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Emerging Roles and Occupations in the Health Workforce

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BACKGROUND

New tasks are emerging for healthcare workers to help patients coordinate their care and navigate the increasingly complex and transforming healthcare system. Job titles alone do not convey the competencies (i.e., knowledge, skills, and ability) expected from healthcare workers or how their role may be evolving to complete these tasks. These changing competencies and roles are difficult to track with available public data sources. Real Time Labor Market Information (RT-LMI), a source of data that is increasingly used to monitor workforce demand, extracts information from online job ads to track demand for general labor market skills, including for the health workforce.[1] The purpose of this study is to identify how five domains of emerging roles have been incorporated into the job titles and descriptions of healthcare occupations by using RT-LMI data from LinkUp, a job search engine company that collects information about job ads directly from employer websites.[2]

METHODS

We obtained data from a job search engine company based in Minnesota, LinkUp, which uses web-scraping or spidering tools to extract job ad information from companies.[2] We obtained job ads within the 50 U.S. states and the District of Columbia from 2014 and 2015 with fields including job title, company name, job description, date created, date checked, city, state, zip code, and country. Our team developed a list of healthcare occupations based on the Standard Occupational Classification (SOC) system. We developed a list of emerging roles and related job titles that have also been considered skillsets based on the literature and our team's expertise in health workforce research. We grouped emerging roles/titles into five domains: 1) care coordination, 2) disease management, 3) navigation, 4) patient education, and 5) peer role. We used natural language processing (NLP) techniques including text parsing, string matching, and word positioning to identify specific skills and roles. We applied two main analytic approaches. First, we looked at the sample of job ads where the job title field matched one of the occupations from our list of healthcare occupations and looked for emerging role terms that appeared at least once in either the title field or job description. Second, we looked at the sample of job ads where the job title field matched our list of emerging role terms.

CONCLUSIONS AND POLICY IMPLICATIONS

In this study we found that RT-LMI can provide valuable information on the emergence of new skills and roles in the health workforce, including for many allied health occupations. Findings from this study contribute to the development of methods for monitoring and tracking changing healthcare workforce demands using large electronic databases of job ads. This important information on how employers associate skills with posted job titles can help educational institutions, training programs, accrediting bodies and health workforce planners better prepare workers with the competencies to meet market demand.

KEY FINDINGS

The following were key study findings:

- "Care coordination" was the most common emerging role appearing in healthcare job ads, either in the job title or job description, in both 2014 and 2015, and "disease management" and "patient education" were more frequently mentioned in 2015 compared to 2014.

- Physical therapists, social workers, nursing assistants and medical assistants were among the allied health occupations mentioned in job ads in which emerging roles appeared.

- Care coordination was a dominant emerging role for occupations across all education requirement categories in the job ads examined, and disease management became a more frequently requested emerging role between 2014 and 2015.

- Jobs requiring a high school degree or below rarely referenced an emerging role (2.0% in 2014 and 3.5% in 2015) despite the relatively high frequency of job ads for healthcare jobs at this education level.

- Often, where an emerging role was identified in the job title, no other specific healthcare occupation was identified within either the job title or job description, suggesting that these occupations may be becoming stand-alone healthcare occupations.

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Table 1A:
Top Five Healthcare Occupations with Job Ads Referencing an Emerging Role in 2014

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Care Coordination	Disease Management	Navigation	Patient Education	Peer Role
n=56,853	**n=4,736**	**n=499**	**n=5,925**	**n=205**
Registered Nurses (72.5%)	Registered Nurses (68.2%)	Registered Nurses (80.4%)	Registered Nurses (50.8%)	Registered Nurses (49.8%)
Licensed Practical/ Vocational Nurses (15.0%)	Nurse Practitioner (8.7%)	Physicians and Surgeons (4.0%)	Physician and Surgeons (8.3%)	Nurse Practitioners (14.1%)
Healthcare Social Workers (3.0%)	Physician and Surgeons (5.1%)	Licensed Practical/ Vocational Nurse (3.8%)	Physical Therapists (7.4%)	Physical Therapists (10.2%)
Nurse Practitioners (2.1%)	Licensed Practical/Vocational Nurses (2.8%)	Nurse Practitioners (3.2%)	Medical Assistants (5.7%)	Counselors (6.3%)
Physical Therapists (1.5%)	Medical Assistants (2.3%)	Healthcare Social Workers (2.8%)	Occupational Therapists (5.4%)	Healthcare Social Workers (3.4%)

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Table 1B:
Top Five Healthcare Occupations with Job Ads Referencing an Emerging Role in 2015

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Care Coordination	Disease Management	Navigation	Patient Education	Peer Role
n=114,463	**n=14,754**	**n=1,392**	**n=10,407**	**n=965**
Registered Nurses (65.8%)	Registered Nurses (62.5%)	Registered Nurses (78.6%)	Registered Nurses (43.6%)	Registered Nurses (47.8%)
Licensed Practical/ Vocational Nurses (15.5%)	Physician and Surgeons (6.0%)	Healthcare Social Workers (5.6%)	Licensed Practical/ Vocational Nurses (8.4%)	Nursing Assistants (18.1%)
Healthcare Social Workers (4.4%)	Nurse Practitioners (5.1%)	Licensed Practical/ Vocational Nurses (4.3%)	Medical Assistants (8.2%)	Nurse Practitioners (6.6%)
Nurse Practitioners (2.1%)	Licensed Practical/Vocational Nurses (5.0%)	Physician and Surgeons (2.4%)	Physical Therapists (6.9%)	Physical Therapists (5.8%)
Physical Therapists (2.1%)	Medical Assistants (4.7%)	Nurse Practitioners (2.3%)	Nurse Practitioners (5.5%)	Physician and Surgeons (4.9%)

REFERENCES

1. Maher & Maher. Real-Time Labor Market Information: An Environmental Scan of Vendors and Workforce Development Users. Report in collaboration with Jobs for the Future & New York City Labor Market Information Service. September 2014. http://www.jff.org/sites/default/files/publications/materials/Real%20Time%20Labor%20Market%20Information.pdf. Accessed December 8, 2016.

2. LinkUp Job Search Engine. http://www.linkup.com. Accessed December 8, 2016.

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FULL REPORT

Frogner BK, Stubbs BA, Skillman SM. *Emerging Roles and Occupations in the Health Workforce.* Center for Health Workforce Studies, University of Washington, Aug 2018.