

Atlanta Clinical & Translational Science Institute (ACTSI)  
2016 Publication & Citation Evaluation



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## 2016 Publication & Citation Evaluation

### Executive Summary

The purpose of this evaluation is to provide a quantitative and qualitative summary of publication and citation patterns for all ACTSI-supported articles from 2007-2016. Cutting-edge analytic techniques were utilized to assess relative citation impact within the numerous fields of research that ACTSI supports. This report will begin to identify areas of strength and growth to inform strategic management of ACTSI resources.

As of the end of 2016, over 2,000 publications have formally credited ACTSI as having provided research support. Those publications have, in turn, been cited more than 60,000 times, and counting. The average ratio is 29 citations per article, with considerable variability across papers from different disciplines and publication years. The rate of publication per year has risen from the early years of ACTSI and plateaued in recent years at well over 200 publications per year. Rates of citation have accumulated over the years with the oldest publications now averaging about 60 citations per article. (See Table 1a & Figure 1)

Indices of relative citation impact that control for publication year and discipline indicate that ACTSI-supported research has higher than average citation influence. The overall average Category Normalized Citation Impact (CNCI) score for ACTSI-supported articles is 2.35, which means that ACTSI-supported articles are cited 2.35 times as often as comparable papers from the same year and research category. The variability of CNCI scores is very high, ranging from 0 to 129.26. The all-time most-cited ACTSI-supported article (Brahmer et al., 2012, NEJM) was cited more than 2,000 times as of the data collection date, which is over 129 times the expected number for a 2012 paper in its category of immunology. The ACTSI co-author on this paper, John Kauh, MD, received biostatistical/design (BERD), bioinformatics (BIP), and clinical (CRN) support. Average relative citation impact indices have remained generally stable from 2008-2015, indicating consistently higher than average citation influence. (See Table 1a & Figure 2)

To date, ACTSI-supported research has been published in at least 667 journals ranging across 285 subject areas. The overall average Journal Impact Factor (JIF) across all ACTSI-supported articles is 6.15, with an average JIF percentile of 76.89%, meaning that research is published in journals that rank in the top quartile of their field, on average. ACTSI-supported articles are frequently published in widely reaching, multidisciplinary, journals such as *PLOS One* and the *Proceedings of the National Academy of Science*, as well as prestigious, highly impactful medical journals such as the *New England Journal of Medicine* and the *Journal of the American Medical Association*. In addition, many ACTSI-supported articles are published in journals focusing on research in pediatrics, endocrinology/diabetes, internal medicine, mental health/neuroscience, and infectious diseases, including HIV/AIDS. (See Tables 1a & 2)

Lists of the top 10 most cited ACTSI-supported articles for each year show the magnitude of citation activity, in terms of absolute numbers, for ACTSI-supported research, and how this changes as time elapses since their publication. Top papers have accumulated hundreds to thousands of citations for all but the most recent publication years. Lists of the top 10 highest relative impact ACTSI-supported articles for each year show the magnitude of relative citation

activity of papers that have reached superlative levels of influence in their fields. Together, these lists provide a detailed snapshot of the most impactful ACTSI-supported articles, and illustrate the diversity of fields and journals in which ACTSI-supported research has been represented over the years. (See Tables 3 & 4)

## **Introduction**

The Tracking & Evaluation arm of the Atlanta Clinical & Translational Science Institute (ACTSI) serves to chart the progress, identify challenges, and support strategic development for the organization. A specific aim of the Tracking & Evaluation program is to assess the impact of ACTSI on local, regional, and national clinical and translational science. One way of characterizing research impact is by evaluating bibliometrics, or publication and citation activity resulting from an institution's support. Publication output data describes the initial dissemination of research results, including where, when, and to whom the information was made accessible. Citation data describes the utilization and influence of those results across the academic literature. Together, this information characterizes a pivotal early stage in the translational process of bringing new scientific discoveries into clinical use.

Thus far, information on ACTSI publication output, but not citation impact, has been reported. In the past, the validity of citation analyses was limited by the inability to compare citation results across fields. This evaluation employs new, cutting-edge analytic techniques to normalize results within well-defined areas of research. This innovative methodology informs our understanding of the scope and reach of ACTSI-supported research output from 2007 through 2016.

The purpose of this evaluation is to provide a quantitative and qualitative summary of publication and citation patterns for all articles that have formally cited ACTSI support. First, this evaluation summarizes aggregate citation information by year, including: number of publications, number of citations, indices of article impact normalized within discipline, and journal level impact factors. Second, this report identifies the types of journals in which ACTSI research is most frequently published, and the mean level impact of those journals. Finally, this document details specific contributions to science by recognizing those publications that achieved superlative levels of research influence as reflected in citation. That data is presented in two ways, each with relative merits: 1) the top ten most cited publications by year and 2) the top ten highest relative impact (within discipline) publications by year. In sum, this evaluation is intended to illustrate how much, how often, and in what ways ACTSI-supported research has been reported to, received by, and referenced by the academic community.

## **Methodology**

### **Data Collection**

On December 22, 2016, a PubMed (<https://www.ncbi.nlm.nih.gov/pubmed/>) query was carried out using all ACTSI-specific NIH grant project numbers, past and present (UL1 TR000454, UL1 RR025008, KL2 TR000455, KL2 RR025009, TL1 TR000456, TL1 RR025010), as well as their common variants. This generated an approximate list of all ACTSI-supported publications indexed in the U.S. National Library of Medicine's MEDLINE database (Medical Literature

Analysis and Retrieval System Online; <https://www.nlm.nih.gov/bsd/pmresources.html>) to date. The list included 2,076 publications including ePubs ahead of print; 1,955 (94%) of those publications were publically available at that time as full-text articles indexed in PubMed Central. A list of PubMed IDs (PMIDs) was exported to a text file and used to create a Web of Science (WoS; <https://webofknowledge.com/>) advanced search query (by inserting the word ‘or’ between each PMID in Excel).

Using the search syntax ‘PMID=(all PMIDs separated by or),’ 1,847 indexed publications were found in WoS. The missing 228 PMIDs (11%) were examined and found to most often not appear in WoS because they were too recently published (such as ePubs) or were from newer or less common journals that are not indexed by WoS.

In order to retrieve citation information, the list of 1,847 articles was exported to WoS’s InCites application (<https://incites.thomsonreuters.com/>). Of the original 2,076 PMIDs, 1,792 (86.32%) publications were indexed in InCites on that date. Some of this attrition is due to recent publications not yet cited and not yet indexed in InCites, which is updated quarterly. In order to export the data at the article level, ‘Entity Type = Region’ was selected, and WoS documents listed under ‘Region = OECD Totals’ were exported to a spreadsheet. This yielded a dataset that included: PMID, reference information, research area, number of times cited (as of that date), the Category Normalized Citation Impact (CNCI), the Journal Impact Factor (JIF) and JIF rank percentile (Thomson Reuters, 2014).

The CNCI, a proprietary metric from InCites, is an adjusted index of citation impact, normalized to the publication year and research category. For instance, a CNCI score of 5 means that the article was cited 5 times more frequently than average, or 5 times more frequently than would be predicted, for a similar document from the same year and discipline. The JIF, another InCites metric, is an unadjusted measure of typical citation rates for the journals in which each article was published. A JIF of 5, for instance, means that the articles published in that journal in the past two years have been cited, on average, 5 times. The JIF rank percentile reflects the percentile ranking of each journal within its field of research. The JIFs and JIF percentiles were available for 1,748, or 98%, of the InCites dataset.

For the purposes of robustness and consilience, a complementary data collection was carried out on January 30, 2017, using the same 2,076 PMIDs queried in the first step above. This time the PMIDs were entered into National Institutes of Health’s (NIH) iCite application (<https://icite.od.nih.gov/>) in order to retrieve citation information compared against a somewhat different reference group (NIH-funded research versus WoS-indexed research). The iCite database fully indexed all PMIDs, (i.e. the full PubMed drawn sample of 2,076); newer articles and smaller journals were not lost when using iCite, which can be considered more complete and up to date with regard to raw citation counts. However, the tool is very new and provides less data compared to WoS InCites, which has more information on article and journal impact. The final iCite dataset included: PMIDs, reference information, number of times cited (as of that date), and the Relative Citation Ratio (RCR; Hutchins, Yuan, Anderson, & Santangelo, 2016), a field-normalized metric, analogous to the CNCI, that shows the citation impact of an article relative to the average NIH-funded paper in its co-citation network. RCR data is only available

for PMIDs that are at least one calendar year old, and so were not available for articles published in 2016.

## Data Analysis

First, in order to provide a quantitative summary of bibliometric patterns over time, aggregate descriptive statistics (mean, standard deviation, and range) for times cited, CNCI, JIF, and JIF rank percentile were calculated and are reported, along with statistics by year, for the entire sample of 1,792 publications indexed in by the WoS InCites database (Table 1a). As supporting evidence validating the results in Table 1a, Table 1b reports aggregate descriptive statistics drawn from the iCite database, once again including mean, standard deviation, and range for Times Cited and RCR, calculated and reported along with descriptive statistics by year. The iCite dataset yields a higher number of publications and, in turn, citations because the database is more comprehensive for NIH funded research. However, journal impact information and 2016 RCR values are not available in the iCite dataset. A comparison of results from the WoS InCites database and the NIH iCite database is visualized in Figures 1 and 2. Figure 1 displays the number of citations by year (excluding 2007 and 2016 due to small sample and incomplete information; ACTSI launched late in 2007 and 2016 data is not yet fully indexed) and Figure 2 displays the levels of relative citation impact by year in terms of both CNCI and RCR scores. Consistent with recent findings from other CTSA hubs, (Schneider, Kane, Rainwater, Guerrero, Tong, Desai, & Trochim, 2017), the values for CNCI and RCR are quite congruent with one another at all time points. Further, in a matched dataset of 1,761 PMIDs that have both values, CNCI and RCR were strongly and significantly associated with one another ( $r=.94, p<.001$ ). It is evident from these results that both databases and methodologies yield very consistent results, and so, for the sake of clarity, subsequent results are drawn from the WoS InCites database only.

Second, in order to provide a quantitative and qualitative description of the journals, a list of the top 25 journals in which ACTSI-supported articles were published most frequently is provided, along with the count of ACTSI-supported articles, the JIF, and the JIF percentile, for each of those journals (Table 2). The format of this table is consistent with a CTSA-wide table reported in the CTSA National Evaluation Final Report (Frechtling, Raue, Michie, Miyaoka, & Spiegelman, 2012) which shows some commonalities with the ACTSI-supported results in terms of journals and subject areas.

Last, in order to characterize the content of the most influential ACTSI-supported articles, lists of ACTSI-supported publications with the highest numbers of citations and with the highest CNCI scores were created for each year (excluding 2007 and 2016 due to small sample size). Lists were drawn by sorting the overall list by publication year, then by times cited, and then by CNCI score. Those with the top ten highest citation counts from each year were then compiled in Table 3, a-h. Those with the top ten highest CNCI scores from each year were compiled in Table 4, a-h. Note that only the names of the first five co-authors are available from InCites.

## Results

### *Summary of Bibliometric Patterns* (see Tables 1a & b, Figures 1 & 2)

As of the end of 2016, at least 2,076 publications have formally credited ACTSI as having provided research support. Those articles, in turn, have been cited 60,375 times, and counting. On average, articles were cited at a ratio of about 29 citations per article, with high variability ranging from 0 citations for many articles, to one article garnering 2,027 citations as of the data collection date. The rate of publication per year has risen from the early years of ACTSI and plateaued in recent years at well over 200 publications per year. Rates of citation have accumulated over the years with publications from the earliest years of ACTSI now averaging about 60 citations per article. (See Table 1a & Figure 1)

The overall average CNCI score for ACTSI-supported articles is 2.35, indicating that ACTSI-supported papers are cited at a rate 2.35 times as high as comparable WoS indexed papers from the same year and research category. The CNCI results are supported by converging data on RCR scores (Table 1b), which similarly indicate that ACTSI-supported papers are cited at a rate of about 2.37 times as often as comparable NIH-funded papers. The variability and range of CNCI scores is very high, from 0 to 129.26. The all-time most-cited ACTSI-supported paper (Brahmer et al., 2012, NEJM), cited at least 2,027 times, is over 129 times the expected number for a 2012 paper in its category of immunology. The ACTSI co-author on this paper, John Kauh, MD, received biostatistical/design (BERD), bioinformatics (BIP), and clinical (CRN) support. Yearly average relative citation impact scores, including both CNCI and RCR scores, have remained generally stable from 2008-2015 (Figure 2).

### *Description of Journals and Journal Impact* (see Tables 1a & 2)

The overall average JIF across all ACTSI-supported articles is 6.15, higher than the current global average of 1.99. The average JIF rank percentile is 76.89%, indicating publication in journals that rank, on average, in the top quartile for their field. The yearly average JIFs have remained remarkably stable from 2007-2016 (Table 1a).

To date, ACTSI-supported research has been published in at least 667 journals ranging across 285 subject areas, with many of those journals publishing only one article apiece. The list of the top 25 journals most frequently publishing ACTSI-supported research (Table 2) provides a sample that encompasses more than a quarter of all of the publications. ACTSI-supported articles are frequently published in widely reaching, multidisciplinary, open-access journals such as *PLOS One* and the *Proceedings of the National Academy of Science*, as well as prestigious, highly impactful medical journals such as the *New England Journal of Medicine* and the *Journal of the American Medical Association*. In addition, many ACTSI-supported articles are published in journals focusing on research in pediatrics, endocrinology/diabetes, internal medicine, mental health/neuroscience, and infectious diseases often including HIV/AIDS.

### *Characterizing the Most Influential Articles by Year* (see Tables 3 & 4)

The eight lists of top 10 most cited ACTSI-supported publications provide an impression of the research content for the most highly-cited ACTSI-supported articles demarcated by the

year/length of time they have been available for reference. Top papers have accumulated hundreds to thousands of citations for all but the most recent publication years. The eight lists of top 10 highest relative impact ACTSI-supported publications provide an impression of the research content of articles that were cited at very high rates relative to comparable papers within their field. There is a significant amount of overlap between the top most cited and top highest impact lists because many of the top articles are highly influential both in absolute and relative terms. Notably, the CNCI metric results in some lower-cited papers being included in the top 10 due to very low rates of expected citation in their research area.

## **Conclusion**

This evaluation utilized advanced bibliometric analysis to illuminate important facets of the impact of research supported by ACTSI resources. Aggregate descriptive statistics summarize the magnitude of publication output and citation activity for ACTSI-supported researchers, both overall and across time. Longitudinal patterns indicate that publication rates have grown and then leveled-off in recent years. This may mean that ACTSI has achieved capacity in terms of the publication output possible with currently available resources. Changes in ACTSI resources, practices, and allocation may be necessary to prompt changes in publication output. As for citation patterns, which take years to develop, there is not yet evidence to suggest that citation rates of the oldest publications are plateauing as a whole. There is a general upward trend in rates of citation per publication as years elapse and it remains to be seen how far even the oldest articles may go in terms of their ultimate influence on the academic literature.

State-of-the-art indices of relative citation impact demonstrate that ACTSI-supported publications are cited more than twice as often as comparable articles from the same year and discipline. Over time, average relative citation influence has been consistently maintained as higher than average. Results for journal-level impact also show that, on average, ACTSI-supported articles are consistently published in higher than average journals. Results detailing the journals most frequently publishing ACTSI-supported research show the concentration of articles in these journals as well as their relative impact within their respective fields. This summary give a quantitative and qualitative sense of the comprehensive scope of research topics covered and audiences reached by ACTSI-supported research.

The lists of the top most influential ACTSI-supported publications paint a detailed picture of the magnitude of citation activity, in terms of both absolute numbers and relative impact, for ACTSI-supported articles, and how this changes as time passes since their publication. The two sets of lists demonstrate that highly cited ACTSI-supported articles have been published in diverse fields and journals and have reached impressive heights of influence in the academic sphere. Together with the list of most frequently publishing journals, these results inform our understanding of the areas of particular strength (both in quantity and quality) and gaps for growth with regard to ACTSI products.

Collectively, this evaluation serves to describe the degree and character of the citation impact for articles published over the past nine years. This report delivers an account of how more than 60,000 citations are distributed across time, across journals, and across disciplines for the more



than 2,000 publications to which ACTSI contributed. ACTSI-supported publications spanned a wide breadth of subject areas, reached audiences from basic to medical to translational sciences, and attained exceptional heights within their fields.

**Table 1a. Descriptive Statistics by Year for ACTSI-Supported Publications (from WoS InCites Database)**

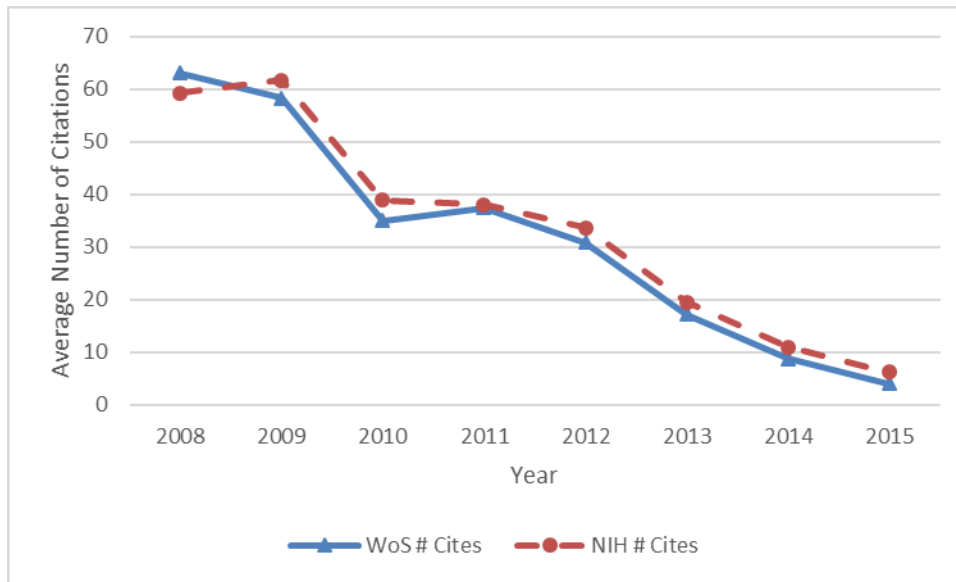
Year	N	Times Cited (# Cites)				Category Normalized Citation Impact (CNCI)				Journal Impact Factor (JIF) & Rank Percentile			
		Mean	St Dev	Min	Max	Mean	St Dev	Min	Max	Mean	St Dev	Min	Max
2007	19	34.84	29.96	9	119	1.10	.83	.3	2.93	4.22	2.76	1.27	11.55
2008	149	63.07	122.22	0	894	2.78	4.90	0	30.84	7.40	11.32	.53	59.56
2009	169	58.27	104.67	0	1,004	2.75	4.28	0	39.74	5.76	7.16	.77	59.56
2010	204	34.98	55.62	0	643	2.07	4.47	0	60.74	5.65	5.25	.94	37.68
2011	235	37.44	56.76	1	482	2.83	3.94	0.05	31.36	6.59	8.50	.87	59.56
2012	295	30.83	105.75	0	1,758	2.71	7.97	0	129.26	6.51	9.08	.26	59.56
2013	209	17.27	33.64	0	295	2.17	3.89	0	32.02	5.08	5.32	.77	37.68
2014	211	8.84	12.05	0	83	1.88	2.38	0	15.11	6.14	8.78	1	59.56
2015	215	4.08	7.09	0	63	2.13	4.11	0	41.61	6.28	8.80	.96	59.56
2016	86	0.48	1.24	0	9	1.33	2.98	0	14.16	6.42	7.87	1.05	39.42
<b>Grand Total</b>	<b>1,792</b>	<b>28.64</b>	<b>73.50</b>	<b>0</b>	<b>51,330</b>	<b>2.35</b>	<b>4.84</b>	<b>0</b>	<b>129.26</b>	<b>6.15</b> <b>76.89%ile</b>	<b>8.15</b> <b>20.74%ile</b>	<b>.26</b> <b>2.52%ile</b>	<b>59.56</b> <b>99.75%ile</b>

**Table 1b. Descriptive Statistics by Year for ACTSI-Supported Publications (from NIH iCite Database)**

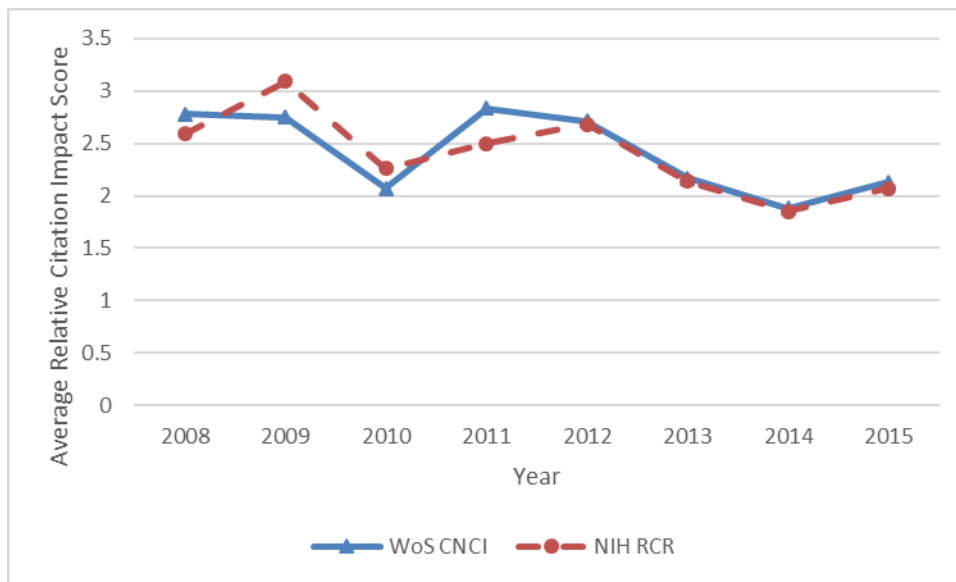
Year	N	Times Cited (# Cites)				Relative Citation Ratio (RCR)			
		Mean	St Dev	Min	Max	Mean	St Dev	Min	Max
2007	24	30.00	28.66	0	122	1.29	1.21	0	5.82
2008	170	59.29	120.27	0	935	2.59	4.94	0	33.17
2009	179	61.77	115.56	0	1,096	3.09	5.86	0	55.98
2010	219	38.92	66.92	0	725	2.26	4.32	0	48.44
2011	273	38.03	60.19	0	536	2.50	3.72	0	35.76
2012	317	33.70	118.02	0	2,027	2.68	7.64	0	128.57
2013	238	19.50	39.05	0	354	2.14	4.02	0	34.29
2014	231	11.06	14.86	0	98	1.85	2.31	0	16.95
2015	241	6.29	9.80	0	88	2.07	3.05	0	25.27
2016	182	1.22	4.02	0	47	*-	-	-	-
<b>Grand Total</b>	<b>2,076</b>	<b>29.08</b>	<b>77.31</b>	<b>0</b>	<b>60,375</b>	<b>2.37</b>	<b>4.83</b>	<b>0</b>	<b>128.57</b>

\*RCR not yet available for 2016

**Figure 1. Average Number of Citations by Year of ACTSI-Supported Publication**



**Figure 2. Average Relative Citation Impact Score by Year of ACTSI-Supported Publication**



**Table 2. Top 25 Journals Most Frequently Publishing ACTSI-Supported Publications**

	<b>Journal Title</b>	<b># ACTSI Publications</b>	<b>Journal Impact Factor (JIF)</b>	<b>JIF Percentile</b>
1	PLOS ONE	49	3.06	83.33%
2	PEDIATRICS	37	5.20	97.92%
3	DIABETES CARE	31	8.93	95.11%
4	JOURNAL OF PEDIATRICS	22	3.89	95.42%
5	JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY	22	12.49	97.51%
6	NEW ENGLAND JOURNAL OF MEDICINE	21	59.56	99.68%
7	CRITICAL CARE MEDICINE	20	7.42	89.39%
8	JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES	20	3.81	72.74%
9	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	19	37.68	98.39%
10	JOURNAL OF INFECTIOUS DISEASES	17	6.34	90.23%
11	CLINICAL JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY	17	4.66	88.96%
12	JOURNAL OF BIOLOGICAL CHEMISTRY	15	4.26	75.61%
13	AIDS	15	4.41	81.77%
14	BIOLOGICAL PSYCHIATRY	15	11.21	96.37%
15	AMERICAN JOURNAL OF CLINICAL NUTRITION	14	6.70	96.88%
16	AMERICAN JOURNAL OF THE MEDICAL SCIENCES	13	1.58	60.32%
17	DEPRESSION AND ANXIETY	13	5.00	89.65%
18	BRAIN BEHAVIOR AND IMMUNITY	13	5.87	87.04%
19	AMERICAN JOURNAL OF TRANSPLANTATION	12	5.67	96.13%
20	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES	11	9.42	94.44%
21	JOURNAL OF CARDIOVASCULAR NURSING	11	2.17	80.03%
22	KIDNEY INTERNATIONAL	11	7.68	95.46%
23	CIRCULATION	11	17.20	99.00%
24	JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM	11	5.53	88.35%
25	STATISTICS IN MEDICINE	11	1.53	46.86%

**Table 3. Top 10 Most Cited ACTSI-Supported Publications by Year****a. 2008**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b># Cites</b>
1.	Efficacy assessment of a cell-mediated immunity HIV-1 vaccine (the Step Study): a double-blind, randomised, placebo-controlled, test-of-concept trial	Buchbinder, Susan P.; Mehrotra, Devon V.; Duerr, Ann; Fitzgerald, Daniel W.; Mogg, Robin	LANCET	894
2.	Prediction of psychosis in youth at high clinical risk	Cannon, Tyrone D.; Cadenhead, Kristin; Cornblatt, Barbara; Woods, Scott W.; Addington, Jean	ARCHIVES OF GENERAL PSYCHIATRY	638
3.	Association of FKBP5 polymorphisms and childhood abuse with risk of posttraumatic stress disorder symptoms in adults	Binder, Elisabeth B.; Bradley, Rebekah G.; Liu, Wei; Epstein, Michael P.; Deveau, Todd C.	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	536
4.	HIV-1 vaccine-induced immunity in the test-of-concept Step Study: a case-cohort analysis	McElrath, M. Juliana; De Rosa, Stephen C.; Moodie, Zoe; Dubey, Sheri; Kierstead, Lisa	LANCET	453
5.	Maraviroc for previously treated patients with R5 HIV-1 infection	Gulick, Roy M.; Lalezari, Jacob; Goodrich, James; Clumeck, Nathan; DeJesus, Edwin	NEW ENGLAND JOURNAL OF MEDICINE	449
6.	Class-sparing regimens for initial treatment of HIV-1 infection	Riddler, Sharon A.; Haubrich, Richard; DiRienzo, A. Gregory; Peeples, Lynne; Powderly, William G.	NEW ENGLAND JOURNAL OF MEDICINE	428
7.	Rapid cloning of high-affinity human monoclonal antibodies against influenza virus	Wrammert, Jens; Smith, Kenneth; Miller, Joe; Langle, William A.; Kokko, Kenneth	NATURE	395
8.	Intensive care for extreme prematurity - Moving beyond gestational age	Tyson, Jon E.; Parikh, Nehal A.; Langer, John; Green, Charles; Higgins, Rosemary D.	NEW ENGLAND JOURNAL OF MEDICINE	337
9.	Influence of child abuse on adult depression - Moderation by the corticotropin-releasing hormone receptor gene	Bradley, Rebekah G.; Binder, Elisabeth B.; Epstein, Michael P.; Tang, Yilang; Nair, Hemu P.	ARCHIVES OF GENERAL PSYCHIATRY	312
10.	Neuroendocrine-immune mechanisms of behavioral comorbidities in patients with cancer	Miller, Andrew H.; Ancoli-Israel, Sonia; Bower, Julianne E.; Capuron, Lucile; Irwin, Michael R.	JOURNAL OF CLINICAL ONCOLOGY	215

**b. 2009**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b># Cites</b>
1.	Inflammation and Its Discontents: The Role of Cytokines in the Pathophysiology of Major Depression	Miller, Andrew H.; Maletic, Vladimir; Raison, Charles L.	BIOLOGICAL PSYCHIATRY	1004
2.	New Equations to Estimate GFR in Children with CKD	Schwartz, George J.; Munoz, Alvaro; Schneider, Michael F.; Mak, Robert H.; Kaskel, Frederick	JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY	680
3.	Systems biology approach predicts immunogenicity of the yellow fever vaccine in humans	Querec, Troy D.; Akondy, Rama S.; Lee, Eva K.; Cao, Weiping; Nakaya, Helder I.	NATURE IMMUNOLOGY	420
4.	Cognitive Function at 3 Years of Age after Fetal Exposure to Antiepileptic Drugs	Meador, Kimford J.; Baker, Gus A.; Browning, Nancy; Clayton-Smith, Jill; Combs-Cantrell, Deborah T.	NEW ENGLAND JOURNAL OF MEDICINE	289
5.	Hyperglycemic Crises in Adult Patients with Diabetes	Kitabchi, Abbas E.; Umpierrez, Guillermo E.; Miles, John M.; Fisher, Joseph N.	DIABETES CARE	224
6.	Advances in the Treatment of Fragile X Syndrome	Hagerman, Randi J.; Berry-Kravis, Elizabeth; Kaufmann, Walter E.; Ono, Michele Y.; Tartaglia, Nicole	PEDIATRICS	216
7.	Prolonged Duration of Initial Empirical Antibiotic Treatment Is Associated With Increased Rates of Necrotizing Enterocolitis and Death for Extremely Low Birth Weight Infants	Cotten, C. Michael; Taylor, Sarah; Stoll, Barbara; Goldberg, Ronald N.; Hansen, Nellie I.	PEDIATRICS	204
8.	Validity of the Prodromal Risk Syndrome for First Psychosis: Findings From the North American Prodrome Longitudinal Study	Woods, Scott W.; Addington, Jean; Cadenhead, Kristin S.; Cannon, Tyrone D.; Cornblatt, Barbara A.	SCHIZOPHRENIA BULLETIN	197
9.	Alterations in vitamin D status and anti-microbial peptide levels in patients in the intensive care unit with sepsis	Jeng, Leo; Yamshchikov, Alexandra V.; Judd, Suzanne E.; Blumberg, Henry M.; Martin, Gregory S.	JOURNAL OF TRANSLATIONAL MEDICINE	176
10.	Recent trends in acute lung injury mortality: 1996-2005	Erickson, Sara E.; Martin, Greg S.; Davis, J. Lucian; Matthay, Michael A.; Eisner, Mark D.	CRITICAL CARE MEDICINE	161

**c. 2010**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b># Cites</b>
1.	Neonatal Outcomes of Extremely Preterm Infants From the NICHD Neonatal Research Network	Stoll, Barbara J.; Hansen, Nellie I.; Bell, Edward F.; Shankaran, Seetha; Laptook, Abbot R.	PEDIATRICS	643
2.	Emotion Modulation in PTSD: Clinical and Neurobiological Evidence for a Dissociative Subtype	Lanius, Ruth A.; Vermetten, Eric; Loewenstein, Richard J.; Brand, Bethany; Schmahl, Christian	AMERICAN JOURNAL OF PSYCHIATRY	251
3.	CSF concentrations of brain tryptophan and kynurenines during immune stimulation with IFN-alpha: relationship to CNS immune responses and depression	Raison, C. L.; Dantzer, R.; Kelley, K. W.; Lawson, M. A.; Woolwine, B. J.	MOLECULAR PSYCHIATRY	195
4.	The Effects of Salsalate on Glycemic Control in Patients With Type 2 Diabetes A Randomized Trial	Goldfine, Allison B.; Fonseca, Vivian; Jablonski, Kathleen A.; Pyle, Laura; Staten, Myrlene A.	ANNALS OF INTERNAL MEDICINE	185
5.	MiR-21 is induced in endothelial cells by shear stress and modulates apoptosis and eNOS activity	Weber, Martina; Baker, Meredith B.; Moore, Jeffrey P.; Searles, Charles D.	BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS	174
6.	Stem cell paracrine actions and tissue regeneration	Baraniak, Priya R.; McDevitt, Todd C.	REGENERATIVE MEDICINE	136
7.	How the Neurocircuitry and Genetics of Fear Inhibition May Inform Our Understanding of PTSD	Jovanovic, Tanja; Ressler, Kerry J.	AMERICAN JOURNAL OF PSYCHIATRY	135
8.	IMPAIRED FEAR INHIBITION IS A BIOMARKER OF PTSD BUT NOT DEPRESSION	Jovanovic, Tanja; Norrholm, Seth D.; Blanding, Nineequa Q.; Davis, Michael; Duncan, Erica	DEPRESSION AND ANXIETY	127
9.	Bioartificial matrices for therapeutic vascularization	Phelps, Edward A.; Landazuri, Natalia; Thule, Peter M.; Taylor, W. Robert; Garcia, Andres J.	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	115
10.	The CRF system, stress, depression and anxiety-insights from human genetic studies	Binder, E. B.; Nemeroff, C. B.	MOLECULAR PSYCHIATRY	109

**d. 2011**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b># Cites</b>
1.	Vaginal microbiome of reproductive-age women	Ravel, Jacques; Gajer, Pawel; Abdo, ZAID; Schneider, G. Maria; Koenig, Sara S. K.	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	482
2.	Broadly cross-reactive antibodies dominate the human B cell response against 2009 pandemic H1N1 influenza virus infection	Wrarmert, Jens; Koutsonanos, Dimitrios; Li, Gui-Mei; Edupuganti, Srilatha; Sui, Jianhua	JOURNAL OF EXPERIMENTAL MEDICINE	314
3.	5-hmC-mediated epigenetic dynamics during postnatal neurodevelopment and aging	Szulwach, Keith E.; Li, Xuekun; Li, Yujing; Song, Chun-Xiao; Wu, Hao	NATURE NEUROSCIENCE	261
4.	Systems biology of vaccination for seasonal influenza in humans	Nakaya, Helder I.; Wrarmert, Jens; Lee, Eva K.; Racioppi, Luigi; Marie-Kunze, Stephanie	NATURE IMMUNOLOGY	250
5.	Post-traumatic stress disorder is associated with PACAP and the PAC1 receptor	Ressler, Kerry J.; Mercer, Kristina B.; Bradley, Bekh; Jovanovic, Tanja; Mahan, Amy	NATURE	225
6.	Immunological mechanisms of vaccination	Pulendran, Bali; Ahmed, Rafi	NATURE IMMUNOLOGY	225
7.	Identification of ADAMTS7 as a novel locus for coronary atherosclerosis and association of ABO with myocardial infarction in the presence of coronary atherosclerosis: two genome-wide association studies	Reilly, Muredach P.; Li, Mingyao; He, Jing; Ferguson, Jane F.; Stylianou, Ioannis M.	LANCET	211
8.	Early Onset Neonatal Sepsis: The Burden of Group B Streptococcal and E. coli Disease Continues	Stoll, Barbara J.; Hansen, Nellie I.; Sanchez, Pablo J.; Faix, Roger G.; Poindexter, Brenda B.	PEDIATRICS	203
9.	Atazanavir Plus Ritonavir or Efavirenz as Part of a 3-Drug Regimen for Initial Treatment of HIV-1	Daar, Eric S.; Tierney, Camlin; Fischl, Margaret A.; Sax, Paul E.; Mollan, Katie	ANNALS OF INTERNAL MEDICINE	160
10.	Intervention to Reduce Transmission of Resistant Bacteria in Intensive Care	Huskins, W. Charles; Huckabee, Charmaine M.; O'Grady, Naomi P.; Murray, Patrick; Kopetskie, Heather	NEW ENGLAND JOURNAL OF MEDICINE	156



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	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b># Cites</b>
1.	Safety and Activity of Anti-PD-L1 Antibody in Patients with Advanced Cancer	Brahmer, Julie R.; Tykodi, Scott S.; Chow, Laura Q. M.; Hwu, Wen-Jen; Topalian, Suzanne L.	NEW ENGLAND JOURNAL OF MEDICINE	1758
2.	Tolvaptan in Patients with Autosomal Dominant Polycystic Kidney Disease	Torres, Vicente E.; Chapman, Arlene B.; Devuyst, Olivier; Gansevoort, Ron T.; Grantham, Jared J.	NEW ENGLAND JOURNAL OF MEDICINE	245
3.	Psychoneuroimmunology Meets Neuropsychopharmacology: Translational Implications of the Impact of Inflammation on Behavior	Haroon, Ebrahim; Raison, Charles L.; Miller, Andrew H.	NEUROPSYCHOPHARMACOLOGY	228
4.	Mutations in the profilin 1 gene cause familial amyotrophic lateral sclerosis	Wu, Chi-Hong; Fallini, Claudia; Ticozzi, Nicola; Keagle, Pamela J.; Sapp, Peter C.	NATURE	157
5.	Childhood Outcomes after Hypothermia for Neonatal Encephalopathy	Shankaran, Seetha; Pappas, Athina; McDonald, Scott A.; Vohr, Betty R.; Hintz, Susan R.	NEW ENGLAND JOURNAL OF MEDICINE	149
6.	Warfarin and Aspirin in Patients with Heart Failure and Sinus Rhythm	Homma, Shunichi; Thompson, John L. P.; Pullicino, Patrick M.; Levin, Bruce; Freudenberger, Ronald S.	NEW ENGLAND JOURNAL OF MEDICINE	144
7.	Fear conditioning, synaptic plasticity and the amygdala: implications for posttraumatic stress disorder	Mahan, Amy L.; Ressler, Kerry J.	TRENDS IN NEUROSCIENCES	139
8.	Pandemic H1N1 influenza vaccine induces a recall response in humans that favors broadly cross-reactive memory B cells	Li, Gui-Mei; Chiu, Christopher; Wrarmert, Jens; McCausland, Megan; Andrews, Sarah F.	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	131
9.	Novel Loci for Adiponectin Levels and Their Influence on Type 2 Diabetes and Metabolic Traits: A Multi-Ethnic Meta-Analysis of 45,891 Individuals	Dastani, Zari; Hivert, Marie-France; Timpson, Nicholas; Perry, John R. B.; Yuan, Xin	PLOS GENETICS	121
10.	Maleimide Cross-Linked Bioactive PEG Hydrogel Exhibits Improved Reaction Kinetics and Cross-Linking for Cell Encapsulation and In Situ Delivery	Phelps, Edward A.; Enemchukwu, Nduka O.; Fiore, Vincent F.; Sy, Jay C.; Murthy, Niren	ADVANCED MATERIALS	103

**f. 2013**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b># Cites</b>
1.	Allele-specific FKBP5 DNA demethylation mediates gene-childhood trauma interactions	Klengel, Torsten; Mehta, Divya; Anacker, Christoph; Rex-Haffner, Monika; Pruessner, Jens C.	NATURE NEUROSCIENCE	295
2.	Effect of Phosphodiesterase-5 Inhibition on Exercise Capacity and Clinical Status in Heart Failure With Preserved Ejection Fraction A Randomized Clinical Trial	Redfield, Margaret M.; Chen, Horng H.; Borlaug, Barry A.; Semigran, Marc J.; Lee, Kerry L.	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	248
3.	A Randomized Controlled Trial of the Tumor Necrosis Factor Antagonist Infliximab for Treatment-Resistant Depression	Raison, Charles L.; Rutherford, Robin E.; Woolwine, Bobbi J.; Shuo, Chen; Schettler, Pamela	JAMA PSYCHIATRY	234
4.	Toll-like Receptor 3-mediated Necrosis via TRIF, RIP3, and MLKL	Kaiser, William J.; Sridharan, Haripriya; Huang, Chunzi; Mandal, Pratyusha; Upton, Jason W.	JOURNAL OF BIOLOGICAL CHEMISTRY	120
5.	CYTOKINE TARGETS IN THE BRAIN: IMPACT ON NEUROTRANSMITTERS AND NEUROCIRCUITS	Miller, Andrew H.; Haroon, Ebrahim; Raison, Charles L.; Felger, Jennifer C.	DEPRESSION AND ANXIETY	93
6.	Low-Dose Dopamine or Low-Dose Nesiritide in Acute Heart Failure With Renal Dysfunction The ROSE Acute Heart Failure Randomized Trial	Chen, Horng H.; Anstrom, Kevin J.; Givertz, Michael M.; Stevenson, Lynne W.; Semigran, Marc J.	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	90
7.	Increasing Prevalence of Nonalcoholic Fatty Liver Disease Among United States Adolescents, 1988-1994 to 2007-2010	Welsh, Jean A.; Karpen, Saul; Vos, Miriam B.	JOURNAL OF PEDIATRICS	72
8.	A review of breast tomosynthesis. Part I. The image acquisition process	Sechopoulos, Ioannis	MEDICAL PHYSICS	72
9.	Salicylate (Salsalate) in Patients With Type 2 Diabetes A Randomized Trial	Goldfine, Allison B.; Fonseca, Vivian; Jablonski, Kathleen A.; Chen, Yii-Der Ida; Tipton, Laura	ANNALS OF INTERNAL MEDICINE	66
10.	The evolutionary significance of depression in Pathogen Host Defense (PATHOS-D)	Raison, C. L.; Miller, A. H.	MOLECULAR PSYCHIATRY	54

**g. 2014**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b># Cites</b>
1.	Molecular signatures of antibody responses derived from a systems biology study of five human vaccines	Li, Shuzhao; Roupael, Nadine; Duraisingham, Sai; Romero-Steiner, Sandra; Presnell, Scott	NATURE IMMUNOLOGY	83
2.	Very Early Administration of Progesterone for Acute Traumatic Brain Injury	Wright, David W.; Yeatts, Sharon D.; Silbergleit, Robert; Palesch, Yuko Y.; Hertzberg, Vicki S.	NEW ENGLAND JOURNAL OF MEDICINE	70
3.	Effect of Vitamin D-3 on Asthma Treatment Failures in Adults With Symptomatic Asthma and Lower Vitamin D Levels The VIDA Randomized Clinical Trial	Castro, Mario; King, Tonya S.; Kunselman, Susan J.; Cabana, Michael D.; Denlinger, Loren	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	62
4.	The biology of mammalian parenting and its effect on offspring social development	Rilling, James K.; Young, Larry J.	SCIENCE	54
5.	Blood Pressure in Early Autosomal Dominant Polycystic Kidney Disease	Schrier, Robert W.; Abebe, Kaleab Z.; Perrone, Ronald D.; Torres, Vicente E.; Braun, William E.	NEW ENGLAND JOURNAL OF MEDICINE	52
6.	Efficacy and Tolerability of 3 Nonnucleoside Reverse Transcriptase Inhibitor-Sparing Antiretroviral Regimens for Treatment-Naive Volunteers Infected With HIV-1	Lennox, Jeffrey L.; Landovitz, Raphael J.; Ribaud, Heather J.; Ofotokun, Ighovwerha; Na, Lumine H.	ANNALS OF INTERNAL MEDICINE	49
7.	Sex differences in the neural and behavioral response to intranasal oxytocin and vasopressin during human social interaction	Rilling, James K.; DeMarco, Ashley C.; Hackett, Patrick D.; Chen, XU; Gautam, Pritam	PSYCHONEUROENDOCRINOLOGY	49
8.	Efficacy and Safety of Dulaglutide Versus Sitagliptin After 52 Weeks in Type 2 Diabetes in a Randomized Controlled Trial (AWARD-5)	Nauck, Michael; Weinstock, Ruth S.; Umpierrez, Guillermo E.; Guerci, Bruno; Skrivaneck, Zachary	DIABETES CARE	45
9.	Angiotensin Blockade in Late Autosomal Dominant Polycystic Kidney Disease	Torres, Vicente E.; Abebe, Kaleab Z.; Chapman, Arlene B.; Schrier, Robert W.; Braun, William E.	NEW ENGLAND JOURNAL OF MEDICINE	38
10.	Serological Responses to an Avian Influenza A/H7N9 Vaccine Mixed at the Point-of-Use With MF59 Adjuvant A Randomized Clinical Trial	Mulligan, Mark J.; Bernstein, David I.; Winokur, Patricia; Rupp, Richard; Anderson, Evan	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	32

## h. 2015

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b># Cites</b>
1.	Persistence of Ebola Virus in Ocular Fluid during Convalescence	Varkey, Jay B.; Shantha, Jessica G.; Crozier, Ian; Kraft, Colleen S.; Lyon, G. Marshall	NEW ENGLAND JOURNAL OF MEDICINE	63
2.	Causes and Timing of Death in Extremely Premature Infants from 2000 through 2011	Patel, Ravi M.; Kandfer, Sarah; Walsh, Michele C.; Bell, Edward F.; Carlo, Waldemar A.	NEW ENGLAND JOURNAL OF MEDICINE	49
3.	Characteristics and Clinical Management of a Cluster of 3 Patients With Ebola Virus Disease, Including the First Domestically Acquired Cases in the United States	Liddell, Allison M.; Davey, Richard T., Jr.; Mehta, Aneesh K.; Varkey, Jay B.; Kraft, Colleen S.	ANNALS OF INTERNAL MEDICINE	26
4.	Efficacy and safety of eculizumab in atypical hemolytic uremic syndrome from 2-year extensions of phase 2 studies	Licht, Christoph; Greenbaum, Larry A.; Muus, Petra; Babu, Sunil; Bedrosian, Camille L.	KIDNEY INTERNATIONAL	25
5.	Imaging Classification of Autosomal Dominant Polycystic Kidney Disease: A Simple Model for Selecting Patients for Clinical Trials	Irazabal, Maria V.; Rangel, Laureano J.; Bergstralh, Eric J.; Osborn, Sara L.; Harmon, Amber J.	JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY	25
6.	The Use of TKM-100802 and Convalescent Plasma in 2 Patients With Ebola Virus Disease in the United States	Kraft, Colleen S.; Hewlett, Angela L.; Koepsell, Scott; Winkler, Anne M.; Kratochvil, Christopher J.	CLINICAL INFECTIOUS DISEASES	25
7.	Human Ebola virus infection results in substantial immune activation	McElroy, Anita K.; Akondy, Rama S.; Davis, Carl W.; Ellebedy, Ali H.; Mehta, Aneesh K.	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES	24
8.	Emergency Postexposure Vaccination With Vesicular Stomatitis Virus-Vectored Ebola Vaccine After Needlestick	Lai, Lilin; Davey, Richard; Beck, Allison; Xu, Yongxian; Suffredini, Anthony F.	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	22
9.	Avoiding aortic clamping during coronary artery bypass grafting reduces postoperative stroke	Moss, Emmanuel; Puskas, John D.; Thourani, Vinod H.; Kilgo, Patrick; Chen, Edward P.	JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY	18
10.	Trends in Use of and Reproductive Outcomes Associated With Intracytoplasmic Sperm Injection	Boulet, Sheree L.; Mehta, Akanksha; Kissin, Dmitry M.; Warner, Lee; Kawwass, Jennifer F.	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	17

**Table 4. Top 10 Highest Relative Impact ACTSI-Supported Publications by Year****a. 2008**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b>CNCI</b>
1.	Efficacy assessment of a cell-mediated immunity HIV-1 vaccine (the Step Study): a double-blind, randomised, placebo-controlled, test-of-concept trial	Buchbinder, Susan P.; Mehrotra, Devon V.; Duerr, Ann; Fitzgerald, Daniel W.; Mogg, Robin	LANCET	30.84
2.	Prediction of psychosis in youth at high clinical risk	Cannon, Tyrone D.; Cadenhead, Kristin; Cornblatt, Barbara; Woods, Scott W.; Addington, Jean	ARCHIVES OF GENERAL PSYCHIATRY	27.37
3.	Intensive care for extreme prematurity - Moving beyond gestational age	Tyson, Jon E.; Parikh, Nehal A.; Langer, John; Green, Charles; Higgins, Rosemary D.	NEW ENGLAND JOURNAL OF MEDICINE	23.94
4.	Association of FKBP5 polymorphisms and childhood abuse with risk of posttraumatic stress disorder symptoms in adults	Binder, Elisabeth B.; Bradley, Rebekah G.; Liu, Wei; Epstein, Michael P.; Deveau, Todd C.	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	22.99
5.	Class-sparing regimens for initial treatment of HIV-1 infection	Riddler, Sharon A.; Haubrich, Richard; DiRienzo, A. Gregory; Peeples, Lynne; Powderly, William G.	NEW ENGLAND JOURNAL OF MEDICINE	17.8
6.	HIV-1 vaccine-induced immunity in the test-of-concept Step Study: a case-cohort analysis	McElrath, M. Juliana; De Rosa, Stephen C.; Moodie, Zoe; Dubey, Sheri; Kierstead, Lisa	LANCET	15.63
7.	Maraviroc for previously treated patients with R5 HIV-1 infection	Gulick, Roy M.; Lalezari, Jacob; Goodrich, James; Clumeck, Nathan; DeJesus, Edwin	NEW ENGLAND JOURNAL OF MEDICINE	15.49
8.	Rapid cloning of high-affinity human monoclonal antibodies against influenza virus	Wrammert, Jens; Smith, Kenneth; Miller, Joe; Langley, William A.; Kokko, Kenneth	NATURE	13.62
9.	Influence of child abuse on adult depression - Moderation by the corticotropin-releasing hormone receptor gene	Bradley, Rebekah G.; Binder, Elisabeth B.; Epstein, Michael P.; Tang, Yilang; Nair, Hemu P.	ARCHIVES OF GENERAL PSYCHIATRY	13.38
10.	Measures of sun exposure and sun protection practices for behavioral and epidemiologic research	Glanz, Karen; Yaroch, Amy L.; Dancel, Monica; Saraiya, Mona; Crane, Lori A.	ARCHIVES OF DERMATOLOGY	7.44

**b. 2009**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b>CNCI</b>
1.	New Equations to Estimate GFR in Children with CKD	Schwartz, George J.; Munoz, Alvaro; Schneider, Michael F.; Mak, Robert H.; Kaskel, Frederick	JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY	39.74
2.	Inflammation and Its Discontents: The Role of Cytokines in the Pathophysiology of Major Depression	Miller, Andrew H.; Maletic, Vladimir; Raison, Charles L.	BIOLOGICAL PSYCHIATRY	22.54
3.	Prolonged Duration of Initial Empirical Antibiotic Treatment Is Associated With Increased Rates of Necrotizing Enterocolitis and Death for Extremely Low Birth Weight Infants	Cotten, C. Michael; Taylor, Sarah; Stoll, Barbara; Goldberg, Ronald N.; Hansen, Nellie I.	PEDIATRICS	16.28
4.	Systems biology approach predicts immunogenicity of the yellow fever vaccine in humans	Querec, Troy D.; Akondy, Rama S.; Lee, Eva K.; Cao, Weiping; Nakaya, Helder I.	NATURE IMMUNOLOGY	16.13
5.	Cognitive Function at 3 Years of Age after Fetal Exposure to Antiepileptic Drugs	Meador, Kimford J.; Baker, Gus A.; Browning, Nancy; Clayton-Smith, Jill; Combs-Cantrell, Deborah T.	NEW ENGLAND JOURNAL OF MEDICINE	15.28
6.	Validity of the Prodromal Risk Syndrome for First Psychosis: Findings From the North American Prodrome Longitudinal Study	Woods, Scott W.; Addington, Jean; Cadenhead, Kristin S.; Cannon, Tyrone D.; Cornblatt, Barbara A.	SCHIZOPHRENIA BULLETIN	10.28
7.	Advances in the Treatment of Fragile X Syndrome	Hagerman, Randi J.; Berry-Kravis, Elizabeth; Kaufmann, Walter E.; Ono, Michele Y.; Tartaglia, Nicole	PEDIATRICS	9.68
8.	Hyperglycemic Crises in Adult Patients with Diabetes	Kitabchi, Abbas E.; Umpierrez, Guillermo E.; Miles, John M.; Fisher, Joseph N.	DIABETES CARE	9.6
9.	Alterations in vitamin D status and anti-microbial peptide levels in patients in the intensive care unit with sepsis	Jeng, Leo; Yamshchikov, Alexandra V.; Judd, Suzanne E.; Blumberg, Henry M.; Martin, Gregory S.	JOURNAL OF TRANSLATIONAL MEDICINE	9.52
10.	The Role of Human Movement in the Transmission of Vector-Borne Pathogens	Stoddard, Steven T.; Morrison, Amy C.; Vazquez-Prokopec, Gonzalo M.; Soldan, Valerie Paz; Kochel, Tadeusz J.	PLOS NEGLECTED TROPICAL DISEASES	8.38

**c. 2010**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b>CNCI</b>
1.	Neonatal Outcomes of Extremely Preterm Infants From the NICHD Neonatal Research Network	Stoll, Barbara J.; Hansen, Nellie I.; Bell, Edward F.; Shankaran, Seetha; Laptook, Abbot R.	PEDIATRICS	60.74
2.	CSF concentrations of brain tryptophan and kynurenines during immune stimulation with IFN-alpha: relationship to CNS immune responses and depression	Raison, C. L.; Dantzer, R.; Kelley, K. W.; Lawson, M. A.; Woolwine, B. J.	MOLECULAR PSYCHIATRY	9.66
3.	MiR-21 is induced in endothelial cells by shear stress and modulates apoptosis and eNOS activity	Weber, Martina; Baker, Meredith B.; Moore, Jeffrey P.; Searles, Charles D.	BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS	8.59
4.	IMPAIRED FEAR INHIBITION IS A BIOMARKER OF PTSD BUT NOT DEPRESSION	Jovanovic, Tanja; Norrholm, Seth D.; Blanding, Nineequa Q.; Davis, Michael; Duncan, Erica	DEPRESSION AND ANXIETY	8.17
5.	The Effects of Salsalate on Glycemic Control in Patients With Type 2 Diabetes A Randomized Trial	Goldfine, Allison B.; Fonseca, Vivian; Jablonski, Kathleen A.; Pyle, Laura; Staten, Myrlene A.	ANNALS OF INTERNAL MEDICINE	8.1
6.	Emotion Modulation in PTSD: Clinical and Neurobiological Evidence for a Dissociative Subtype	Lanius, Ruth A.; Vermetten, Eric; Loewenstein, Richard J.; Brand, Bethany; Schmahl, Christian	AMERICAN JOURNAL OF PSYCHIATRY	7.49
7.	Neonatal Candidiasis: Epidemiology, Risk Factors, and Clinical Judgment	Benjamin, Daniel K., Jr.; Stoll, Barbara J.; Gantz, Marie G.; Walsh, Michele C.; Sanchez, Pablo J.	PEDIATRICS	7.37
8.	Bioartificial matrices for therapeutic vascularization	Phelps, Edward A.; Landazuri, Natalia; Thule, Peter M.; Taylor, W. Robert; Garcia, Andres J.	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	6.62
9.	An 18-Month Study of the Safety and Efficacy of Repeated Courses of Inhaled Aztreonam Lysine in Cystic Fibrosis	Oermann, Christopher M.; Retsch-Bogart, George Z.; Quittner, Alexandra L.; Gibson, Ronald L.; McCoy, Karen S.	PEDIATRIC PULMONOLOGY	6.62
10.	Five-Year Safety and Efficacy of Belatacept in Renal Transplantation	Vincenti, Flavio; Blanco, Gilles; Durrbach, Antoine; Friend, Peter; Grinyo, Josep	JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY	6.28

**d. 2011**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b>CNCI</b>
1.	Vaginal microbiome of reproductive-age women	Ravel, Jacques; Gajer, Pawel; Abdo, ZAID; Schneider, G. Maria; Koenig, Sara S. K.	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	31.36
2.	Early Onset Neonatal Sepsis: The Burden of Group B Streptococcal and E. coli Disease Continues	Stoll, Barbara J.; Hansen, Nellie I.; Sanchez, Pablo J.; Faix, Roger G.; Poindexter, Brenda B.	PEDIATRICS	24.46
3.	Broadly cross-reactive antibodies dominate the human B cell response against 2009 pandemic H1N1 influenza virus infection	Wrammert, Jens; Koutsonanos, Dimitrios; Li, Gui-Mei; Edupuganti, Srilatha; Sui, Jianhua	JOURNAL OF EXPERIMENTAL MEDICINE	20.04
4.	Nonmydriatic Ocular Fundus Photography in the Emergency Department	Bruce, Beau B.; Lamirel, Cedric; Wright, David W.; Ward, Antoinette; Heilpern, Katherine L.	NEW ENGLAND JOURNAL OF MEDICINE	16.55
5.	5-hmC-mediated epigenetic dynamics during postnatal neurodevelopment and aging	Szulwach, Keith E.; Li, Xuekun; Li, Yujing; Song, Chun-Xiao; Wu, Hao	NATURE NEUROSCIENCE	14.44
6.	Systems biology of vaccination for seasonal influenza in humans	Nakaya, Helder I.; Wrammert, Jens; Lee, Eva K.; Racioppi, Luigi; Marie-Kunze, Stephanie	NATURE IMMUNOLOGY	14.27
7.	Post-traumatic stress disorder is associated with PACAP and the PAC1 receptor	Ressler, Kerry J.; Mercer, Kristina B.; Bradley, Bekh; Jovanovic, Tanja; Mahan, Amy	NATURE	12.45
8.	Maternal Influenza Immunization and Reduced Likelihood of Prematurity and Small for Gestational Age Births: A Retrospective Cohort Study	Omer, Saad B.; Goodman, David; Steinhoff, Mark C.; Rochat, Roger; Klugman, Keith P.	PLOS MEDICINE	11.24
9.	Is Depression an Inflammatory Disorder?	Raison, Charles L.; Miller, Andrew H.	CURRENT PSYCHIATRY REPORTS	11.09
10.	Consumption of added sugars is decreasing in the United States	Welsh, Jean A.; Sharma, Andrea J.; Grellinger, Lisa; Vos, Miriam B.	AMERICAN JOURNAL OF CLINICAL NUTRITION	10.99



e. 2012

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b>CNCI</b>
1.	Safety and Activity of Anti-PD-L1 Antibody in Patients with Advanced Cancer	Brahmer, Julie R.; Tykodi, Scott S.; Chow, Laura Q. M.; Hwu, Wen-Jen; Topalian, Suzanne L.	NEW ENGLAND JOURNAL OF MEDICINE	129.26
2.	Tolvaptan in Patients with Autosomal Dominant Polycystic Kidney Disease	Torres, Vicente E.; Chapman, Arlene B.; Devuyst, Olivier; Gansevoort, Ron T.; Grantham, Jared J.	NEW ENGLAND JOURNAL OF MEDICINE	25.47
3.	Childhood Outcomes after Hypothermia for Neonatal Encephalopathy	Shankaran, Seetha; Pappas, Athina; McDonald, Scott A.; Vohr, Betty R.; Hintz, Susan R.	NEW ENGLAND JOURNAL OF MEDICINE	22.39
4.	Nonmydriatic Digital Ocular Fundus Photography on the iPhone 3G: The FOTO-ED Study	Lamirel, Cedric; Bruce, Beau B.; Wright, David W.; Newman, Nancy J.; Biousse, Valerie	ARCHIVES OF OPHTHALMOLOGY	17.72
5.	Relationship between adipose tissue insulin resistance and liver histology in nonalcoholic steatohepatitis: A pioglitazone versus vitamin E versus placebo for the treatment of nondiabetic patients with nonalcoholic steatohepatitis trial follow-up study	Bell, Lauren N.; Wang, Jiangxia; Muralidharan, Sriya; Chalasani, Sadhana; Fullenkamp, Allison M.	HEPATOLOGY	17.3
6.	Detection of Cancer Metastasis Using a Novel Macroscopic Hyperspectral Method	Akbari, Hamed; Halig, Luma V.; Zhang, Hongzheng; Wang, Dongsheng; Chen, Zhuo Georgia	BIOMEDICAL APPLICATIONS IN MOLECULAR, STRUCTURAL, AND FUNCTIONAL IMAGING	11.07
7.	Warfarin and Aspirin in Patients with Heart Failure and Sinus Rhythm	Homma, Shunichi; Thompson, John L. P.; Pullicino, Patrick M.; Levin, Bruce; Freudenberger, Ronald S.	NEW ENGLAND JOURNAL OF MEDICINE	11.04
8.	Mutations in the profilin 1 gene cause familial amyotrophic lateral sclerosis	Wu, Chi-Hong; Fallini, Claudia; Ticozzi, Nicola; Keagle, Pamela J.; Sapp, Peter C.	NATURE	10.57
9.	Psychoneuroimmunology Meets Neuropsychopharmacology: Translational Implications of the Impact of Inflammation on Behavior	Haroon, Ebrahim; Raison, Charles L.; Miller, Andrew H.	NEUROPSYCHOPHARMACOLOGY	10.33
10.	Pandemic H1N1 influenza vaccine induces a recall response in humans that favors broadly cross-reactive memory B cells	Li, Gui-Mei; Chiu, Christopher; Wrammert, Jens; McCausland, Megan; Andrews, Sarah F.	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	9.63

**f. 2013**

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b>CNCI</b>
1.	A Randomized Controlled Trial of the Tumor Necrosis Factor Antagonist Infliximab for Treatment-Resistant Depression	Raison, Charles L.; Rutherford, Robin E.; Woolwine, Bobbi J.; Shuo, Chen; Schettler, Pamela	JAMA PSYCHIATRY	32.02
2.	Allele-specific FKBP5 DNA demethylation mediates gene-childhood trauma interactions	Klengel, Torsten; Mehta, Divya; Anacker, Christoph; Rex-Haffner, Monika; Pruessner, Jens C.	NATURE NEUROSCIENCE	30.09
3.	Effect of Phosphodiesterase-5 Inhibition on Exercise Capacity and Clinical Status in Heart Failure With Preserved Ejection Fraction A Randomized Clinical Trial	Redfield, Margaret M.; Chen, Horng H.; Borlaug, Barry A.; Semigran, Marc J.; Lee, Kerry L.	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	27.04
4.	Increasing Prevalence of Nonalcoholic Fatty Liver Disease Among United States Adolescents, 1988-1994 to 2007-2010	Welsh, Jean A.; Karpen, Saul; Vos, Miriam B.	JOURNAL OF PEDIATRICS	14.23
5.	Toll-like Receptor 3-mediated Necrosis via TRIF, RIP3, and MLKL	Kaiser, William J.; Sridharan, Haripriya; Huang, Chunzi; Mandal, Pratyusha; Upton, Jason W.	JOURNAL OF BIOLOGICAL CHEMISTRY	11.23
6.	Low-Dose Dopamine or Low-Dose Nesiritide in Acute Heart Failure With Renal Dysfunction The ROSE Acute Heart Failure Randomized Trial	Chen, Horng H.; Anstrom, Kevin J.; Givertz, Michael M.; Stevenson, Lynne W.; Semigran, Marc J.	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	9.81
7.	Malaise, melancholia and madness: The evolutionary legacy of an inflammatory bias	Raison, Charles L.; Miller, Andrew H.	BRAIN BEHAVIOR AND IMMUNITY	9.58
8.	Neonatal Infectious Diseases Evaluation of Neonatal Sepsis	Camacho-Gonzalez, Andres; Spearman, Paul W.; Stoll, Barbara J.	PEDIATRIC CLINICS OF NORTH AMERICA	8.3
9.	Caveats for the Use of Operational Electronic Health Record Data in Comparative Effectiveness Research	Hersh, William R.; Weiner, Mark G.; Embi, Peter J.; Logan, Judith R.; Payne, Philip R. O.	MEDICAL CARE	7.18
10.	A review of breast tomosynthesis. Part I. The image acquisition process	Sechopoulos, Ioannis	MEDICAL PHYSICS	7.08

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	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b>CNCI</b>
1.	Very Early Administration of Progesterone for Acute Traumatic Brain Injury	Wright, David W.; Yeatts, Sharon D.; Silbergleit, Robert; Palesch, Yuko Y.; Hertzberg, Vicki S.	NEW ENGLAND JOURNAL OF MEDICINE	15.11
2.	Molecular signatures of antibody responses derived from a systems biology study of five human vaccines	Li, Shuzhao; Roupael, Nadine; Duraisingham, Sai; Romero-Steiner, Sandra; Presnell, Scott	NATURE IMMUNOLOGY	13.33
3.	Blood Pressure in Early Autosomal Dominant Polycystic Kidney Disease	Schrier, Robert W.; Abebe, Kaleab Z.; Perrone, Ronald D.; Torres, Vicente E.; Braun, William E.	NEW ENGLAND JOURNAL OF MEDICINE	12.14
4.	Effect of Vitamin D-3 on Asthma Treatment Failures in Adults With Symptomatic Asthma and Lower Vitamin D Levels The VIDA Randomized Clinical Trial	Castro, Mario; King, Tonya S.; Kunselman, Susan J.; Cabana, Michael D.; Denlinger, Loren	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	11.51
5.	Understanding Racial HIV/STI Disparities in Black and White Men Who Have Sex with Men: A Multilevel Approach	Sullivan, Patrick S.; Peterson, John; Rosenberg, Eli S.; Kelley, Colleen F.; Cooper, Hannah	PLOS ONE	9.47
6.	Efficacy and Tolerability of 3 Nonnucleoside Reverse Transcriptase Inhibitor-Sparing Antiretroviral Regimens for Treatment-Naive Volunteers Infected With HIV-1	Lennox, Jeffrey L.; Landovitz, Raphael J.; Ribaldo, Heather J.; Ofotokun, Ighovwerha; Na, Lumine H.	ANNALS OF INTERNAL MEDICINE	9.39
7.	Sex differences in the neural and behavioral response to intranasal oxytocin and vasopressin during human social interaction	Rilling, James K.; DeMarco, Ashley C.; Hackett, Patrick D.; Chen, XU; Gautam, Pritam	PSYCHONEURO ENDOCRINOLOGY	9.18
8.	Angiotensin Blockade in Late Autosomal Dominant Polycystic Kidney Disease	Torres, Vicente E.; Abebe, Kaleab Z.; Chapman, Arlene B.; Schrier, Robert W.; Braun, William E.	NEW ENGLAND JOURNAL OF MEDICINE	8.87
9.	Chorioamnionitis and Early Childhood Outcomes Among Extremely Low-Gestational-Age Neonates	Pappas, Athina; Kendrick, Douglas E.; Shankaran, Seetha; Stoll, Barbara J.; Bell, Edward F.	JAMA PEDIATRICS	8.5
10.	Efficacy and Safety of Dulaglutide Versus Sitagliptin After 52 Weeks in Type 2 Diabetes in a Randomized Controlled Trial (AWARD-5)	Nauck, Michael; Weinstock, Ruth S.; Umpierrez, Guillermo E.; Guerci, Bruno; Skrivanek, Zachary	DIABETES CARE	7.62

## h. 2015

	<b>Title</b>	<b>Authors</b>	<b>Journal</b>	<b>CNCI</b>
1.	Causes and Timing of Death in Extremely Premature Infants from 2000 through 2011	Patel, Ravi M.; Kandefer, Sarah; Walsh, Michele C.; Bell, Edward F.; Carlo, Waldemar A.	NEW ENGLAND JOURNAL OF MEDICINE	41.61
2.	Persistence of Ebola Virus in Ocular Fluid during Convalescence	Varkey, Jay B.; Shantha, Jessica G.; Crozier, Ian; Kraft, Colleen S.; Lyon, G. Marshall	NEW ENGLAND JOURNAL OF MEDICINE	27.98
3.	Efficacy and safety of eculizumab in atypical hemolytic uremic syndrome from 2-year extensions of phase 2 studies	Licht, Christoph; Greenbaum, Larry A.; Muus, Petra; Babu, Sunil; Bedrosian, Camille L.	KIDNEY INTERNATIONAL	13.85
4.	Imaging Classification of Autosomal Dominant Polycystic Kidney Disease: A Simple Model for Selecting Patients for Clinical Trials	Irazabal, Maria V.; Rangel, Laureano J.; Bergstralh, Eric J.; Osborn, Sara L.; Harmon, Amber J.	JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY	13.85
5.	Trends in Use of and Reproductive Outcomes Associated With Intracytoplasmic Sperm Injection	Boulet, Sheree L.; Mehta, Akanksha; Kissin, Dmitry M.; Warner, Lee; Kawwass, Jennifer F.	JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION	13.63
6.	Characteristics and Clinical Management of a Cluster of 3 Patients With Ebola Virus Disease, Including the First Domestically Acquired Cases in the United States	Liddell, Allison M.; Davey, Richard T., Jr.; Mehta, Aneesh K.; Varkey, Jay B.; Kraft, Colleen S.	ANNALS OF INTERNAL MEDICINE	11.55
7.	Neuroimaging and Neurodevelopmental Outcome in Extremely Preterm Infants	Hintz, Susan R.; Barnes, Patrick D.; Bulas, Dorothy; Slovis, Thomas L.; Finer, Neil N.	PEDIATRICS	11.04
8.	The Use of TKM-100802 and Convalescent Plasma in 2 Patients With Ebola Virus Disease in the United States	Kraft, Colleen S.; Hewlett, Angela L.; Koepsell, Scott; Winkler, Anne M.; Kratochvil, Christopher J.	CLINICAL INFECTIOUS DISEASES	11.01
9.	Explaining racial disparities in HIV incidence in black and white men who have sex with men in Atlanta, GA: a prospective observational cohort study	Sullivan, Patrick S.; Rosenberg, Eli S.; Sanchez, Travis H.; Kelley, Colleen F.; Luisi, Nicole	ANNALS OF EPIDEMIOLOGY	10.8
10.	Avoiding aortic clamping during coronary artery bypass grafting reduces postoperative stroke	Moss, Emmanuel; Puskas, John D.; Thourani, Vinod H.; Kilgo, Patrick; Chen, Edward P.	JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY	9.9

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