

Career in focus: Medical Science Liaison

This issue highlights a career as a Medical Science Liaison (MSL). For this, we interviewed Dr. Damon Love, PhD, Oncology MSL at Eli Lilly & Company in New York, NY. Dr. Love went to Princeton University, majored in Neuroscience, and after working for the Institution for International Research where he developed and hosted conferences and workshops to benefit the biotech and pharma industries, he applied to Stony Brook School of Medicine and earned his PhD in Molecular and Cellular Pharmacology. He then accepted a postdoctoral fellowship with a co-appointment at Weill Cornell Medical College and Memorial Sloan-Kettering Cancer Center in New York, NY. From there, he was recruited to Eli Lilly & Company. Learn more about careers as an MSL below, and continue reading for an exclusive interview with Dr. Love!



FAQs

What is a Medical Science Liaison?

Medical Science Liaisons (MSLs) are medical professionals who are generally affiliated with the Medical Affairs Departments of pharmaceutical and biotech companies. MSLs serve as scientific resources for key opinion leaders (KOLs) in various fields of study by responding to their research and information needs. Additionally, MSLs provide connections to scientists and resources within, and external to, their respective companies. They also utilize their deep therapeutic area expertise to respond to unsolicited requests for medical/scientific information received from research physicians and other health care professionals. MSLs are valuable resources to pharmaceutical companies because they identify opportunities for research collaborations, support medical initiatives, engage in scientific training activities for colleagues, and share insights based on their interactions with KOLs to better inform their company's strategic direction for research and commercialization.

Why consider a career as an MSL?

A career as an MSL can be particularly rewarding for a basic science researcher who may be looking for an alternative approach to clinical and translational science away from the bench. In this role, you represent the company as a scientist who will be developing peer-to-peer relationships with KOLs in various disease fields. You will also be exposed to cutting-edge research, both from the basic science as well as the clinical and translational levels at various stages of development. You'll be exposed to clinical research from discovery to market, and you'll be responsible for a diverse amount of information, both disease-state specific as well as pipeline-specific. This role is also great for those who are extremely self-sufficient and organized, since MSLs work in a field-based environment in which you structure your own schedule with a fair amount of travel – up to about 70%. However, consider that, unlike academic science in which you have proprietary ownership over your project, you will not focus solely on one area. Rather, you'll be in a team environment in which your objectives are largely dictated by the company.

What kinds of skills are needed to be successful as an MSL?

Key attributes necessary for MSL positions include strong organizational skills, attention to detail, ability to work in a team environment, ability to communicate complex ideas to diverse audiences, and excellent networking, leadership, and presentation skills. Additionally, a terminal degree is generally required – MD, PhD, PharmD, RN, etc. – so a strong scientific aptitude is a definite requirement.

Opportunities while you're at Yale:

If you're interested in exploring a career as an MSL, there are many ways to better prepare yourself for this field:

- 1) Network with other researchers - particularly clinical researchers - at conferences and symposia.
- 2) Develop an appreciation for your own research in a clinical context and practice presenting it in this manner.
- 3) Familiarize yourself with clinical publications and ongoing clinical trials in your disease state of interest.
- 4) Join LinkedIn groups, such as the [Medical Science Liaison Society](#).
- 5) Read "[The Medical Science Liaison Career Guide: How to Break into Your First Role](#)" by [Samuel Dyer](#).

How did you get interested in Medical Science Liaising?

I was actually introduced to the role by a family friend who worked in sales at a big pharma company, AstraZeneca. It didn't hold much appeal to me at the time because I was preparing for graduate school, and it sounded too far removed from my research interests at the time. Later, as a postdoc, I received an unsolicited call from a recruiter with Amgen on LinkedIn, and after a lengthy interview with the hiring manager, I became intrigued by the role and the potential for growth and career development. By this time, I was looking to transition from my postdoctoral fellowship, and I was specifically looking at either a traditional bench scientist position in R&D or an MSL position, so I applied for them simultaneously and found that I was more immediately marketable for MSL roles. I had two subsequent interviews, the first with Bristol Myers-Squibb, that got as far as the final round of interviews, and then eventually with [Eli Lilly & Company](#).

Can you share your career path with us from graduate student to MSL?

I did my undergrad at Princeton University, where I majored in neuroscience in the Department of Psychology.

For the next three years, I worked with the Institution for International Research, where I developed and hosted conferences, workshops, and symposia geared towards topics and issues that were specific to the biotech and pharma industry. This experience sparked my interest in the clinical applications of science, and I knew I needed to go to grad school for a terminal degree to stay in this field.

I did my graduate work at Stony Brook School of Medicine in the Pharmacology Department, where I received my doctoral degree in Molecular and Cellular Pharmacology. My graduate work was in the lab of Ken-ichi Takemaru, where we examined the role of *chibby*, an antagonist in the canonical Wnt/ β -catenin signaling pathway. Because this pathway is a key developmental pathway that is dysregulated in a number of diseases – most notably cancer – I was drawn to this lab, thinking that *chibby* was a tumor suppressor and that I'd be working on cancer signaling. As it turned out, *chibby* knockout mice didn't develop tumors, though their developmental deficiencies were quite severe, but one of the defects I discovered was in lung morphogenesis, so I examined its role in pulmonary development, function, and mechanics.

After graduating, I had a co-appointment with Weill Cornell Medical College and Memorial Sloan-Kettering Cancer Center (MSKCC) for my postdoctoral fellowship. At Cornell, I was in the lab of Anthony Brown, PhD, in the Department of Cell and Developmental Biology, where I used RNAi to target an oncogene in the canonical Wnt/ β -catenin signaling pathway that is implicated in

hepatocellular carcinoma. At MSKCC, I studied in the lab of Yuman Fong, MD, FACS, in the Department of Surgery, where I examined the efficacy of oncolytic viruses in colorectal cancer tumor-initiating cells.

In all this, there were two key factors that contributed to determining my career path. The first was a certificate program, Fundamentals of the Bioscience Industry, which was a six-month program taught by industry professionals in regulatory affairs, R&D, and business development. During the program, I gained an understanding of the regulatory, clinical, and legal landscape surrounding drug development while simultaneously establishing a network of industry professionals. Second, in this process, I gained a mentor (an industry R&D scientist) who helped outline my postgraduate career path. I ultimately settled on an academic postdoc with a project that had clinical and translational relevance in terms of industry application, which made the ultimate transition to MSL work much easier because I was more marketable in that field.

What was the most challenging part of your transition from academia to your current field?

I found the most challenging aspect of the transition to be moving from preclinical to clinical research. Specifically, the nature of the studies, the experimental approaches, and the readouts were all based on biochemical and molecular studies, whereas clinical research deals with human studies, larger sample sizes, and completely different readouts and data interpretations. Interpreting data based on analyses such as median overall survival, progression-free survival, hazard ratios, and response rates was completely new territory for me. I was basically grasping a completely new language on the fly, as I often have conversations with clinicians who speak in "shorthand," using acronyms and abbreviated references to chemotherapy regimens and drug combinations. It has been quite challenging, but I really gained a greater appreciation for the complexity of the disease (cancer in my case) and how vastly more complicated the drug effects are in a human population, versus the far more controlled environment of cell culture and animal experiments.

Can you describe the interview/application process?

The application process generally consists of an online application at the company's website, and then the interview process is typically three-tiered. The first is a telephone interview with a recruiter, either outsourced by the company or within the HR department. This is typically followed by a more in-depth interview with the hiring manager. The third interview is a more robust process consisting of individual face-to-face interviews with several key personnel on the team, which usually

includes a 20-minute PowerPoint presentation to the group. This is usually on a topic determined for you – for one interview I gave a presentation on a class of drugs in leukemia, but for another I summarized the findings of a clinical trial presented in a journal.

What did you highlight on your Resume/CV?

For an MSL CV, your scientific aptitude is a given and your technical expertise is largely irrelevant to interviewers. Definitely highlight your accomplishments broadly to establish your credibility, but highlight them in a clinical, disease-specific context. If you worked on transcription factors in *Drosophila*, relate the significance of your findings in the context of a related pathological condition. Demonstrate soft skills, such as leadership, collaborations, working with KOLs (this is done in every research collaboration), speaking engagements, presentations, and any clinical research experience.

What is a typical day like for you?

There really is no typical day because I have meetings with different KOLs in a variety of different fields, stages of research, and physical locations. However, generally speaking, Mondays are usually full of in-house meetings with my colleagues at Eli Lilly, but I control my schedule for the rest of the week. I fill my Tuesdays-Thursdays with field meetings, where I travel to different locations and meet with KOLs to discuss various topics. I reserve my Fridays for administrative paperwork. Every trip and visit I make has to be reported in-depth to the FDA, and it can be very time-consuming. Some MSLs have a mix of field meetings and paperwork every day, but I like to dedicate one day a week to fill out the paperwork for the week's meetings. Also, I should point out that when I'm not in meetings, I'm spending my time preparing for meetings, i.e., reading and researching topics to discuss with KOLs and preparing slides and information for them.

What are your most and least favorite job aspects?

I thoroughly enjoy the flexibility of my schedule, being at the cusp of cutting-edge clinical research across many disease states, interacting with and being recognized as a peer by leading experts in science and medicine, being involved in the drug development process from discovery to clinic, being involved in preclinical and clinical collaborations with industry and academic scientists, being recognized as a key resource both internally with

my company as well as externally in the institutions I cover, and the camaraderie with my teammates.

My least favorite aspect is the paperwork, whether it is the FDA-mandated documentation of interactions or expense reporting, I find this to be the most tedious aspect of the job. My travel is not particularly extensive, given the relatively small size of my territory (NYC, NJ, and Philadelphia) so that is not a complaint.

What skills did you need to develop in order to move into your current position?

Certain skills, such as public speaking, critical thinking, multitasking, and managing your schedule, get developed through the PhD process. I had to develop an appreciation for networking and really be able to look at cancer and discovery in a clinical context, being that my background is almost exclusively as a bench scientist.

Is there room for career development and advancement for someone in your position? Or what other roles do MSLs transition to after their time as an MSL?

The short answer is “yes.” The specific opportunities available may be determined by each company, but generally, many offer opportunities to climb the ladder to leadership positions. Given the breadth of knowledge of the disease state, product pipeline, and regulatory and competitive landscape as well as established scientific credentials, the MSL has value in a number of areas, including medical affairs and research. In fact, one of my former MSL colleagues recently took an internal position as a clinical research scientist at our company.

Is there any last advice you would give to someone looking to make a similar transition from academia to Medical Science Liaising like you did?

Take advantage of any networking opportunities you can – particularly at events where the pharma industry is represented. Also, establish a good relationship with a mentor (it doesn't have to be your PI), join LinkedIn, and keep your CV up to date. Also, be flexible and willing to relocate. Often smaller biotech companies are willing to offer MSL opportunities to applicants with little to no prior experience, so be prepared to follow the opportunities wherever they may present themselves. Alternate routes, such as roles in medical communications or medical information, may offer opportunities to transition into MSL positions in lieu of prior experience.

Thank you for reading!!

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