

# Scientific research output in EU and US pharmacy departments

**EAFP**

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# **How to evaluate pharmacy departments?**

- **Grant support**
- **Number of students passing registration examination**
- **Results of satisfaction polls**

# Ranking of US colleges of pharmacy by grant support.

## NIH funding 2010

| Rank | Institution                              | Total NIH Awards |
|------|--|------------------|
| 1    | University of California-San Francisco   | \$30 304 336     |
| 2    | University of Southern California        | \$20 044 604     |
| 3    | University of Utah                       | \$19 282 947     |
| 4    | University of Kansas                     | \$18 492 452     |
| 5    | University of Mississippi                | \$18 391 751     |
| 6    | University of North Carolina-Chapel Hill | \$16 160 852     |
| 7    | University of California-San Diego       | \$14 667 487     |
| 8    | University of Illinois at Chicago        | \$14 345 966     |
| 9    | University of Arizona                    | \$13 542 173     |
| 10   | University of Washington                 | \$11 284 155     |







# Ranking of US colleges of pharmacy by success at registration examination.

HOME » EDUCATION » PHARMACY SCHOOLS

COMPARE GUIDE ASSISTME MAP

Sort By Smart Rank Low to High ADVANCED TABLE

## Compare Top Pharmacy Schools

| REFINE YOUR SEARCH  | SCHOOL  | SMART RANK | NAPLEX PASS RATE | AVG. GPA | PHARM.D. IN-STATE TUITION & FEES |
|---|---|------------|------------------|----------|----------------------------------|
| <b>Reset</b> 128 Results<br>SCHOOL NAME<br><input type="text" value="Search by School"/><br>LOCATION (CITY OR ZIP CODE)<br><input type="text" value="50 miles"/><br>SCHOOL TYPE<br><input checked="" type="radio"/> All<br><input type="radio"/> Private (64)<br><input type="radio"/> Public (64)<br>AVERAGE GPA<br><input type="text" value="3.05"/> <input type="text" value="3.96"/><br>ACCREDITATION STATUS<br><input checked="" type="checkbox"/> All<br><input type="checkbox"/> Full (103)<br><input type="checkbox"/> Candidate (17)<br><input type="checkbox"/> Pre-Candidate (7)<br>ADDITIONAL DEGREES<br><input checked="" type="checkbox"/> All<br><input type="checkbox"/> Pharm.D./M.S. (17)<br><input type="checkbox"/> Pharm.D./Ph.D. (25)<br><input type="checkbox"/> Pharm.D./MBA (40) |  <b>Purdue University - Main Campus</b><br>West Lafayette, Indiana<br><input type="checkbox"/> COMPARE <a href="#">SEE DETAILS &gt;</a>                    | #1         | 97.0%            | 3.63     | \$9,208                          |
|   |  <b>University of Wisconsin - Madison (UW)</b><br>Madison, Wisconsin<br><input type="checkbox"/> COMPARE <a href="#">SEE DETAILS &gt;</a>                  | #2         | 99.4%            | 3.57     | \$15,157                         |
|   |  <b>University of Illinois at Chicago (UIC)</b><br>Chicago, Illinois<br><input type="checkbox"/> COMPARE <a href="#">SEE DETAILS &gt;</a>                  | #3         | 96.2%            | 3.56     | \$22,610                         |
|   |  <b>University of California - San Francisco (UCSF)</b><br>San Francisco, California<br><input type="checkbox"/> COMPARE <a href="#">SEE DETAILS &gt;</a> | #4         | 97.8%            | 3.6      | \$29,790                         |
|   |  <b>University of Arizona</b><br>Tucson, Arizona<br><input type="checkbox"/> COMPARE <a href="#">SEE DETAILS &gt;</a>                                    | #5         | 97.5%            | 3.63     | \$10,202                         |
|   |  <b>University of Kentucky (UK)</b><br>Lexington, Kentucky<br><input type="checkbox"/> COMPARE <a href="#">SEE DETAILS &gt;</a>                          | #5         | 99.4%            | 3.6      | \$26,656                         |

# Ranking of UK colleges of pharmacy by satisfaction polls.

## University guide 2014: league table for pharmacy and pharmacology

The study of medicinal drugs and effects on the body (pharmacology) and management and dispensing of medicines (pharmacy)

theguardian.com, Tuesday 4 June 2013 08:39 BST

### Pharmacy and pharmacology

[More about this subject and a key to the headings](#)

| Rating | Name of institution | Guardian score /100 | Satisfied with course (%) | Satisfied with teaching (%) | Satisfied with feedback (%) | Student staff ratio | Spend per student (FTE) | Average entry tariff | Value-added score /10 | Career after 6 mths |
|--------|---------------------|---------------------|---------------------------|-----------------------------|-----------------------------|---------------------|-------------------------|----------------------|-----------------------|---------------------|
| 1      | Cardiff             | 100                 | 96                        | 96                          | 71                          | 15.5                | 10                      | 455                  | 6                     | 99                  |
| 2      | Queen's, Belfast    | 98.9                | 99                        | 99                          | 93                          | 18.7                | 5                       | 433                  | 6                     | 99                  |
| 3      | UEA                 | 92.7                | 95                        | 97                          | 74                          | 14.6                | 5                       | 442                  | 4                     | 98                  |
| 4      | Manchester          | 90.3                | 86                        | 89                          | 85                          | 13.2                | 10                      | 463                  | 4                     | 94                  |
| 5      | Nottingham          | 88.9                | 91                        | 88                          | 60                          | 13.6                | 8                       | 470                  | 5                     | 97                  |
| 6      | Robert Gordon       | 88.7                | 99                        | 95                          | 70                          | 16.5                | 3                       | 450                  | 8                     | 100                 |
| 7      | Aston               | 87.3                | 94                        | 93                          | 74                          | 17.1                | 5                       | 459                  | 6                     | 99                  |
| 8      | Kent                | 83.1                | 94                        | 94                          | 58                          | 21.8                | 7                       | 365                  | 10                    | 100                 |
| 9      | Dundee              | 83                  | 97                        | 92                          | 64                          | 4.8                 | 2                       | 403                  |                       |                     |
| 10     | UCL                 | 82.5                | 85                        | 85                          | 55                          | 15.9                | 9                       | 489                  | 3                     | 94                  |
| 11     | Bath                | 82                  | 96                        | 96                          | 71                          | 16                  | 5                       | 450                  | 4                     | 93                  |
| 12     | Greenwich           | 81.9                | 97                        | 93                          | 84                          | 25.8                | 6                       | 339                  | 9                     | 100                 |
| 13     | Hertfordshire       | 81.6                | 92                        | 89                          | 72                          | 11.5                | 3                       | 346                  | 8                     | 98                  |

# Evaluation of EU colleges of pharmacy?

**Difficult to obtain reliable EU data on:**

- grant support
- number of registered pharmacists
- satisfaction polls

**An alternative: the bibliometric approach via the Hirsch or “h” index:**

“the number of papers with a citation number  $>h$ ”

# “h” index usually applied to individuals, e.g. J. Atkinson, Nancy.

Search criteria

Web of Science™ InCites® Journal Citation Reports® Essential Science Indicators™ EndNote® Sign In Help English

WEB OF SCIENCE™ THOMSON REUTERS™

Back to Search My Tools Search History Marked List

Citation Report: 144  
of Science Core Collection)

Address: (nancy) AND AUTHOR: (atkinson) .More

reflects citations to source items indexed within Web of Science Core Collection. Perform a Cited Reference Search to include citations to items not indexed within Web of Science Core Collection.

**Published Items in Each Year**

| Year | Count |
|------|-------|
| 1994 | 12    |
| 1995 | 10    |
| 1996 | 6     |
| 1997 | 12    |
| 1998 | 5     |
| 1999 | 12    |
| 2000 | 15    |
| 2001 | 11    |
| 2002 | 2     |
| 2003 | 4     |
| 2004 | 5     |
| 2005 | 7     |
| 2006 | 5     |
| 2007 | 5     |
| 2008 | 2     |
| 2009 | 2     |
| 2010 | 3     |
| 2011 | 1     |
| 2012 | 1     |
| 2013 | 3     |
| 2014 | 1     |

The latest 20 years are displayed.  
View a graph with all years.

**Citations in Each Year**

| Year | Count |
|------|-------|
| 1994 | 48    |
| 1995 | 38    |
| 1996 | 90    |
| 1997 | 42    |
| 1998 | 60    |
| 1999 | 82    |
| 2000 | 105   |
| 2001 | 80    |
| 2002 | 92    |
| 2003 | 115   |
| 2004 | 88    |
| 2005 | 105   |
| 2006 | 100   |
| 2007 | 90    |
| 2008 | 95    |
| 2009 | 110   |
| 2010 | 110   |
| 2011 | 110   |
| 2012 | 110   |
| 2013 | 110   |
| 2014 | 80    |

The latest 20 years are displayed.  
View a graph with all years.

Results found: 144

Sum of the Times Cited [?]: 1655

Sum of Times Cited without self-citations [?]: 1318

Citing Articles: [?]: 1217

Citing Articles without self-citations [?]: 1139

Average Citations per Item [?]: 11.49

**h-index [?]: 24**

Sort by: Times Cited -- highest to lowest

Page 1 of 15

| 2010 | 2011 | 2012 | 2013 | 2014 | Total | Average Citations per Year |
|------|------|------|------|------|-------|----------------------------|
| 90   | 109  | 107  | 81   | 3    | 1655  | 71.96                      |

Use the checkboxes to remove individual items from this Citation Report  
or restrict to items published between 1986 and 2014 Go

24 papers cited at least 24 times

# Bibliometric evaluation of EU colleges of pharmacy: methodology.

27-2 EU faculties in PHARMINE

Search criteria:

address = "pharmacy" + "name of city"

Method 1: Top 2 authors / co-authors

Number articles and citations

"h" and "m" (= "h"/number of years)

Check that all papers have same author / co-author and address

Method 2: Global score for department

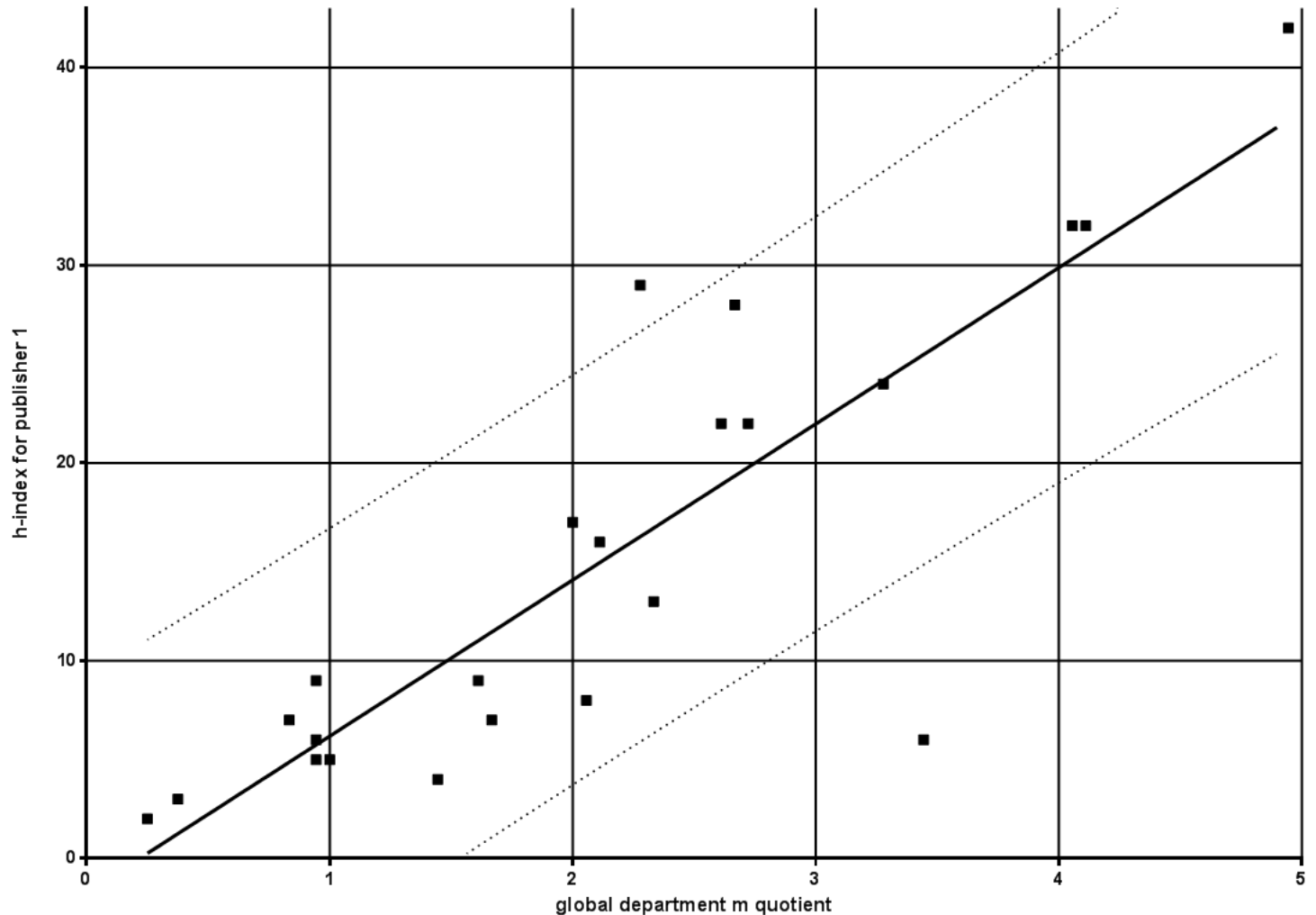
Number articles and citations

"h" and "m" (=h/number of years)

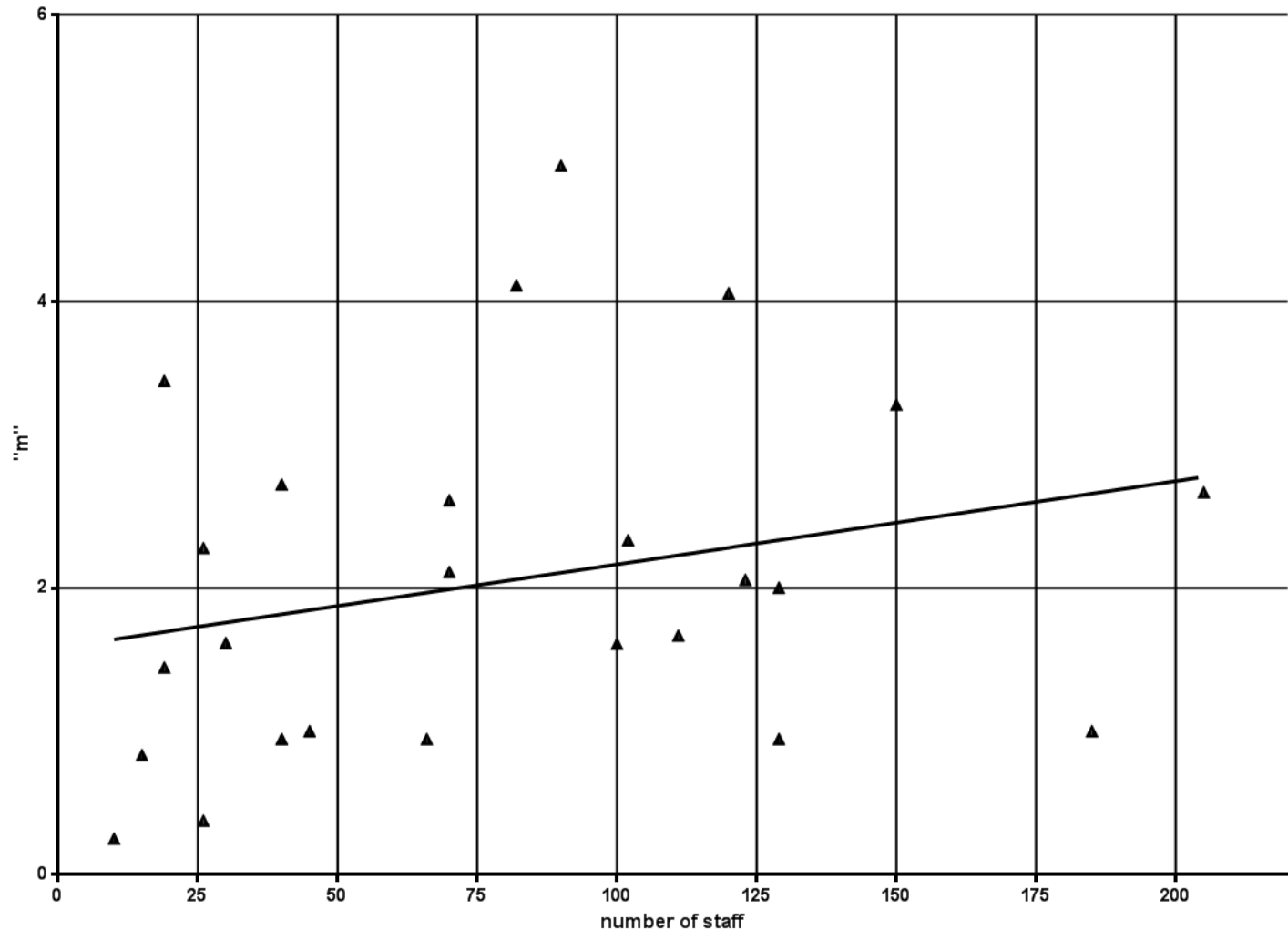
Check that all papers have same pharmacy department address



# Departments with highest global “m” have top researchers.



# Largest departments do not necessarily have top researchers.



# Bibliometric evaluation of EU and US colleges of pharmacy staff.

**Table 3.** Comparison of data with that of pharmacy staff members in the USA.

| Reference                 | USA   |                             | EU            |               |
|---------------------------|---|-----------------------------|---------------|---------------|
|                           | 3   | 2                           | This work     | This work     |
|                           | Professor at a<br>research-intensive<br>pharmacy department | Pharmacy<br>practice chairs | 1st publisher | 2nd publisher |
| Articles published / year | 3.2/2.0   | 1.4/0.8                     | 4.0/3.5       | 3.2/2.0       |
| Citations / year          | 49/13   | Not available               | 69/18         | 47/16         |
| Citations / article       | 7.1/4.2   | 7.9/6.7                     | 13/10         | 3.3/0.3       |
| m-quotient                | 2.5/2.0   | 0.36/0.30                   | 1.0/0.6       | 0.9/0.6       |

Data are given as mean/median. In reference 2 the period of analysis was 1965-2008; in reference 3 the period was 2005–2009.

# Caveats.

- **20/25 departments: 1994-2012 (5 new departments with shorter period)**
- **Staff members can change name, department, affiliation...**
- **Citations per journal not the same e.g. “pharmacology” more cited than “chemistry”**

# Conclusions.

- **Bibliometrics can be applied to departments as well as to individuals**
- **Publications in EU and US of similar value**
- **Use bibliometric tool in PHAR-QA/EAFP QA consultancy agency**
- **EAFP to publish a ranking of EU departments?**

Jeffrey Atkinson. A Bibliometric Analysis of the Scientific Output of EU Pharmacy Departments.

*Pharmacy* **2013**, 1 (2), 172-180

Available at: <http://www.mdpi.com/2226-4787/1/2/172>