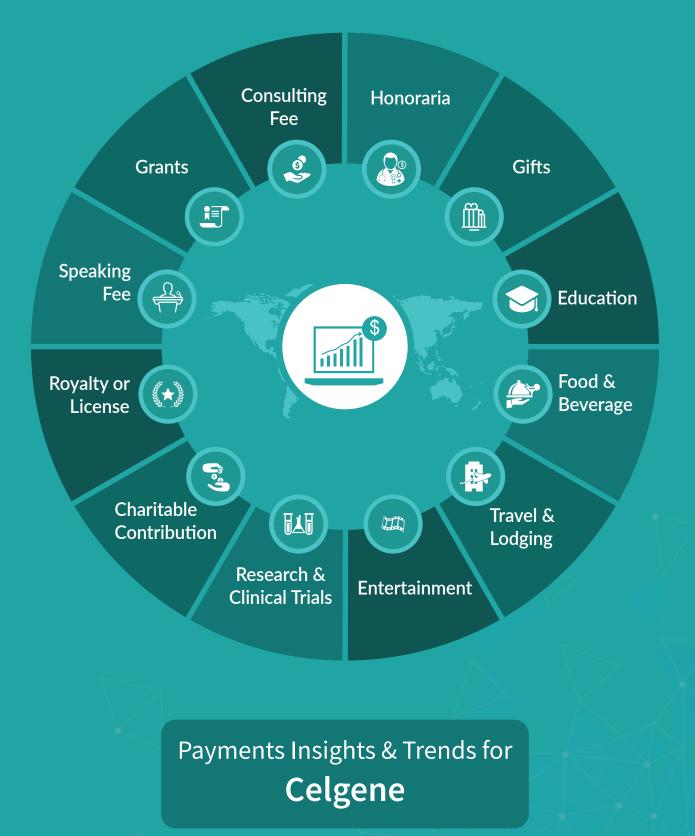


INDUSTRY PAYMENTS ANALYTICS



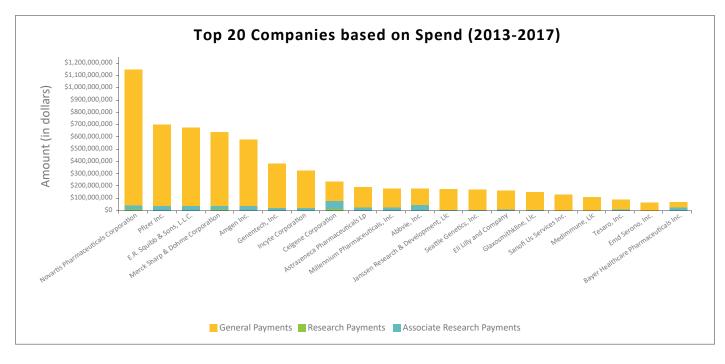
www.aissel.com/konectar/oncology

This White Paper provides insights on Celgene Industry-HCP Partnerships (2013-2017). The information is sourced from Open Payments as mandated by The Physician Payments Sunshine Act.



Industry Overview

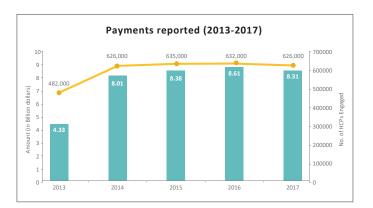
Life Sciences companies need to track HCP Payments to get an understanding of average spends on HCPs, competitor affiliations and overall HCP utilization for different engagements. This can provide valuable insights to plan strategic KOL initiatives and engagements. Payments Analytics uses Open Payments data and creates insightful reports around the industry-HCP engagements.



An overview of the top 20 Oncology companies and their spend (2013-2017)

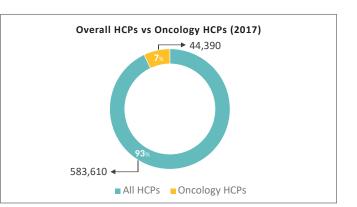
Sunshine Act and its Significance for Life Sciences Companies

The Physician Payments Sunshine Act (PPSA) requires medical product manufacturers to disclose to the Centers for Medicare and Medicaid Services (CMS) any payments or other transfers of value made to physicians or teaching hospitals. It also requires certain manufacturers and group purchasing organizations (GPOs) to disclose any physician ownership or investment interests held in those companies.



Life Sciences companies payments trends (2013-2017)

In 2017, Life Sciences companies spent \$8.31 billion on 626,000 HCPs.

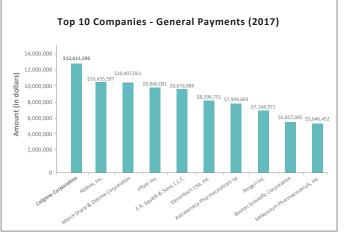


25% (\$2 Billion) of the overall Payments was made to 7.6% (44,390) Oncology experts in 2017.



Celgene Industry Payments Trends

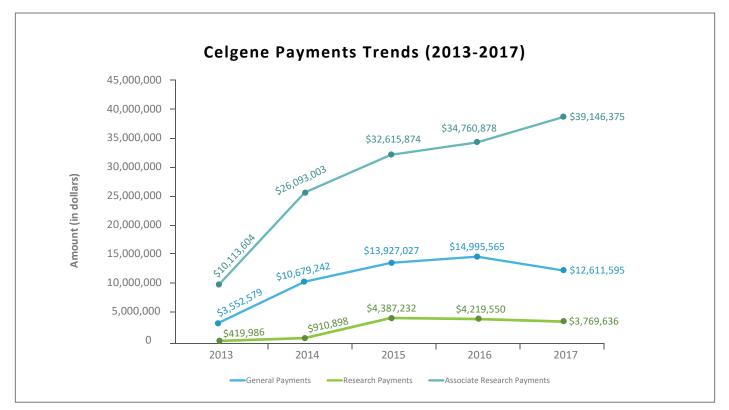
Celgene Corporation is an integrated global biopharmaceutical company engaged primarily in the discovery, development and commercialization of innovative therapies for the treatment of cancer and inflammatory diseases through next-generation solutions in protein homeostasis, immunooncology, epigenetics, immunology and neuro-inflammation. Celgene's commercial stage products and the depth of their product pipeline, provide the catalysts for future growth.



Celgene spent \$12,611,595 on 7,503 Oncology experts (General Payments).



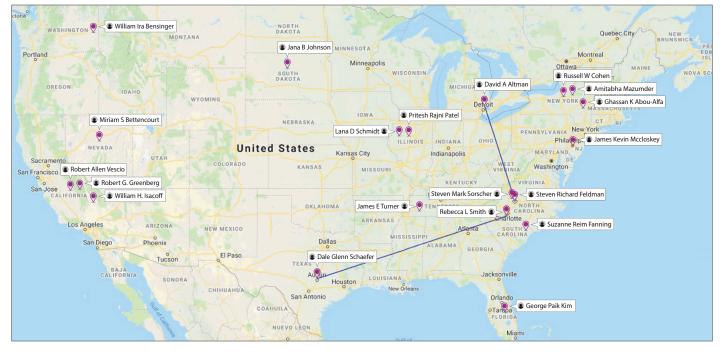
Celgene has spent \$7mn on Speaking Fee and \$2.5mn as Consulting Fee on Oncology experts in 2017.



In 2017, Celgene has increased spends on Associate Research Payments, but there is a dip in the Research and General Payments made to Oncology HCPs.

Celgene - HCP Engagements Payments Trends (2017)

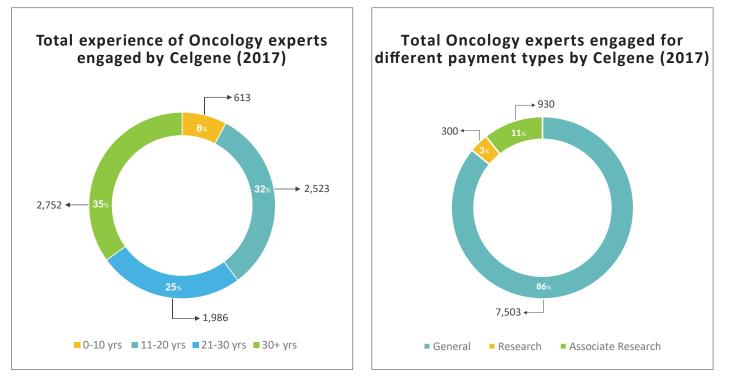




Geo Location & Network of Top 20 Oncology Experts Engaged by Celgene 2017

Professional Network and Geo locations of Top 20 Oncology experts engaged by Celgene (General Payments 2017). The network is based on co-authorship, research activities, speaking engagements and organizations of Oncology Experts.

Celgene - Oncology Experts' Experience and Engagement by Payment Types





Celgene - Payments across Engagement Types (2017)

Charitable Contribution	Total HCPs engaged: 1				
Chartable Contribution	\$100,000 — Median: \$100,000 — Average: \$100,000 (Dr. William Isacoff)	\$100,000 (Dr. William Isacoff)			
Compensation for services other than consulting, including serving	Total HCPs engaged: 422				
as faculty or as a speaker at a venue other than a continuing education program	\$23 Median: \$8,797 Average: \$16,511 (Dr. Pavan Reddy)	\$164,550 (Dr. Miriam Bettencourt)			
Consulting Fee	Total HCPs engaged: 678				
	\$141 Median: \$2,205 Average: \$3,726 (Dr. Yogesh Jethava)	\$50,000 (Dr. Jerome Ritz			
Education	Total HCPs engaged: 207				
	\$8 Median: \$18 Average: \$26 (Dr. Deborah Goddard)	\$859 (Dr. Reshma Mahtani			
Food and Beverage	Total HCPs engaged: 7,376				
	\$3 Median: \$60 Average: \$115 (Dr. Aaron Rosenberg)	\$4,690 (Dr. Miriam Bettencourt			
Gift	Total HCPs engaged: 1				
	\$69 Median: \$69 Average: \$69 (Dr. Robert Rifkin)	\$69 (Dr. Robert Rifkin			
Travel and Lodging	Total HCPs engaged: 614				
	\$7 (Dr. Ani Balmanoukian)	\$48,665 Dr. Miriam Bettencourt)			
R	esearch Payments Total HCPs engaged: 300				
\$120 Media (Dr. Rama Balaraman)	Median: \$2,976 Average: \$12,565				
Associ	ate Research Payments Total HCPs engaged: 930				
\$0.27 Median (Dr. Andrea Apolo)	: \$10,475 📕 Average: \$42,092	\$2,248,018 (Dr. Paul Richardson)			

Total Oncology experts engaged by Celgene Top 5 Oncology conditions treated by for Consulting, Speaking and Research (2017) experts engaged by Celgene (2017) **Breast Neoplasms** H Consulting - 678 H Skin Neoplasms \$ Speaking - 422 H Prostatic Neoplasms S Research - 300 \$ **Ovarian Neoplasms** \$ Chronic Leukemia H

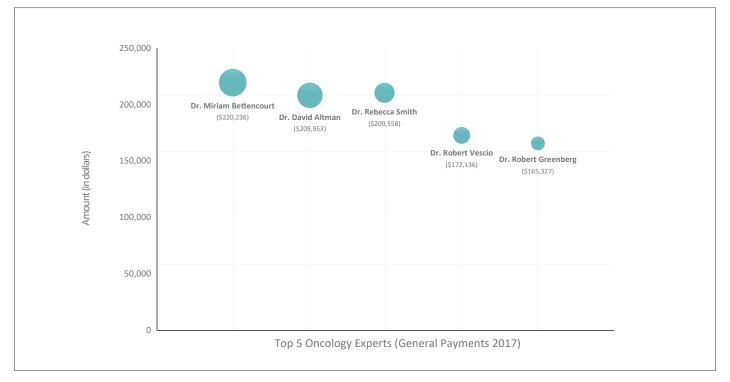


Competitor View of HCP Engagement

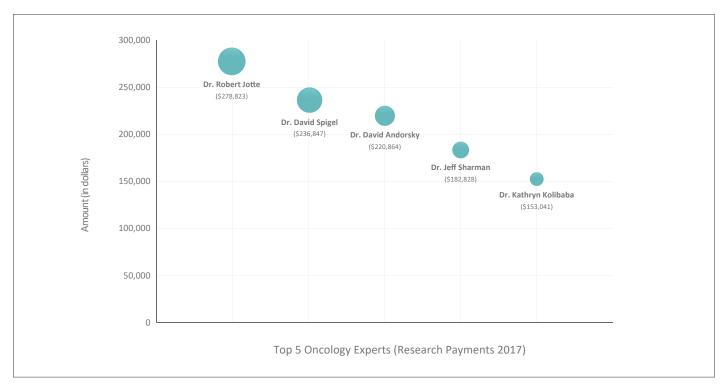
Top 20 Oncology experts engaged by Celgene and their competitors (General Payments 2017)

No.	HCP Name	Companies					
1	Dr. Miriam S Bettencourt	Celgene	Abbvie	Valeant Pharma	Pfizer	Promius Pharma	
	(Nevada)	\$220,236	\$38,050	\$12,636	\$6,644	\$5,420	
2	Dr. David A Altman	Celgene	Regeneron	Pfizer	Galderma	Abbvie	
	(Michigan)	\$209,953	\$10,821	\$10,650 ◀	\$250	\$158	
3	Dr. Rebecca L Smith	Celgene	Pfizer	Janssen	Allergan	Galderma	
	(South Carolina)	\$209,558	\$50,795	\$33,453	\$12,837	\$6,060	
4	Dr. Robert Allen Vescio	Celgene	Amgen	Millennium Pharma	E.R. Squibb & Sons	Pharmacyclics	
	(California)	\$172,136	\$32,478	\$8,118	\$272	\$125	
5	Dr. Robert G. Greenberg	Celgene	Abbvie	Lilly USA	Janssen	Pfizer	
	(California)	\$165,326	\$67,253	\$46,850	\$27,926	\$19,069	
6	Dr. Steven Mark Sorscher (North Carolina)	Celgene \$140,815	Pfizer \$34,987				
7	Dr. Jana B Johnson	Celgene	Janssen	Pfizer	Abbvie	Genzyme	
	(South Dakota)	\$135,016	\$43,713	\$18,002	\$4,621	\$68	
8	Dr. Russell W Cohen	Celgene	Janssen	Abbvie	Regeneron	Lilly USA	
	(New York)	\$126,179	\$66,120	\$49,462	\$43,498	\$29,209	
9	Dr. Suzanne Reim Fanning	Celgene	Millennium Pharma	Spectrum Pharma	AstraZeneca	E.R. Squibb & Sons	
	(South Carolina)	\$124,586	\$70,007	\$221	\$125	\$119	
10	Dr. George Paik Kim	Celgene	Ipsen	Amgen	Bayer	Genentech	
	(Florida)	\$120,620	\$37,946	\$34,183	\$28,839	\$16,804	
11	Dr. William Ira Bensinger	Celgene	Amgen	Millennium Pharma	Janssen	Jazz Pharma	
	(Washington)	\$117,683	\$62,895	\$43,357	\$28,218	\$17	
12	Dr. Dale Glenn Schaefer	Celgene	EPI Health	Galderma	Abbvie	Leo Pharma	
	(Texas)	\$116,591	\$12,136	\$10,456	\$10,279	\$2,978	
13	Dr. Amitabha Mazumder	Celgene	Millennium Pharma	Janssen	E.R. Squibb & Sons	Amgen	
	(New York)	\$113,654	\$164,603	\$50,328	\$43,183	\$17,105	
14	Dr. Pritesh Rajni Patel	Celgene	Seattle Genetics	Alexion Pharma	Amgen	Genzyme	
	(Illinois)	\$100,862	\$2,846	\$124	\$120	\$95	
15	Dr. James E Turner	Celgene	Abbvie	Pfizer	Lilly USA	Allergan	
	(Tennessee)	\$100,743	\$69,671	\$35,388	\$34,774	\$16,732	
16	Dr. William H. Isacoff	Celgene	E.R. Squibb & Sons	Depomed	Amgen	Abbvie	
	(California)	\$100,439	\$191	\$146	\$131	\$128	
17	Dr. Steven Richard Feldman	Celgene	Janssen	Abbvie	Lilly USA	Pfizer	
	(North Carolina)	\$97,019	\$154,856	\$92,253	\$84,702	\$43,214	
18	Dr. Ghassan K Abou-Alfa	Celgene	Bayer	Ipsen	AstraZeneca	Eisai	
	(New York)	\$95,676	\$24,282	\$10,134	\$10,045	\$9,516	
19	Dr. James Kevin Mccloskey	Celgene	Millennium Pharma	Amgen	Jazz Pharma	Pfizer	
	(New Jersey)	\$94,280	\$90,591	\$14,215	\$12,776	\$8,476	
20	Dr. Lana D Schmidt	Celgene \$93,316	Janssen \$44,984	Abbvie \$29,175	Lilly USA \$41,067	Amgen \$22	









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