

Gauging Progress toward a Healthier IU: Focus on IUPUC

A Comparison of the IU Workplace Health and Wellness Survey Results from 2013 and 2015

1 INTRODUCTION

In 2013, Indiana University implemented the first university-wide survey of employee health and wellness. In support of building a culture of health and wellness across all campus locations, the aims of the IU Workplace Health & Wellness Survey were to:

- 1) establish baseline measures of workplace health to gauge the impact of the Healthy IU initiative over time;
- 2) understand how well IU workplaces are supporting the health of employees;
- 3) identify health advantages and challenges of this university community;
- 4) identify opportunities for change that are actionable from an organizational standpoint.

In 2015, the survey was repeated. This report focuses on the first aim, as we systematically compare 2013 survey results with 2015 results for IUPUC to assess our progress toward a healthier IU.

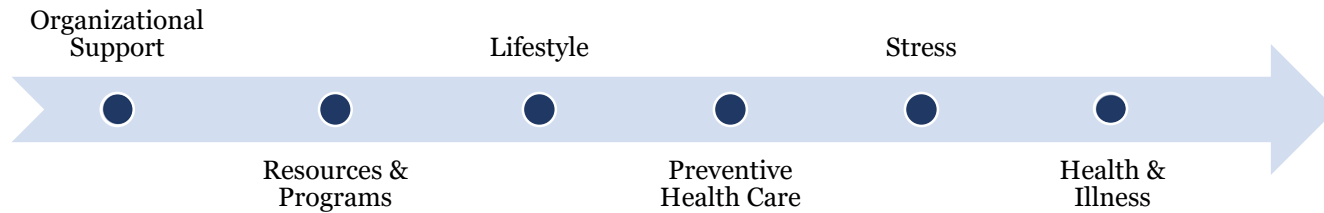
2 METHODS

2.1 SURVEY CONTENT

The wording of most questions in the 2015 survey remained consistent with 2013 wording, enabling valid year-to-year comparisons. Some questions were modified, deleted, or added to improve the value of information for organizational planning. Please note in the tables that follow, “NA” identifies questions that were Not Asked or Not Asked in a comparable way in both years.

The survey’s main content areas are shown on the diagram below along a continuum of change. Moving from left to right along the continuum, the difficulty and time required for change increases. Areas further to the left represent the greatest potential for rapid change when organizational

interventions are implemented; right-most areas are anticipated to take far longer to reflect change. We will consider the changes observed at IUPUC between 2013 and 2015 in the context of this continuum.



2.2 COMPARATIVE ANALYSIS & INTERPRETATION

A total of 39 IUPUC employees responded to our survey, yielding a 28.3% response rate. Quantitative data were analyzed using IBM SPSS Statistics 23.0 (IBM Corp., 2015). For valid comparison, survey data for both survey years (2013 and 2015) were weighted to the 2013 employee population. However, as IUPUC is currently included within IUPUI employee numbers, weights applied were those for IUPUI and IUPUC combined rather than IUPUC-specific.

Demographics	2013		2015	
	Respondents	Full-Time Employees	Respondents	Full-Time Employees
Sex				
Female	79%	Not Available*	87%	Not Available*
Male	21%		13%	
Job Type				
Staff	63%	Not Available*	59%	Not Available*
Faculty	37%		41%	

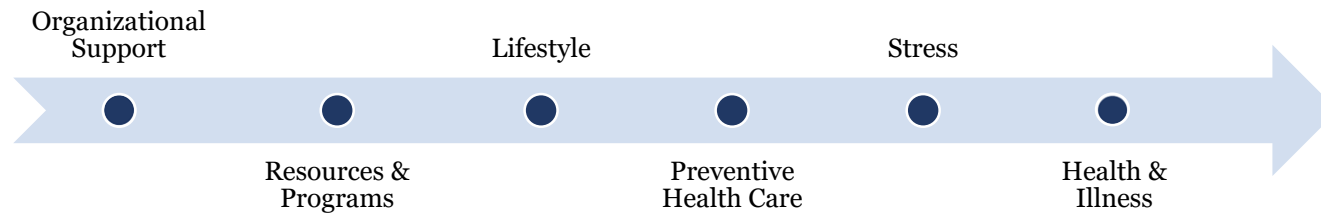
*Current record-keeping practices include IUPUC within the IUPUI employee numbers. As a result, IUPUC-specific demographic information is currently unavailable.

For each question being compared, we calculated and considered two measures of change, described and explained in the table below: 1) absolute change, and 2) relative change. Further, we considered both the statistical and practical significance of these changes in the rates. Chi-square testing was conducted to assess whether the absolute difference in rates was *statistically significant*. However, given the large number of respondents to our survey University-wide (4,314), differences may be statistically significant though not practically meaningful, so criteria were set for both statistical and practical significance. The benchmark set for practical significance was $\geq 10\%$ relative change, either better or worse.

	Absolute Change	Relative Change
Meaning	The simple difference between the two rates being compared	Expresses the change <i>relative</i> to the starting point; allows us to compare the degree of change across factors that vary widely in prevalence
Calculation	= 2015 Rate - 2013 Rate	= $\frac{(2015 \text{ Rate} - 2013 \text{ Rate})}{2013 \text{ Rate}}$
Example 1: Employees told they have pre-diabetes or borderline diabetes	= 7.5% - 5.6% = 1.9% A small absolute change but... \Rightarrow	= $\frac{(7.5\% - 5.6\%)}{5.6\%} = \frac{1.9\%}{5.6\%}$ = 33.9% A large relative change
Example 2: Employees who participated in some physical activities or exercises...in the past month	= 87.9% - 83.9% = 4.1% A larger absolute change than in example 1 but... \Rightarrow	= $\frac{(87.9\% - 83.9\%)}{83.9\%} = \frac{4.1\%}{83.9\%}$ = 4.9% A much smaller relative change
Significance of Differences	Statistical significance evaluated at $\alpha=0.05$ using Chi-square testing	Practical significance if $\geq \pm 10\%$ relative change

3 COMPARATIVE RESULTS

The IUPUC comparisons between 2015 and 2013 IU Workplace Health & Wellness Survey results are presented in this section, primarily in the form of tables. Each section focuses on a content area, proceeding from left to right along the continuum of change.



In comparing the survey measures comprehensively, we color-coded our interpretations based on the combination of statistical and practical significance. The color-coding is intended to provide a quick visual impression of the strength and degree of change observed in each content area.

	Improvement is statistically and practically significant
	Worsening is statistically and practically significant
	Change lacks statistical and/or practical significance

Also, the tables reflect whether or not there were interventions being implemented at IUPUC that focused on that aspect of workplace health in the two-year period. Such interventions were provided by a variety of groups, and information regarding these interventions was provided to the survey team by Healthy IU. Emblems distinguish between two levels of intervention:

 Face-to-face intervention provided

 Communication only provided

3.1 ORGANIZATIONAL SUPPORT

TABLE 1. ORGANIZATIONAL SUPPORT	COMPARISON						
	2013	2015	Absolute Change	Relative Change	p-value	Change Code	Intervention Provided
Q10. Overall, how supportive is IU of your personal health? (Percent rating 7-10 on scale of 1-10)	60.0%	67.5%	7.5%	12.5%	0.178		▲
Q9. Overall, how safe do you think your workplace is? (Percent rating 7-10 on scale of 1-10)	88.0%	93.1%	5.1%	5.8%	0.134		
Q20. All in all, how satisfied would you say you are with your job? (Percent satisfied/very satisfied)	73.8%	66.7%	-7.1%	-9.6%	0.153		
Q11. Employees who Agree or Strongly Agree...							
The people you work with take a personal interest in you.	NA	71.5%					
In your workplace, your co-workers support your efforts to be healthy.	79.5%	62.6%	-16.9%	-21.3%	0.001*		▲
Your supervisor is concerned about the welfare of those under him or her.	NA	67.5%					
In your workplace, management considers workplace health and safety to be important.	72.8%	61.4%	-11.4%	-15.7%	0.036*		
IU has provided you with the opportunity to be physically active .	32.1%	37.7%	5.6%	17.4%	0.327		Ψ
IU has provided you with the opportunity to eat a healthy diet .	53.7%	47.0%	-6.7%	-12.5%	0.246		
IU has provided you with the opportunity to live tobacco free .	91.4%	89.9%	-1.5%	-1.6%	0.646		▲
IU has provided you with the opportunity to manage your stress .	32.4%	33.4%	1.0%	3.1%	0.797		Ψ
IU has provided you with the opportunity to work safely .	71.6%	79.3%	7.7%	10.8%	0.124		

*Statistically significant; NA = not asked/not comparably asked in given year

The content area of Organizational Support showed relative stability between 2013 and 2015. However, statistically and practically significant worsening was observed in two measures (red). Fewer employees reported coworkers supporting their efforts to be healthy (a relative change of -21.3%), and fewer reported management that considers workplace health and safety to be important (a relative change of -15.7%). Remaining measures did not show statistically and/or practically significant change.

3.2 RESOURCES & PROGRAMS

TABLE 2. Q12: Are the following PROGRAMS OR RESOURCES currently available at your workplace? (Percent who said yes)	COMPARISON						
	2013	2015	Absolute Change	Relative Change	<i>p-value</i>	Change Code	Intervention Provided
Access to clean drinkable water	NA	97.3%					
Opportunities to buy fresh fruits and vegetables	78.5%	65.5%	-13.0%	-16.6%	0.016*		
Healthy food options in vending machines	30.3%	48.5%	18.2%	60.1%	0.002*		
Healthy food options to purchase in the cafeteria or other food service	90.3%	74.3%	-16.0%	-17.7%	0.001*		Ψ
1-on-1 nutritional counseling	NA	59.7%					Ψ
Stress management or stress reduction classes/programs	6.4%	34.5%	28.1%	439.1%	<0.001*		
A convenient place to work out or exercise (2015) - A place to work out or exercise such as an onsite exercise room (2013) †	3.7%	25.0%	21.3%	575.7%	<0.001*		
A place to bike or walk	84.0%	83.1%	-0.9%	-1.1%	0.788		Ψ
A walking program	25.9%	36.4%	10.5%	40.5%	0.052		Ψ
Ergonomics (work station or computer setup, proper lifting, etc.)	33.6%	20.2%	-13.4%	-39.9%	0.012*		
Flu shots at work	78.9%	84.6%	5.7%	7.2%	0.192		▲
Employee Assistance Program (access to professional counseling)	71.9%	71.2%	-0.7%	-1.0%	0.905		Ψ
Programs to help people stop smoking (of current smokers)	/	/					▲
Healthy weight/weight loss programs	28.7%	34.8%	6.1%	21.3%	0.245		
Blood pressure monitoring device available for self assessment	2.0%	77.7%	75.7%	3785.0%	<0.001*		Ψ
A true smoke-free workplace	82.1%	80.8%	-1.3%	-1.6%	0.770		▲
A private area/lactation room for moms who are breast-feeding (of women aged 18-44)	70.8%	75.0%	4.2%	5.9%	0.678		▲
Signs that encourage stair use	26.6%	27.2%	0.6%	2.3%	0.870		▲
Markers that identify walking trails	NA	51.0%					
Easy to access maps of walking trails	NA	23.3%					Ψ
A designated person who communicates health and wellness information to your work group	NA	57.4%					▲

*Statistically significant; NA = not asked/not comparably asked in given year

Improving employee awareness and access to health-supporting Resources & Programs at their IU workplace was identified in 2013 as an opportunity for rapid change and organizational action. The numerous intervention emblems shown in the final column of this table reflect the broad action taken in this

area. Healthy change is evidenced in the improvements seen among four measures, including presence of blood pressure monitoring devices, a convenient place to exercise, stress management programs, and—to a much lesser extent—healthy food options in vending machines. Despite these positive changes, worsening occurred in three other areas. Employees were less likely to report having opportunities to buy fresh fruits and vegetables or to have healthy options in the cafeteria or other food service. Fewer also reported having access to ergonomics resources. The remaining measures were stable between 2013 and 2015.

3.3 LIFESTYLE

TABLE 3. LIFESTYLE INFLUENCES ON HEALTH	COMPARISON						
	2013	2015	Absolute Change	Relative Change	<i>p-value</i>	Change Code	Intervention Provided
Q22. Employees getting enough restful sleep to function well in job and personal life - always/most of the time	52.3%	47.2%	-5.1%	-9.8%	0.383		Ψ
Q64 & Q65. Employees whose BMI falls within normal range (18.5-24.9)	25.9%	26.9%	1.0%	3.9%	0.891		Ψ
Q23. Employees who do not smoke cigarettes	98.2%	97.2%	-1.0%	-1.0%	0.553		▲
Q24. Current smokers who stopped smoking for one day or longer because they were trying to quit	/	/					
Q25. Employees who participated in some physical activities or exercises...during the past month	86.3%	83.3%	-3.0%	-3.5%	0.528		Ψ
Q26 and 27. Employees meeting the aerobic physical activity guidelines	54.0%	54.5%	0.5%	0.9%	0.931		
Q28. Employees meeting the strength-training guidelines	49.0%	41.5%	-7.5%	-15.3%	0.223		
Q26-28. Employees meeting both aerobic and strength-training guidelines	42.0%	26.3%	-15.7%	-37.4%	0.007*		
Q33. (Of those who mostly sit on the job) Employees who are able to get up and move around 8 or more times during a usual 8 hour work day	58.4%	39.6%	-18.8%	-32.2%	0.003*		Ψ
Q18. Employees who Always/Usually get the social and emotional support they need	63.6%	61.7%	-1.9%	-3.0%	0.757		Ψ

*Statistically significant; NA = not asked/not comparably asked in given year; / = insufficient sample size for analysis

The content area of Lifestyle Influences on Health moves us toward the middle of the continuum of change. None of the changes in lifestyle measures met our criteria for having both statistically and practically significant improvements. However, two of the measures met the criteria for being significantly worse in 2015 compared to 2013: the percentage of employees who meet both aerobic and strength-training guidelines and the percentage of employees who are able to get up and move at least 8 times during a usual work day. All other measures were stable.

3.4 PREVENTIVE HEALTH CARE

TABLE 4. PREVENTIVE HEALTH CARE	COMPARISON						
	2013	2015	Absolute Change	Relative Change	<i>p-value</i>	Change Code	Intervention Provided
Q34. Employees who visited a doctor for a routine checkup within the past 2 years	84.9%	90.4%	5.5%	6.5%	0.175		
Q35. Employees who had blood pressure checked by a health professional within the past year	94.3%	84.7%	-9.6%	-10.2%	0.007*		Ψ
Q36. Employees who last had a cholesterol test less than 5 years ago	94.3%	100.0%	5.7%	6.0%	0.003*		Ψ
Q37. Employees who had a lab test for high blood sugar or diabetes within the past 3 years	76.5%	84.6%	8.1%	10.6%	0.089		Ψ
Q38. Employees who had a seasonal flu vaccine during the past 12 months	47.0%	64.2%	17.2%	36.6%	0.003*		▲

*Statistically significant; NA = not asked/not comparably asked in given year

2015 Preventive Health Care survey results were overall stable and consistent with 2013 results for three measures. The percentage of employees getting flu shots in the past year improved (relative change 36.6%). Given the excellent baseline rates reported by IUPUC employees for routine checkups, blood pressure checks, and cholesterol testing, there is little room for improvement in these areas. However, worsening did occur for the percentage of employees reporting having their blood pressure checked in the past year. As such, while significant improvements may not be feasible in some areas, it is essential to focus on maintaining high levels and prevent any future worsening.

3.5 STRESS

TABLE 5. IMPACT OF STRESS	COMPARISON						
	2013	2015	Absolute Change	Relative Change	<i>p-value</i>	Change Code	Intervention Provided
Q21. Employees who said stress (from all sources at work or at home) had <i>a lot</i> or <i>some</i> impact on their health in the past year	78.7%	88.1%	9.4%	11.9%	0.030*		Ψ
Q19. Employees who responded Always/Often							
How often do you find your work stressful?	53.4%	64.1%	10.7%	20.0%	0.063		Ψ
How often do things going on at <u>work</u> make you tense or irritable at home?	NA	52.2%					
How often do things going on at <u>home</u> make you tense or irritable at work?	NA	2.0%					
How often in past month have you felt used up at the end of the day?	63.8%	76.7%	12.9%	20.2%	0.018*		Ψ

*Statistically significant; NA = not asked/not comparably asked in given year

Two of the three measures of the impact of stress exhibited a worsening from 2013 to 2015. A higher percentage of employees in 2015 stated that stress was affecting their health a lot or some in the past year, and more also reported feeling used up at the end of the day. Those reporting finding work stressful was not statistically significantly higher in 2015. Given the burden of stress observed in 2013, we added two new measures in 2015 to help us better understand the interplay of stress between home and work. Based on these results, work stress affects employees at home more often than home stress affects employees at work. Given the totality of these findings, stress remains an important factor for employee health and well-being at IUPUC.

3.6 HEALTH & ILLNESS

TABLE 6. HEALTH & ILLNESS	COMPARISON						
	2013	2015	Absolute Change	Relative Change	p-value	Change Code	Intervention Provided
Q14. Employees rating their health as fair or poor	11.3%	12.1%	0.8%	7.1%	0.883		
Q15. Employees with one or more days of poor physical health in past 30	40.1%	41.4%	1.3%	3.2%	0.795		
Q16. Employees with one or more days of poor mental health in past 30	44.8%	44.8%	0.0%	0.0%	0.970		
Q17. Employees with one or more days in past 30 when poor physical/mental health interfered with usual activities	24.4%	37.4%	13.0%	53.3%	0.021*		
<i>[Employees responding yes - Have you EVER been told by a doctor, nurse, or other health professional that you have...]</i>							
Q39. High blood pressure	26.6%	29.5%	2.9%	10.9%	0.638		Ψ
Q39. Borderline high or pre-hypertensive	17.8%	15.7%	-2.1%	-11.8%	0.629		Ψ
Q42. High blood cholesterol	48.6%	36.6%	-12.0%	-24.7%	0.048*		Ψ
Q45. Diabetes	4.5%	7.5%	3.0%	66.7%	0.299		
Q45. Pre-diabetes or borderline diabetes	7.7%	9.3%	1.6%	20.8%	0.589		Ψ
Q48. Asthma - ever	11.8%	6.6%	-5.2%	-44.1%	0.117		
Q49. Asthma - among those ever diagnosed, those who <i>currently</i> have asthma	NA	70.1%					
Q51. Arthritis	23.2%	20.9%	-2.3%	-9.9%	0.641		
Q53. Arthritis-related activity limitations	16.1%	41.1%	25.0%	155.3%	0.038*		
Q57. Depressive disorder	30.5%	41.7%	11.2%	36.7%	0.046*		▲
Q60. Heart disease	2.0%	2.0%	0.0%	0.0%	0.815		▲
Q61. Carpal tunnel syndrome	6.3%	13.7%	7.4%	117.5%	0.038*		
<i>[Employees who self-identified having ...]</i>							
Q54. Chronic or recurrent low back pain	24.0%	34.7%	10.7%	44.6%	0.054		
Q64 and Q65. Obesity (calculated BMI ≥30.0)	38.7%	37.5%	-1.2%	-3.1%	0.899		Ψ
Q64 and Q65. Overweight (calculated BMI 25.0-29.9)	35.4%	35.5%	0.1%	0.3%	0.943		
Q62. Health problems they think may be due to physical surroundings at workplace	NA	23.0%					

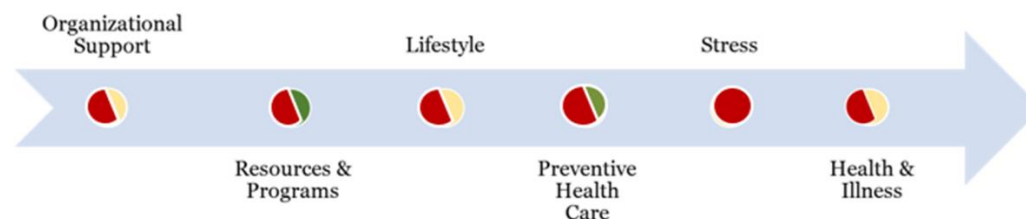
*Statistically significant; NA = not asked/not comparably asked in given year

The final content area, to the far right of the continuum of change, describes the Health & Illness measures of IUPUC employees. In this content area, the color-coded changes cannot be interpreted in the same straightforward manner as in previous sections. A leveling-off of disease rates is considered success through fewer new diagnoses among employees, as it is essentially impossible for employees who have once been diagnosed with a condition to be “un-diagnosed.” Stabilization of these rates is a long-term aim, as most of these conditions develop over a period of years. Thirteen of the measures presented in Table 3.6 above remained stable over the 2-year period. One measure—percentage of employees with high cholesterol—showed an improvement, with a relative change of -24.7%. Some worsening of measures did occur. An increase in the proportion of employees reporting poor physical or mental health that affected their daily activities was observed. Additionally, significant increases in the proportion of employees ever diagnosed with arthritis, arthritis-related activity limitations, and carpal tunnel syndrome were seen.

4 CONCLUSIONS

What does this comparison of the 2013 and 2015 survey results tell us?

- Statistical and practical significance, as well as consistency between 2013 and 2015, give us confidence that observed changes (for better or worse) are **real changes** in the IUPUC community.
- **Improvements** are seen primarily within the Resources and Programs content area on the left of the Continuum of Change. However, the anticipated trend of large changes on the left of the continuum and few to no changes on the right was not clearly demonstrated, possibly due to the small sample size of the IUPUC community.
- We **held our ground** in some longer-term outcomes, but **worsened in others** during the 2-year period. The most challenging outcomes, especially disease rates, take longer to show improvement, as chronic diseases typically develop over a period of years, and once an employee is diagnosed, they cannot revert back to the undiagnosed group. Holding ground in long-term outcomes such as disease rates is, therefore, success.
- We still have work to do, but we are moving in the right direction.





**RICHARD M. FAIRBANKS
SCHOOL OF PUBLIC HEALTH**

INDIANA UNIVERSITY
Indianapolis

A team within the **IU Richard M. Fairbanks School of Public Health at IUPUI** designs, conducts, and analyzes the IU Workplace Health & Wellness Survey on behalf of the multi-campus IU community. We are a team committed to employee confidentiality and quality data that drive healthy change. *Any questions? Contact us at bhealthy@iu.edu*

Co-Principal Investigators: Gregory K. Steele, DrPH, MPH
Lisa K. Staten, Ph.D

Project Manager: Tess D. Weathers, MPH

Data Analyst: Jennifer Alyea, MPH and Doctoral Student

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