

# Pharma partnering: other people's science

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**ABSTRACT** Partnering is an ideal field if someone is seeking to move from a scientific to a more business-oriented discipline. Partnering's goal is to identify and acquire external innovation. These discoveries are then included in a company's pipeline and help bring novel treatments to patients. Advanced scientific training is essential in the identification and evaluation of these external assets. Here I describe how partnering works in a pharmaceutical company and offer advice on how to make a successful transition from a PhD program to a business career.

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## THE PREMISE OF PARTNERING

Partnering, often also referred to as business or corporate development, identifies, acquires, and manages external scientific innovation. Almost half of newly approved drugs originated in academia or the biotech industry and are licensed to pharmaceutical companies for development and commercialization. Partnering is charged with accessing and acquiring these types of external discoveries, which, it is hoped, will translate into new medicines that bring substantial benefit to patients. Here I focus on how partnering is conducted in a pharmaceutical company that is focused on acquiring, developing, and commercializing new assets, also called the "buy-side." The complement is the "sell-side," which is the company looking to find a licensee or acquirer to take the company's asset forward. Traditionally, the sell-side consists of biotech companies and academic institutions.

## THE PROCESS OF PARTNERING

Partnering groups can be organizationally structured in many different ways, but the basic partnering process is always the same. The four basic steps are want, find, get, and manage (Figure 1). The partnering teams of Roche and Genentech (a member of the Roche Group) manage all four steps, but at other pharmaceutical companies, they may be divided among various functions, such as corporate strategy, finance, and project management.

**WANT:** The first step of the partnering process is defining the areas of interest. This starts with defining the disease areas that are relevant to the company—for example, oncology or ophthalmology. The disease areas are then further detailed to the level of pathways and targets of interest. Some companies also have a prefer-

ence for certain therapeutic modalities, such as small molecules, antibodies, and gene therapy.

The key areas of interest are then prioritized. This process is usually carried out in collaboration with a group of scientists, clinicians, and commercial experts. Prioritization follows a number of dimensions, such as unmet medical need, scientific validation, stage of development, commercial potential, or strategic fit. The identification of areas of interest is a collaborative effort across functions and can be led by the partnering or other groups within a company, such as corporate strategy or pipeline planning.

**FIND:** Once the areas of interest are selected, assets and technologies have to be identified that fit the criteria. This is often called "landscaping" or "scouting." This area is ideally suited for scientists looking to move to the business side.

Pharma/biotech is a fairly transparent industry with respect to molecules and technologies that are in development. There are commercial services tracking any molecule ever mentioned in a press release, patent filing, or publication or presented at scientific and industry conferences. Companies that are seeking to partner their assets are usually open about their inventions and frequently communicate updates by press releases.

The challenge is sifting through the mountain of information and finding the innovations that are unique and based on sound scientific work. Roche screens more than 2000 opportunities annually. For this endeavor, solid scientific training is essential, especially for assets that are in discovery or in early clinical development. A significant amount of work goes into understanding the scientific hypothesis for the approach, the clarity of experimental data, and the advantage over similar molecules. Scientific training prepares one to analyze the data and to discern when good research is conducted. By carefully examining these opportunities, the available assets are funneled down to those that warrant more detailed analysis.

**GET:** After identifying suitable assets, the next step is gaining access through a license or acquisition. Usually, a relationship already exists from discussions at various scientific or industry conferences. Once an interest to collaborate is established, confidential data are

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**FIGURE 1:** Pharma partnering: a well-defined process to capture innovation.

exchanged under a nondisclosure agreement to gain a better understanding of the innovation. If the asset remains attractive after the initial confidential review, full due diligence of the asset commences. Diligence is a lengthy and involved process and can take several months. Depending on the stage of the asset, a diligence team can be composed of 30 experts or more, ranging from discovery scientists to manufacturing and commercial representatives. The group is led by partnering and reviews all the relevant information provided by the potential partner. Once the analysis is complete, the findings are presented to senior management with the recommendation to proceed with a license/acquisition or decline the opportunity. The majority of diligences do not lead to an agreement for various reasons, including intellectual property issues, concerns about efficacy or safety, or positioning against competing products.

If the decision is made to obtain a license or to acquire the company, a negotiation team is assembled that usually involves partnering, legal representatives, and trained negotiators. A significant amount of time is spent on determining the right structure of the deal, as well as the roles and responsibilities of each party as it pertains to the future development of the asset. Then the parties agree on a term sheet for a license or nonbinding offer for an acquisition. These documents lay out the rights, obligations, and financial considerations of each party in broad terms. The successful completion of this initial step leads to the negotiation of a full license or acquisition. The final step is the approval of the agreement by each company's management or board.

**MANAGE:** Once a molecule or technology is acquired or licensed, the working relationship has to be developed and managed. This is usually done by an alliance management team. This allows for a smooth integration into the company's pipeline and a successful collaboration between the parties. Alliance managers have diverse backgrounds and can come from many disciplines, including research, project management, and clinical development.

## MY PATH TO PARTNERING

There are many roads that can lead to partnering, from both the science and business sides. I took a fairly circuitous route, and this should merely serve as one possible example. During the last few years of my PhD, I realized that I was more interested in applying scientific discoveries than creating them. There are few things more satisfying than a successful scientific experiment leading to a new discovery. For me, there were too many steps from that discovery to affecting patients. My decision was cemented when my daily reading switched from *Molecular Biology of the Cell* to the *Wall Street Journal*.

When I decided to venture outside of research, I did not have a good understanding of the health care universe or where I could find a home within it. Therefore I sought to obtain broad exposure to the healthcare sector by working in management consulting. This enabled me to experience first-hand how health insurers, healthcare

providers, pharmaceutical companies, and medical device and diagnostics manufacturers operate.

With a broad understanding of the healthcare landscape and the advent of the "genomic revolution," I went into diagnostics in a strategy role to understand how genomics will shape the industry. This role morphed into a partnering function as the strategy was implemented through collaboration with various companies. After diag-

nostics, I moved to partnering at a biotech company, followed by participating in the founding and running of a biotech start-up. Subsequently I joined Genentech in a strategy role and then moved to my present position in Roche Partnering.

## YOUR PATH TO PARTNERING

If implementation of scientific discovery is your passion and you are considering options outside of research, then partnering should be on your list. You still evaluate interesting science. You interact with great scientific, clinical, and commercial experts, as well as with top-level management. You even get to work on confidential and code-named projects, adding an extra layer of mystique.

I strongly encourage you to complete your PhD. An advanced degree such as PhD, PharmD, MD, MBA, or JD is the entry ticket for most upper management positions in pharma and biotech. A master's degree in a biological science has very limited benefit when it comes to hiring decisions. Similarly, a postdoc will not significantly increase your odds of obtaining a position in a business function.

It is a surmountable transition to leverage your scientific acumen while learning the business side. Entry-level opportunities exist within partnering groups. For example, as a PhD, you may start as a "scout" in a search and evaluation role. As you gain experience, you may become a deal-team leader who is in charge of diligence teams, developing recommendations, presenting to management, and negotiating with the partner.

Partnering tends to be a very popular function within most companies. I offer four tips on how to get there:

- **Adjust your mindset:** To transition successfully, adjusting your mindset from research to business is essential. As a scientist, you may be studying one tree for years or only the unique fungus that grows on the roots of this tree. In business, it is all about the forest. In business, you need to understand the essential details, but the goal is to draw high-level conclusions and to make recommendations. In that process, you decide what is important and critical and what that means for your work or project. You craft it into a cohesive and easily understandable story. Then you make recommendations without having all the answers and deal with ambiguity using reasonable assumptions.

When interviewing potential partnering candidates, we can usually tell within the first 5 minutes whether someone will be able to alter their mindset. I have seen people who are academically brilliant but cannot concisely describe their research in 30 seconds.

- **Be different:** For most partnering positions, there will be many applicants, so you have to stand out from the other PhD candidates. This can be done in many ways. I took business school classes while in graduate school and received a certificate in management of technology. Alternatively, you can participate in business plan and entrepreneurship competitions, which have

become popular at universities. Volunteer at the technology transfer office. Not only will these activities make you stand out in an applicant pool, but they will also help you evaluate whether you even like the business aspects of science. This allows you to put your toe in the water before you jump in.

- *Be flexible:* You are hired for your skills, not your knowledge. No one will expect you to calculate a net present value on the fly, but you have to convince a future employer that you are trainable.

Consider roles outside of your area of study and maybe even outside of partnering. I studied yeast genetics during my PhD, and since leaving graduate school, the only time I have come in contact with yeast is when I eat or drink it. So do not get stuck in your field of study. It may give you an edge if you are applying for a position where you have expertise, but your skill of analyzing and digesting scientific information is more valuable.

In addition, consider positions that may be adjacent to your target position. It is much easier to move into partnering from within a company than from being external. Starting in a position that interacts with partnering—for example, a competitive intelligence group—is a great way to get a foot in the door.

- *Go big:* I am a strong advocate of joining a larger company when leaving academia rather than a start-up. We work in a highly regulated industry, so learn the rules first. Most large companies, be they pharmaceutical, consulting, or banking, have the time, programs, and mission to train you and help you build the skills to be successful. Nowadays, many large companies have training programs that facilitate a scientist's transition to the business world. For example, Roche has a very successful 2-year associate program in partnering in Basel specifically for PhD graduates. Many MBA summer intern programs are also open to PhDs. This may not be the official stated purpose, but often PhD candidates can apply. Ask around your school's alumni network to explore avenues that are open to you. Most programs that are available for PhDs are not well advertised.

Overall, partnering is a great way for scientists to switch from academia to a more business-oriented function. You can leverage your academic training and keep yourself immersed in exciting science while reviewing and analyzing many innovations. As you identify great inventions and find great new molecules, you will be part of improving patients' lives.