

Delaware Valley Innovation Network  
Life Sciences Workforce Gap Analysis

USER GUIDE:  
Occupational Forecast Tables

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# User Guide to the DVIN Occupational Forecast Tables

## Introduction

The Occupational Forecast provides a detailed snapshot of the occupation-industry mix for the 14-county DVIN region. Occupational data is provided by 4- to 6-digit NAICS codes within the Life Sciences industry, by county, for years 2008 and 2013, for the 90 occupations that were determined by DVIN as highly important and relevant to the Life Sciences industry. The Forecast table is intended to provide regional planners, universities, and workforce developers a clear understanding of several key metrics on the Life Sciences industry in the region:

- How many jobs will the Life Sciences industry create in the next 5 years?
- Which industries within Life Sciences will grow the fastest?
- Which occupations will be responsible for the largest increase in jobs in the region?
- How will growth trends compare from county to county?

These and other questions can be analyzed by the user using custom analysis and reporting. The Occupational Forecast consists of several data tables, some of which are intended for the user to generate custom reports, while other tables are underlying data tables that link to the custom reports.

### User-managed Custom Reports:

Occ Pivot	The primary table to use, Occ Pivot is a <u>pivot table</u> that allows the user to select several options to <u>dynamically alter</u> which data are shown.
Occ Pivot Legend	A description of the data variables in Occ Pivot
NAICS	A list of the 8 NAICS codes that were identified by the Gap Analysis committee as the DVIN definition of the life sciences industry.
County Pivot	A subset of Occ Pivot, this table allows comparisons for a single occupation across all counties in the DVIN region.
Skills by Occ	A list of <u>skills</u> required for a specific occupation.
Knowledge by Occ	A list of <u>knowledge</u> required for a specific occupation.

Knowledge Avgs	A list of the average of <u>knowledge</u> requirements for select occupational groups.
Education by Occ	The educational requirements for a specific occupation.

Underlying Data Tables (not for use by user):

OccData	Supports Occ Pivot
EducationData	Supports Education by Occ
SkillsData	Supports Skills by Occ
KnowledgeData	Supports Knowledge by Occ

The Occupational Forecast Table is composed of data that is estimated by New Economy Strategies LLC based on underlying forecast data from Economy.com, the US Bureau of Labor Statistics:

[Economy.com County Detailed Employment & Output Forecast](#)  
[Bureau of Labor Statistics Occupational Employment Statistics](#)  
[O\\*NET Online](#)  
[Census Bureau Economic Census](#)  
[County Business Patterns](#)

See Appendix “Forecast Methodology” for a detailed description of how the industry-occupational data was estimated to bring the data to current year, to the 6-digit level, for every county in the region.

For each report in the Forecast Table spreadsheet, we provide an explanation of the data variables included.

**Report: Occ Pivot**

SOCFull	Occupation, with SOC code (SOC=Standard Occupational Classification)
o8Emp	2008 employment in the occupation
13Emp	2013 employment in the occupation
Chgo8-13	Gross percentage change in employment over the five-year period 2008-2013
CQo8	Concentration quotient, 2008 (see below for definition of CQ)
CQ13	Concentration quotient, 2013 (see below for definition of CQ)
ChgLQ	Gross percentage change in CQ over the five-year period 2008-2013

Avg Salary The average salary for the occupation in the US (not available for every county and every industry)

NetNewJobs Net increase in employment for the occupation from 2008 to 2013

USNetRepRate Percent of jobs that will turn over in the 5-year period due to retiring workers or workers transitioning out of the occupation

SumofRepOpens Net new job openings in the occupation over in the 5-year period due to retiring workers or workers transitioning out of the occupation

TotOpens Net new jobs to be created, plus SumofRepOpens

### Explanation of Concentration Quotient

Similar to a Location Quotient (LQ), the CQ measure the “per capita” concentration of an occupation in a industry relative to the overall regional economy. For example, a 34.9 CQ for chemical engineers in the DVIN region indicates that the chemical engineers are 35 times more concentrated in the Life Sciences industry than in the overall DVIN economy. The specific formula is Occupation’s CQ = (Occupation’s % of DVIN Life Sciences industry) / (Occupation’s % of DVIN economy).

### How to Use Occ Pivot

1. Click on the Occ Pivot worksheet tab at the bottom of the screen.
2. Select the following variables using the drop-down box:

Geography: Select a county, or select “DVIN” for the entire region (*Note: never set to “ALL” which will result in double-counting*)

NAICS: Select a specific industry NAICS, or select “LSTOT” for the entire Life Sciences industry, or select “0000” for total employment (*Note: never set to “ALL” which will result in double-counting*)

Relevance: Leave set to “ALL”, or Select “1” for the top 50 occupations most relevant to the industry, or “ALL” to show all 90 occupations analyzed

Group: Leave set to “ALL”, or select “0” to show only total Life Sciences employment

3. Adjust the sorting to meet your analytical needs. Select the column by clicking the cell in row 10 (the first row with numbers) and clicking the A>Z icon in the taskbar. For example, you can sort different datasets to determine different top 10 lists:

Sort by:

o8/13 employment	To see where the occupational job base exists today/tomorrow
Chg08-13	To see which occupations will grow <u>fastest</u> on a <u>percentage basis</u>
CQ	To see which occupations are most specialized and unique to the industry
Salary	To see which occupations pay the highest
NetNewJobs	To which occupations will create the most jobs over the next 5 years
Sum of TotOpens	To see which occupations will create the most job openings (a good measure recent college graduates to follow)

4. Click the Print icon to print the report

### **County Pivot**

This table shows data for a specific occupation for each county in the region.

The functionality of the report is identical to Occ Pivot. Instead of selecting a geography, select an Occupation Code “SOCFull”.

### **Skills by Occ**

This table shows the skills requirements a single occupation at a time. To change the occupation shown:

1. Enter the occupation code in the Green box
2. Sort the list by clicking on the top number in C8, then hit the A>Z icon in the toolbar above
3. Do not alter any other cells
4. Click Print

### **Knowledge by Occ**

This table shows the knowledge requirements a single occupation at a time. To change the occupation shown:

1. Enter the occupation code in the Green box
2. Sort the list by clicking on the top number in C8, then hit the A>Z icon in the toolbar above

3. Do not alter any other cells
4. Click Print

### **Knowledge Avgs**

This table is provided to show comparisons of knowledge requirements for major occupation groups. For example, 17-2031 Biomedical Engineers have a higher requirement for knowledge in “Computers and Electronics” than occupations in the occupation group “15 - Computer and mathematical science occupations”

### **Education by Occ**

This table shows the education requirements for a specific occupation. To show a different occupation:

1. Enter the occupation code in the Green box

Still Have Questions?

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