Quebec Consortium for Drug Discovery (CQDM)

Abstract

The Quebec Consortium for Drug Discovery (CQDM) is a public-private partnership aimed at developing innovative tools and technologies that accelerate the drug discovery process. CQDM-funded projects typically involve multidisciplinary collaborations between research teams that represent both the academic and the private sectors and are mentored by industry scientists provided by CQDM sponsors.

Mission

As a consortium involving the pharmaceutical industry and the Canadian and provincial Québec governments, CQDM’s focus is to disseminate knowledge and create economic value by expanding Quebec’s leadership in biopharmaceutical research.

CQDM’s mission is to identify, fund, and support breakthrough technologies that will significantly enhance biopharmaceutical research and development productivity and accelerate the development of new safe and efficacious drugs.
CQDM is a neutral ground that brings patient groups, academia, governments, biotech, and the pharma industry together to work collaboratively on complex medical challenges.

Projects supported by CQDM are highly relevant to the pharmaceutical sector and typically involve

- Identifying opportunities for new therapeutic approaches and research
- Developing safe and effective new drugs
- Enhancing the efficacy of already existing drugs
- Reducing costs, time, and risks associated with the discovery and development of new drugs

**Consortium History**

CQDM is a pooled public/private research consortium, with the goal of sharing all project results equally among its industrial members. It was created as a partnership between three pharmaceutical companies (Pfizer Canada, AstraZeneca, and Merck) and the Quebec and the Canadian governments. Since its establishment in 2008, CQDM has launched 10 competitions and 5 funding programs and reviewed more than 375 projects granting more than C$420 million in funding requests.

CQDM recently added additional pharmaceutical industry sponsors (Eli Lilly Canada Inc., Novartis Pharmaceuticals Canada Inc., GlaxoSmithKline Inc., and Boehringer Ingelheim (Canada) Ltd.) to initiate its Explore program. CQDM also applies its funding model in collaboration with other funding entities, most notably the province of Ontario, MaRS Innovation, the Ontario Centers of Excellence, and the Ontario Brain Institute as well as France via the Lyon and Alsace economic zones. In 2013, a business-to-business (B2B) research collaboration program was launched with the state of Massachusetts.

At the end of 2012, CQDM provided up to C$29.4 million in research funds supporting 25 research projects within a network of more than 50 mentors involved at the project management level and 360 researchers.
CQDM sponsors several calls for applications annually, all with a focus on developing tools or enabling technologies that have the potential to strongly impact biopharmaceutical research.

- Focus grants of up to C$2 million for a maximum period of three years and designed to fund research at academic research institutions and private companies

- Explore grants of C$300,000 for a maximum period of two years, funding unconventional and high-risk innovative research that could strongly impact the drug development process

- Québec/France joint competition designed to fund research in academic research institutions and private companies

- Québec/Ontario joint competition intended to fund research in academic research institutions and private companies

- Québec/Massachusetts B2B program, part of the International Collaborative Industry Program launched by the Massachusetts Life Sciences Center, designed to fund late-stage research projects between two private companies

In addition to these ongoing research competitions, CQDM has invested C$1 million in a special research project involving Montreal-based Biospective and two pharmaceutical companies, Merck and Pfizer. This initiative is aimed at characterizing animal models for Alzheimer’s disease to improve models of disease progression and response to treatment.

Structure & Governance

CQDM pharma sponsors not only invest money, but also provide mentorship to every funded project. Funded researchers are assigned at least one industrial scientist mentor for the duration of the project. Mentors provide scientific advice and access to industry resources and ensure that projects align with industry needs and are commercially viable. Mentors are selected from the global organizations of pharmaceutical sponsors and are part of industry’s in-kind contribution to the consortium.

The governance structure of CQDM has four major components:
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- Board of Directors: Consists of sponsors and independent members from the private and public sectors who provide guidance on governance, strategy, financing, and account auditing

- Executive Committee: Consists of private-sector sponsors and independent members who focus on the management and business operations of CQDM

- Strategic Orientation Committee: Consists of sponsors and independent members from the private sector, academia, and government who decide on the themes of calls for proposals and select letters of intent. It also carries out the functions of a scientific board and a steering committee

- Explore Advisory Committee: Similar to the Strategic Orientation Committee except that it focuses solely on the Explore funding program

CQDM employs a dedicated staff (eight full-time employees and one part-time lawyer) for day-to-day operations. It extends its knowledge base by bringing in representatives from industry, academia, and the government to serve on its executive boards.

In addition to its sponsors and committees, CQDM also utilizes the expertise of outside subject-matter experts for the technical review of its proposals. These activities are performed in collaboration with Fonds de recherche Québec-santé (FRQS, Quebec’s health research funding agency) or other independent scientific evaluation entities.

Financing

Since 2008, CQDM raised C$65 million from public/private funding; about one-third from the seven pharmaceutical partners, one-third from the Canadian federal government through the Business-Led Networks of Centres of Excellence, and one-third from the provincial Québec government through the Ministère de l’Enseignement Supérieur, de la Recherche, de la Science et de la Technologie.

Intellectual Property
The rights to commercialize the results generated under CQDM’s funding programs belong to the inventors and their affiliated institutions. For all of funded projects, researchers must have the ability to execute the funded project without restrictions based on preexisting intellectual property necessary to conduct the proposed project. This is assessed prior to a decision to fund a project. As part of the research agreement, a nonexclusive license option is granted to CQDM industrial sponsors for the use of the results for research purposes only.

Patent Engagement

Patient groups have not yet been formally involved in CQDM efforts. Discussions are ongoing to actively engage patient groups in the governing structure and the strategic orientation of the organization.

For CQDM, the most relevant measure of impact is at project end when the developed technology is transferred and used by a pharma sponsor. Such transfer can be direct through an option granted by the research institution that received the funding or through a service agreement.

The first projects funded by CQDM were completed in 2012. A total of four pharmaceutical sponsors have already transferred and used the results. Three start-ups and several socioeconomic benefits for small to medium-sized enterprises and universities were engendered.

Data Sharing

Project deliverables from a funded project are made available to all the stakeholders, while results are disseminated to a wider audience. Investigators are highly encouraged to publish their results.

Links/Social Media Feed

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