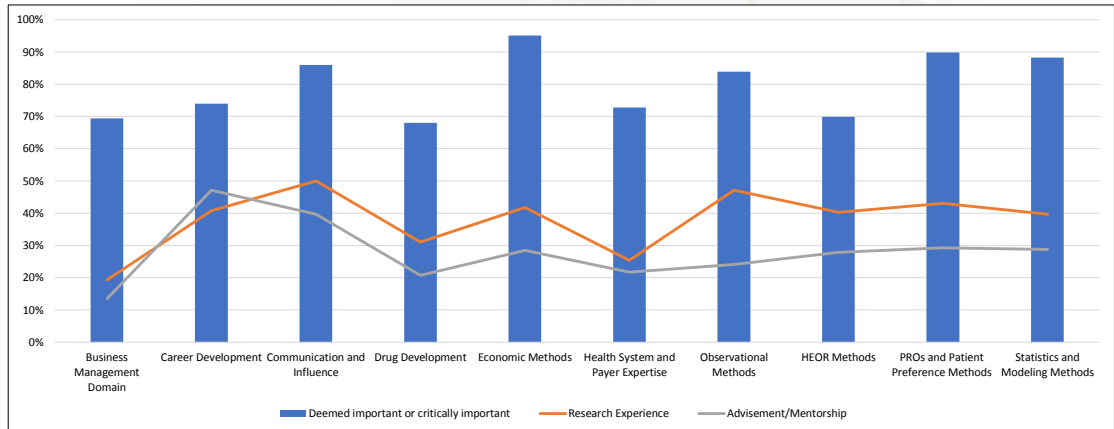


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## Individual Competency Importance vs Academic Offerings



## Competency Domain Importance vs Academic Offering through Advisement or Research Experience Opportunities for Collaboration?



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## Competency Importance vs Academic Offerings Opportunities for Collaboration?

- In general, the Academic programs are a good match to the Importance of the competency to the HEOR discipline
- Our early conclusions are that great opportunity exists for collaboration with HEOR functions in enabling students to have:
  - Professional Mentors
  - Practical Experience

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## Next Steps

- Publish results in a future issue of *Value in Health*
- Explore and develop programs and methods to train both didactically and experientially; academia in partnership with life sciences organizations
- Determine what topics should be covered within each competency along with mastery techniques by engaging:
  - Faculty and Academic Institutional Council
  - Institutional Council
  - General Membership
  - ISPOR experts in the various competencies and the various topics
- Identify specialty tracks by determining which competencies are most critical within different job types

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## Conclusions

- The **General Member survey** results provide validation of the *ISPOR Competencies Framework™* to the HEOR discipline both in their importance and relevance
- The **Academic survey** results suggest agreement between the competencies and what is covered in academic programs, with some gaps
- The Framework will **solidify ISPOR's leadership** position and serve as a vehicle for building an **effective HEOR workforce**
- There is still much work to do but it will be undertaken with **confidence that the final product will be valuable** to ISPOR members and the associated companies and academic centers

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## Acknowledgement and Thanks

- Nancy Berg, Dick Willke, Betsy Lane and the ISPOR Staff
- Rebecca Corey of the ISPOR staff for far too much to be able to mention
- ISPOR BOD
- ISPOR Institutional Council
- ISPOR Faculty Advisor Council
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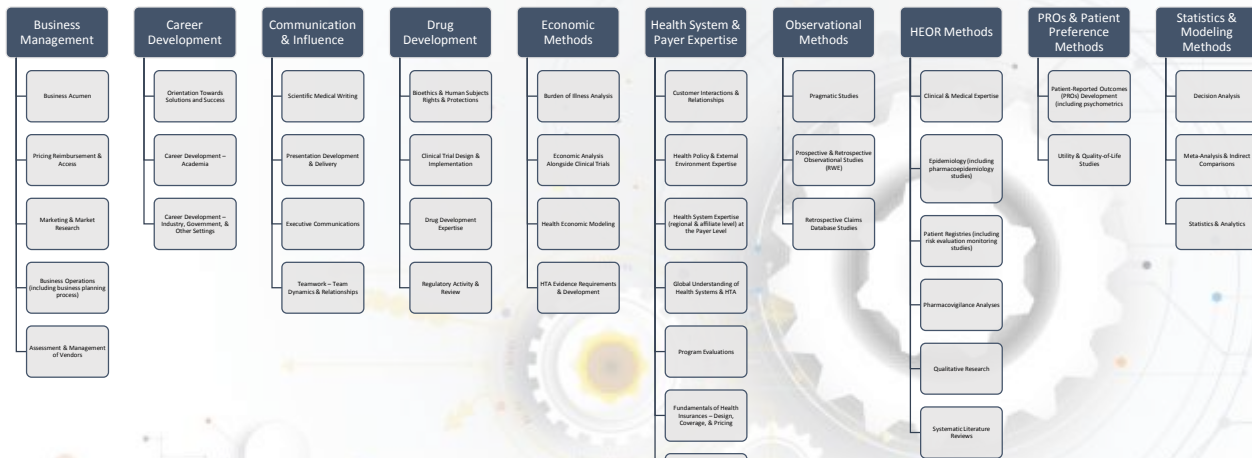
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# A

## Appendix



### ISPOR HEOR Competencies Framework™ Competencies and Capabilities



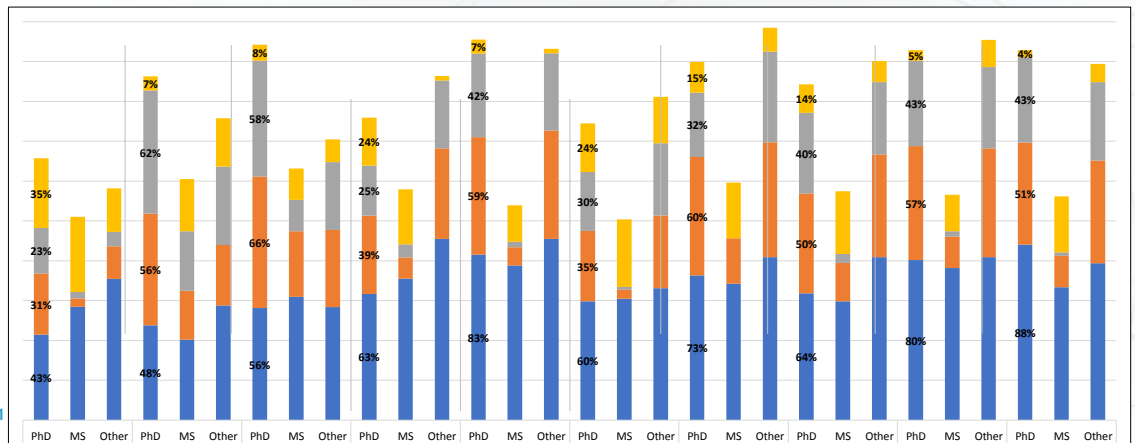
ISPOR HEOR Competencies Framework™

Competency Acquisition and Mastery



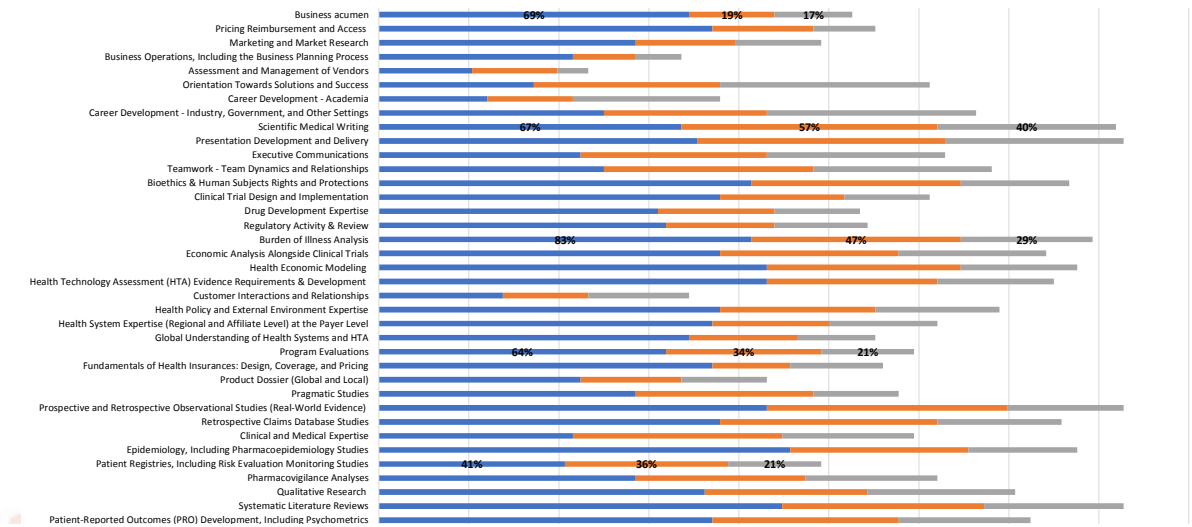
Academic Survey Results

Methods of Covering Competency Domains Across Different Types of Programs (PhD, Masters, Other)

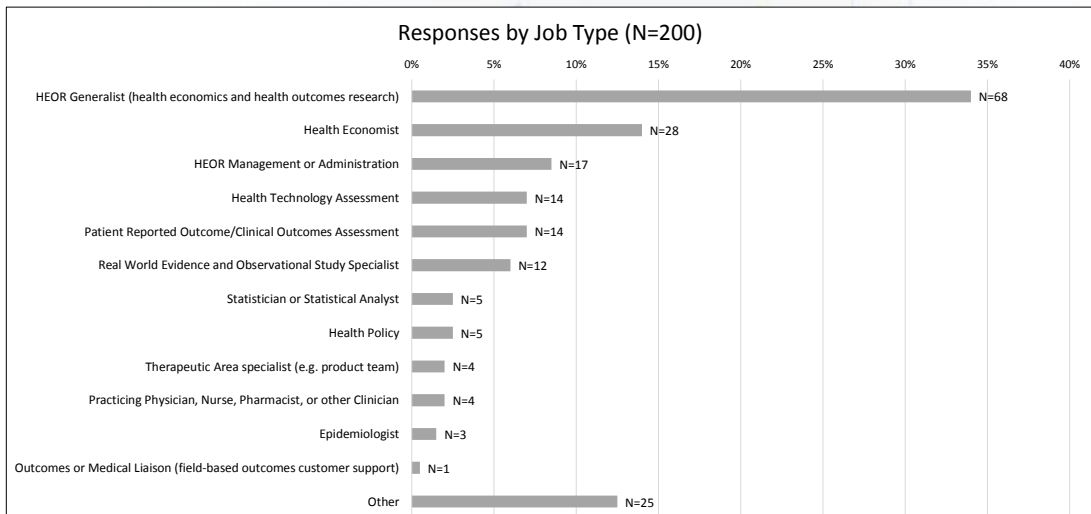




## Academic Survey Results Methods of Covering Individual Competencies



## General Member Survey Results Job Type of the Respondents



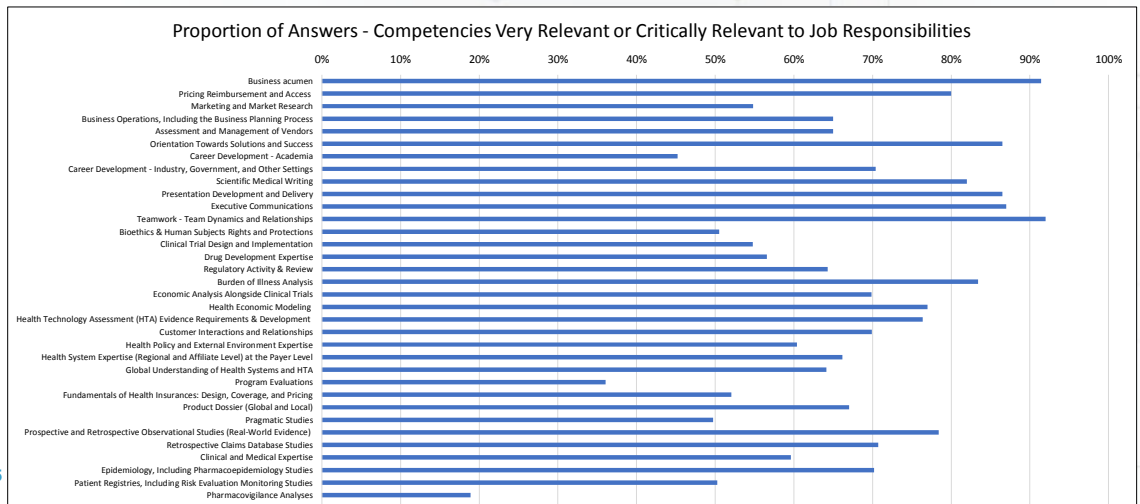
# General Member Survey

## Importance of Individual Competencies

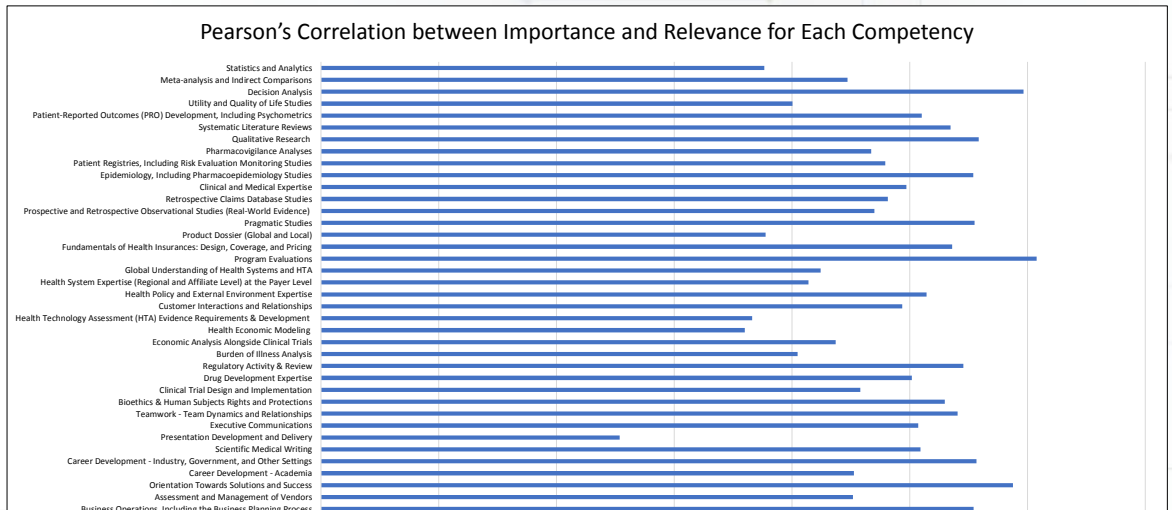


# General Member Survey

## Relevance of the Individual Competencies to Respondent's Job



## Importance vs. Relevance Correlation Scores



## Importance of Competencies to Top Work Environments: 1. Industry/Pharmaceutical/Medical Device/Diagnostic (N=88)

Individual Competency	Proportion of answers "Very Important" or "Critically Important"
Burden of Illness Analysis	98%
Health Economic Modeling	97%
Systematic Literature Reviews	97%
<b>Economic Analysis Alongside Clinical Trials</b>	95%
Health Technology Assessment (HTA) Evidence Requirements & Development	95%
Pricing Reimbursement and Access	94%
Prospective and Retrospective Observational Studies (Real-World Evidence)	94%
Statistics and Analytics	92%

## Importance of Competencies to Top Work Environments: 2. Health Research/Consulting (N=70)

Individual Competency	Proportion of answers “Very Important” or “Critically Important”
Health Economic Modeling	97%
Burden of Illness Analysis	97%
Statistics and Analytics	94%
Health Technology Assessment (HTA) Evidence Requirements & Development	94%
<b>Retrospective Claims Database Studies</b>	94%
Prospective and Retrospective Observational Studies (Real-World Evidence)	93%
Systematic Literature Reviews	91%
Pricing Reimbursement and Access	90%
<b>Scientific Medical Writing</b>	90%

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## Importance of Competencies to Top Work Environments: 3. Biotech (N=19)

Individual Competency	Proportion of answers “Very Important” or “Critically Important”
Statistics and Analytics	100%
Business acumen	95%
Burden of Illness Analysis	95%
Health Economic Modeling	95%
Health Technology Assessment (HTA) Evidence Requirements & Development	95%
Utility and Quality of Life Studies	95%
<b>Meta-analysis and Indirect Comparisons</b>	95%
Pricing Reimbursement and Access	90%

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## Relevance of Competencies to Top Work Environments: 1. Industry/Pharmaceutical/Medical Device/Diagnostic (N=88)

Individual Competency	Proportion of answers "Very Relevant" or "Critically Relevant"
Teamwork - Team Dynamics and Relationships	98%
Business acumen	95%
Executive Communications	91%
Pricing Reimbursement and Access	89%
Presentation Development and Delivery	89%
Orientation Towards Solutions and Success	86%
Burden of Illness Analysis	86%
Assessment and Management of Vendors	80%

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## Relevance of Competencies to Top Work Environments: 2. Health Research/Consulting (N=70)

Individual Competency	Proportion of answers "Relevant" or "Critically Relevant"
Scientific Medical Writing	94%
Presentation Development and Delivery	90%
Business acumen	90%
Executive Communications	87%
Teamwork - Team Dynamics and Relationships	87%
Orientation Towards Solutions and Success	86%
Burden of Illness Analysis	83%
Prospective and Retrospective Observational Studies (Real-World Evidence)	80%

41

## Relevance of Competencies to Top Work Environments: 3. Biotech (N=19)

Individual Competency	Proportion of answers "Very Relevant" or "Critically Relevant"
Business acumen	95%
Assessment and Management of Vendors	95%
Teamwork - Team Dynamics and Relationships	95%
Orientation Towards Solutions and Success	89%
Executive Communications	89%
Clinical and Medical Expertise	89%
Presentation Development and Delivery	84%

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## Importance of Competencies to Job Type 1. HEOR Generalist (N=68)

Individual Competency	Proportion of answers "Very Important" or "Critically Important"
Burden of Illness Analysis	99%
Health Economic Modeling	99%
Statistics and Analytics	97%
Health Technology Assessment (HTA) Evidence Requirements & Development	97%
Economic Analysis Alongside Clinical Trials	96%
Scientific Medical Writing	93%
Presentation Development and Delivery	93%

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## Importance of Competencies to Job Type

### 2. Health Economist (N=28)

Individual Competency	Proportion of answers "Very Important" or "Critically Important"
Burden of Illness Analysis	100%
<b>Pricing Reimbursement and Access</b>	96%
Health Economic Modeling	96%
Health Technology Assessment (HTA) Evidence Requirements & Development	96%
<b>Retrospective Claims Database Studies</b>	96%
Systematic Literature Reviews	96%
Statistics and Analytics	96%
<b>Decision Analysis</b>	93%

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## Importance of Competencies to Job Type

### 3. HEOR Management or Administration (N=17)

Individual Competency	Proportion of answers "Very Important" or "Critically Important"
Business acumen	100%
Health Economic Modeling	100%
Health Technology Assessment (HTA) Evidence Requirements & Development	100%
<b>Customer Interactions and Relationships</b>	100%
Prospective and Retrospective Observational Studies (Real-World Evidence)	100%
Patient-Reported Outcomes (PRO) Development, Including Psychometrics	100%
<b>Orientation Towards Solutions and Success</b>	94%
Scientific Medical Writing	94%

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## Importance of Competencies to Job Type

### 4. Patient Reported Outcomes/Clinical Outcomes (N=14)

Individual Competency	Proportion of answers "Very Important" or "Critically Important"
Presentation Development and Delivery	100%
Prospective and Retrospective Observational Studies (Real-World Evidence)	100%
Patient-Reported Outcomes (PRO) Development, Including Psychometrics	100%
Utility and Quality of Life Studies	100%
Business acumen	93%
Pricing Reimbursement and Access	93%
Assessment and Management of Vendors	93%

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## Importance of Competencies to Job Type

### 5. Health Technology Assessment (N=14)

Individual Competency	Proportion of answers "Very Important" or "Critically Important"
Burden of Illness Analysis	100%
Health Economic Modeling	100%
Health Technology Assessment (HTA) Evidence Requirements & Development	100%
Prospective and Retrospective Observational Studies (Real-World Evidence)	100%
<b>Meta-analysis and Indirect Comparisons</b>	100%
Business acumen	93%
Pricing Reimbursement and Access	93%
<b>Clinical Trial Design and Implementation</b>	93%

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## Relevance of Competencies to Job Type

### 1. HEOR Generalist (N=68)

Individual Competency	Proportion of answers "Very Relevant" or "Critically Relevant"
Teamwork - Team Dynamics and Relationships	97%
Scientific Medical Writing	94%
Presentation Development and Delivery	94%
Business acumen	93%
Executive Communications	91%
Burden of Illness Analysis	91%
48 Prospective and Retrospective Observational Studies (Real-World Evidence)	90%

## Relevance of Competencies to Job Type

### 2. Health Economist (N=28)

Individual Competency	Proportion of answers "Very Relevant" or "Critically Relevant"
Scientific Medical Writing	96%
Teamwork - Team Dynamics and Relationships	96%
Product Dossier (Global and Local)	96%
Prospective and Retrospective Observational Studies (Real-World Evidence)	93%
Burden of Illness Analysis	89%
Pricing Reimbursement and Access	89%
49 Utility and Quality of Life Studies	86%

## Relevance of Competencies to Job Type

### 3. HEOR Management or Administration (N=17)

Individual Competency	Proportion of answers "Very Relevant" or "Critically Relevant"
Business acumen	100%
Patient-Reported Outcomes (PRO) Development, Including Psychometrics	100%
Burden of Illness Analysis	100%
Epidemiology, Including Pharmacoepidemiology Studies	100%
Teamwork - Team Dynamics and Relationships	100%
Executive Communications	94%
Fundamentals of Health Insurances: Design, Coverage, and Pricing	94%
Health Economic Modeling	88%
Retrospective Claims Database Studies	88%

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## Relevance of Competencies to Job Type

### 4. Patient Reported Outcomes/Clinical Outcomes (N=14)

Individual Competency	Proportion of answers "Very Relevant" or "Critically Relevant"
Fundamentals of Health Insurances: Design, Coverage, and Pricing	100%
Teamwork - Team Dynamics and Relationships	93%
Systematic Literature Reviews	93%
Scientific Medical Writing	86%
Global Understanding of Health Systems and HTA	86%
Pharmacovigilance Analyses	86%
Presentation Development and Delivery	79%
Pricing Reimbursement and Access	79%

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## Relevance of Competencies to Job Types

### 5. Health Technology Assessment (N=14)

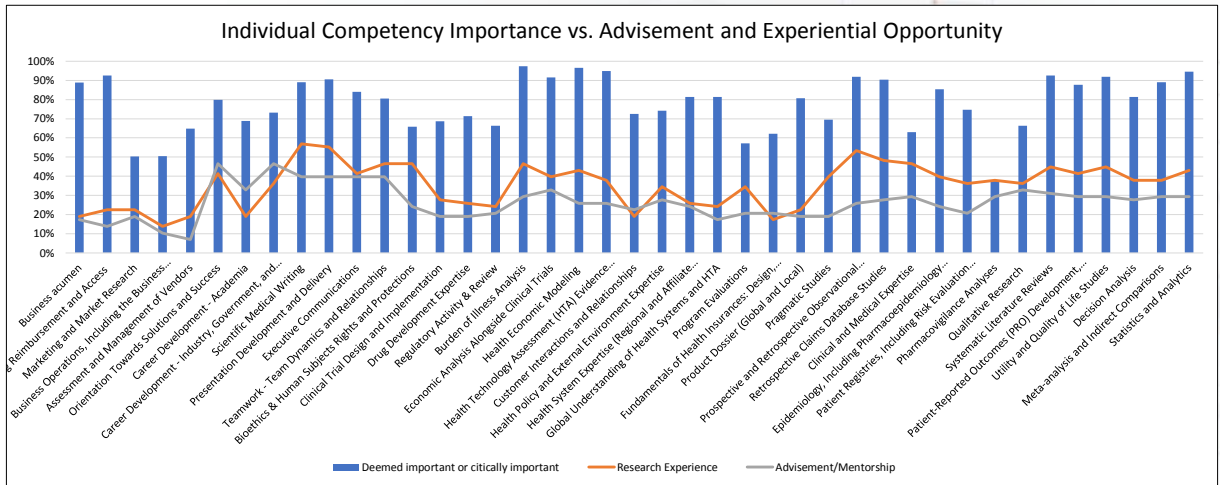
Individual Competency	Proportion of answers "Very Relevant" or "Critically Relevant"
Business acumen	100%
Executive Communications	100%
Health Technology Assessment (HTA) Evidence Requirements & Development	100%
Pricing Reimbursement and Access	93%
Health Economic Modeling	93%
Scientific Medical Writing	86%
Presentation Development and Delivery	86%
Burden of Illness Analysis	86%

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## Top 10 Most Relevant Competencies by Job Type

Competency	HEOR Gnrlist	Health Econ	HEOR Mgmt	PRO/ COA	HTA
Assessment and Management of Vendors		86%			
Burden of Illness Analysis	91%	89%	100%		86%
Business acumen	93%		100%		100%
Epidemiology, Including Pharmacoepidemiology Studies		86%	100%		
Executive Communications	91%		94%		100%
Fundamentals of Health Insurances: Design, Coverage, and Pricing			94%	100%	
Global Understanding of Health Systems and HTA			88%	86%	
Health Economic Modeling	84%		88%		93%
Health Policy and External Environment Expertise					86%
Health Technology Assessment (HTA)					100%
Orientation Towards Solutions and Success	88%			79%	
Patient-Reported Outcomes (PRO) Development, Including Psychometrics			100%		
Pharmacovigilance Analyses				86%	
Presentation Development and Delivery	94%	86%		79%	86%
Pricing Reimbursement and Access	88%	89%		79%	93%
Product Dossier (Global and Local)		96%			86%
Prospective and Retrospective Observational Studies (Real-World Evidence)	90%	93%			
Retrospective Claims Database Studies			88%		
Scientific Medical Writing	94%	96%		86%	86%
Statistics and Analytics				79%	

# Individual Competency Importance vs Academic Offering through Advisement or Research Experience Opportunities for Collaboration?



## Next Steps

- Topic Development
  - Define each competency in greater detail by identifying the key topics to be understood and mastered within it
  - Assess the topics on the following 2X2 Grid

<Competency>	Technical	Strategic
Theoretical/Didactic	(Topics)	(Topics)
Applied/Experiential	(Topics)	(Topics)

- Specialty Tracks – Determine which competencies are most critical within different job types