Using data to establish a baseline and track progress

Melissa Black
Royal Society of Chemistry
08/12/2014
Inclusion and Diversity at the Royal Society of Chemistry

- Diversity Specialist – Andrea Banham
- Inclusion and Diversity Committee:
  - Chaired by Prof. Lesley Yellowlees
  - 8 members who represent the diversity within our community
  - The purpose of this committee is to promote inclusivity and equality of opportunity and ensure we make significant progress in this area.
  - Reports to our Membership and Qualifications Board
Inclusion and diversity data

There are three big questions often surrounding data (not just on inclusion and diversity) at the Royal Society of Chemistry

• What data is readily available?
• What data is available but we do not have access to?
• Where are the gaps?
Data Audit

- To identify what data the RSC has access to in terms of diversity of the chemical sciences
- For this project:
  - Identification of data already collected/obtained by RSC
  - Identification of possible sources of data not already used
  - Gap analysis
RSC Business Intelligence (BI) Data Resources

**MasterVision**

Internal

Social media

BI Data Resources

Subscription databases

Publicly available data

Funding bodies

EPSRC

Georgia Tech

Cheminfo

EPSRC

UCAS

The World Bank

BBSRC

20 Years of Pioneering
Great British Bioscience
Free data sources

- General worldwide country statistics including education and scientific community

- UK labour force statistics, population, education

- Similar to UNESCO but EU specific

- Number of Applicant/Accepts by subjects
  Applicants by age, region, gender, disability

- General UK population statistics

- Governmental data sets including pupil numbers/school information
Internal data sources

The RSC holds a large amount of data in various databases which may help with benchmarking and monitoring

- Membership
- Publishing
- Sales
- Events
Making use of the data

• A number of diversity benchmarking and monitoring projects underway/completed
  • Widening participation model
  • Higher education data dashboards
  • Targeting activities
To what extent do the demographic characteristics of the UK chemical sciences undergraduate population not match those of the wider UK population of that age?

Data sources used:
- Census 2011
- ONS labour force survey
- Departments of education
- Apprenticeship statistics
- Higher education general population
- Chemistry higher education population

<table>
<thead>
<tr>
<th></th>
<th>General population</th>
<th>Further Education</th>
<th>Undergraduate</th>
<th>Chemistry Undergrad</th>
<th>Apprenticeships</th>
<th>Employment</th>
<th>Unemployment</th>
<th>Postgraduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>50.4%</td>
<td>47.2%</td>
<td>42.4%</td>
<td>58.7%</td>
<td>52.3%</td>
<td>50.8%</td>
<td>60.3%</td>
<td>49.8%</td>
</tr>
<tr>
<td>Female</td>
<td>49.6%</td>
<td>52.8%</td>
<td>57.6%</td>
<td>41.3%</td>
<td>47.7%</td>
<td>49.2%</td>
<td>39.6%</td>
<td>50.2%</td>
</tr>
<tr>
<td>Asian</td>
<td>9.6%</td>
<td>4.8%</td>
<td>8.6%</td>
<td>10.6%</td>
<td>5.4%</td>
<td>6.5%</td>
<td>8.5%</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>3.4%</td>
<td>2.6%</td>
<td>6.0%</td>
<td>3.7%</td>
<td>1.4%</td>
<td>4.4%</td>
<td>5.3%</td>
<td></td>
</tr>
<tr>
<td>Other including mixed race</td>
<td>4.0%</td>
<td>2.8%</td>
<td>3.9%</td>
<td>3.8%</td>
<td>1.3%</td>
<td>2.1%</td>
<td>3.7%</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>0.7%</td>
<td>1.8%</td>
<td>1.4%</td>
<td>1.1%</td>
<td></td>
<td></td>
<td></td>
<td>4.3%</td>
</tr>
<tr>
<td>White</td>
<td>83.0%</td>
<td>89.1%</td>
<td>79.6%</td>
<td>80.5%</td>
<td>89.1%</td>
<td>91.9%</td>
<td>87.0%</td>
<td>78.1%</td>
</tr>
<tr>
<td>BME (Apprenticeships only)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9.3%</td>
</tr>
<tr>
<td>Disability Recorded</td>
<td>8.7%</td>
<td>9.3%</td>
<td>6.9%</td>
<td>7.8%</td>
<td>7.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No disability recorded</td>
<td>91.3%</td>
<td>90.7%</td>
<td>93.1%</td>
<td>90.2%</td>
<td>92.1%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Partnership schools

Data sources used:
• Internal data
• Departments of education school lists
• Departments of education pupil numbers
• Department of education free school meals statistics
Chemistry in higher education dashboards

Free for the public to access

11 dashboards

HESA data

Almost 4,000 views

Diversity in chemistry higher education

This dashboard shows the ethnicity, gender split and socioeconomic background of first year students studying chemistry at all levels between 2004/05 and 2011/12.

This dashboard is interactive so please use the filters below to alter the graphs.

Users can manipulate the data.
Challenges?

- Finding data can be difficult
- Cost of data
- Not all data reported
- Identifying subject specific information
- Combining data sets