

# Data Appendix: Healthcare Training Tracking

## Appendix 1. Job quality scale

The original job quality scale assigns a value (0-8) to each occupation in the 2010 SOC held by the Connecticut Health Profession Opportunity Grants (HPOG) 1.0 participants. Measuring job quality considers two major dimensions: (1) income and education/training certification, and (2) qualitative aspects of jobs from participant interviews.

Appendix 1 Table 1. Original job quality scale [0-8]

Scale [0-8]	Job examples
0	Non-healthcare
1	HHA, Community Health Workers, Pharmacy Aides Nursing Aides, Orderlies and Attendants, Medical Equipment
2	Preparers
3	Certified Nursing Assistants (C.N.A.)
4	Phlebotomists, Health Technologists and Technicians All Others
5	Pharmacy Technicians
6	Medical Records and Health Information Technicians
7	Paramedics, Radiologic Technologists
8	Pharmacist, Registered Nurse

However, this scale only covers occupations that the Connecticut HPOG participants held. We modified this scale and regroup healthcare occupations to cover all healthcare occupations based on the detailed groups of the 2010 SOC codes based on the following criteria in addition to the original job quality scale.

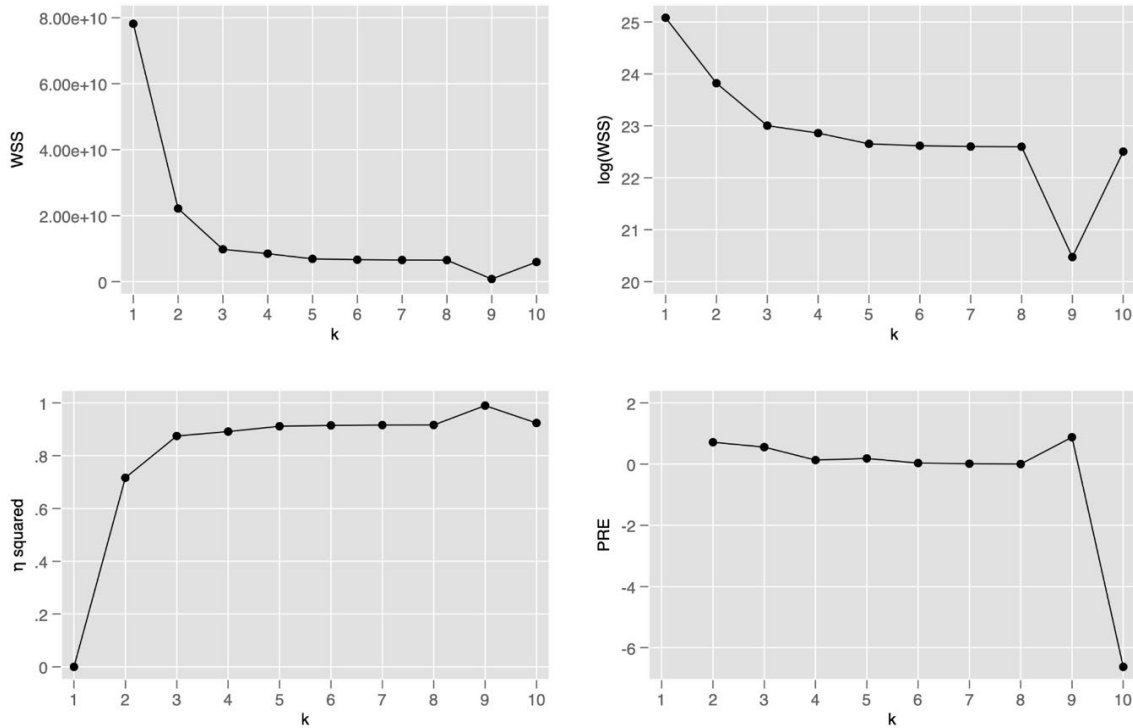
Appendix 1 Table 2. Mean and median wages, required credentials (2012 BLS employment projections)

Job Scale	Title	Mean hourly wage	Median hourly wage	Typical educ	Typical exp.	On-the-Job training
1	Home Health Aides Nursing Aides, Orderlies, and	10.46	9.89			
2	Attendants	12.09	11.54			
2	Psychiatric Aides	12.84	12	HS Non-degree	None	ST OTJ Train
6	Surgical Technologists Medical Records and Health	19.86	19.19		None	None
6	Information Technicians	16.83	15.55			
6	Respiratory Therapy Technicians	22.28	21.74			

6	Psychiatric Technicians	15.15	13.8	Non-degree	<5years	ST OTJ Train MT OTJ
6	Pharmacy Technicians	14.1	13.65	HS	None	Train
6	Dietetic Technicians	13.86	13.01	AA	None	None
7	Diagnostic Medical Sonographers	31.2	30.95	AA	None	None
7	Emergency Medical Technicians and Paramedics	16.01	14.6			
7	Cardiovascular Technologists and Technicians	24.38	23.75	AA	None	None
7	Radiologic Technologists and Technicians	26.8	26.13			
7	Nuclear Medicine Technologists	33.2	32.96	AA	None	None
8	Licensed Practical and Licensed Vocational Nurses	19.88	19.42	Non-degree	None	None
8	Registered Nurses	32.56	31.1	BA	None	None

Next, we grouped healthcare occupations in the 2012 CPS-ASEC by using the k-means clustering technique which finds a solution that partitions a number of observations into a finite number of clusters with the nearest means while minimizing within-cluster variances. Covariates used for this method include average wage, % high school or less, % AA degree, % BA+, health insurance through the employer, poverty status, and % part-time workers. We chose a 4-cluster solution based on the various fit statistics such as With-in-Sum-of-Squares.

Figure 1. Fit statistics.



Appendix 1 Table 3. Healthcare occupation clusters. N=4.

Cluster	Annual earnings	% less than HS	% AA	% BA+	Health Ins.	≤ 200% pov	% Part-time	Occupations
1	217,834	0%	0%	100%	83%	1%	10%	Physicians and Surgeons, Podiatrists Pharmacists, Registered Nurses,
2	103,309	3%	10%	84%	77%	3%	20%	Chiropractors Dietitians and Nutritionists, Dental Hygienists, Speech-Language Pathologists, Clinical Laboratory Technologists and Technicians, Emergency Medical Technicians and Paramedics, Occupational Therapists Licensed Practical and Licensed Vocational Nurses, Nursing, Psychiatric, and Home Health Aides, Occupational Therapy Assistants and Aides, Massage Therapists, Dental Assistants
3	51,368	9%	21%	59%	92%	8%	21%	
4	31,068	26%	29%	20%	89%	22%	28%	
Total	66,938	12%	19%	56%	87%	10%	22%	

However, these occupation clusters are not appropriate for analyzing HPOG participants and other low-income healthcare professionals. About one-third of all HPOG 1.0 participants enrolled in training for either Nursing aides, orderlies and attendants (31-1012), Registered nurses (29-1140), Licensed and vocational nurses (29-2060), or Home health aides (31-1011), which all fall in the fourth cluster (Peck & Abt Associates, 2020). In conjunction with the original job scale and the above occupation cluster, we constructed the new job quality scale with four levels as follows.

Appendix 1 Table 4. Modified job quality scale based on the clustering analysis. N=4.

<b>Examples (2010 SOC codes)</b>	
1	Healthcare support workers (31-9099), Counselors 21-1010), Community Health Workers (21-1094) Home Health Aides and Personal Care Aides (31-1011), Nursing Assistants (31-1014),
2	Medical Transcriptionists (31-9094), Phlebotomists (31-9097) Medical and Clinical Laboratory Technologists (29-011), Emergency Medical Technicians
3	and Paramedics (29-2041), Medical Records and Health Information Technicians (29-2071) Registered Nurses (29-1141), Nurse Practitioners (29-1171), Licensed Practical and
4	Licensed Vocational Nurses (29-2061)

## Appendix 2. Full regression results

Appendix 2 Table 1. Training regression result.

	Coefficient
White # Male	0.00 (.)
White # Female	-0.05 (0.03)
Black # Male	-0.20** (0.04)
Black # Female	-0.25** (0.03)
Other # Male	-0.08 (0.08)
Other # Female	-0.04 (0.04)
Age	-0.00** (0.00)
No HS/GED	0.00 (.)
HS/GED	0.17** (0.02)
HS/GED + cert	0.43** (0.02)
BA or higher	0.46** (0.03)
Never married	0.00 (.)
Currently married	0.12** (0.02)
Previously married	0.06** (0.02)
No child	0.00 (.)
No child under 6	0.04** (0.02)
Has child under 6	-0.04* (0.01)
Constant	2.23** (0.04)
N	16,645

\* p<.05. Standard errors in parentheses.

Grantee site fixed effects' coefficients are omitted.

Appendix 2 Table 2. Blinder-Oaxaca decomposition result.

	Coefficient
<b>Overall</b>	
White	2.50** (0.00)
Black	2.39** (0.00)
Difference	0.10** (0.01)
Explained	0.05** (0.01)
Unexplained	0.06** (0.01)
<b>Explained</b>	
Demographics	-0.00 (0.01)
Educ	0.00* (0.00)
Training	0.05** (0.00)
Family	0.00* (0.00)
<b>Unexplained</b>	
Demographics	-0.06* (0.02)
Educ	-0.01 (0.01)
Training	-0.00 (0.03)
Family	-0.01* (0.01)
Constant	0.15** (0.04)
N	7,568

Appendix 2 Table 3. Log wage regression result.

	Coefficient
White # Male	0.00 (.)
White # Female	-0.05 (0.04)
Black # Male	-0.05 (0.06)
Black # Female	-0.06 (0.04)
Other # Male	0.13 (0.15)
Other # Female	-0.01 (0.06)
Age	0.00** (0.00)
Never married	0.00 (.)
Currently married	0.01 (0.01)
Previously married	0.00 (0.01)
No child	0.00 (.)
No child under 6	0.03** (0.01)
Has child under 6	0.00 (0.01)
No HS/GED	0.00 (.)
HS/GED	0.03** (0.01)
HS/GED + cert	0.07** (0.01)
BA or higher	0.12** (0.01)
Highest training score	0.17** (0.01)
White # Male # Highest training score	0.00 (.)
White # Female # Highest training score	0.00 (0.01)
Black # Male # Highest training score	-0.02 (0.02)
Black # Female # Highest training score	-0.01 (0.01)

Other # Male # Highest training score	-0.10 (0.06)
Other # Female # Highest training score	-0.03 (0.02)
Constant	2.13** (0.04)
N	7,568

\* p<.05. Standard errors in parentheses.  
 Grantee site fixed effects' coefficients are omitted.

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