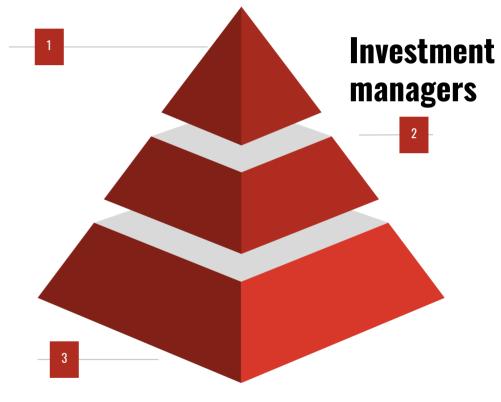
Pension and state funds dominating biomedical R&D investment: Fiduciary duty and public health

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Asset owners

representing "captive" beneficiaries



Corporate executives

Presenter Disclosures

No relationship to any proprietary entity producing health care goods or services consumed by or used on patients.

These slides are prepared for a Knowledge Network for Innovation and Access to Medicines webinar hosted by the Global Health Centre at The Graduate Institute of International and Development Studies in Geneva

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Webinar participants - Show of Hands

Have you ever contributed to a **funded*** pension scheme?

⇒ write "YES" in the chat

*not counting Pay-As-You-Go pension systems where current workers finance current pensions

Contents

- 1. Who benefits from the commercial biomedical R&D?
- 2. Who owns the firms conducting commercial R&D?
- 3. How do the (public) institutional owners exercise their fiduciary duty to ultimate savers-beneficiaries?
- 4. How developing and promoting responsible investment policies can contribute to pharmaceutical innovation and access

Patients VS Shareholders

"The primary mission of any drug company is, like any other investor-owned business, to increase the value of their shareholder stock. That is their fiduciary responsibility".

Marcia Angell, former Editor-in-Chief @ The New England Journal of Medicine

Reimbursement denials due to high prices

Indication	Medicine	Firm
Oncology	bevacizumab	Hoffmann-La Roche
Rare blood disorders	eculizumab	Alexion Pharmaceuticals

Jurisdiction	Coverage 400 mg 25 mg/mL AVASTIN* (bevacizumab) For Intravenous Use Marketured by Four Intravenous Use Marketured by Fou	Health Technology Assessment agency
Canada	Reimbursement denial recommended	Canadian Agency for Drugs and Technologies in Health
United Kingdom	Reimbursement denied	National Institute for Health and Care Excellence
New Zealand	Reimbursement denied	PHARMAC
France	Reimbursement provided	Haute Autorité de Santé

Jurisdiction	NDC 25682-001-01 30 m. Single-Dose Vial Soliris* (eculizumab) 300 mg/30 mL (10 mg/mL) Injection, NDC 25682-001-01 ND	HTA agency	HTA decision
Netherlands	Reimbursement denied	Zorginstituut Nederland	"The life-long treatment of one PNH-patient costs about 15 million euro." "we advise the Minister of Health, Welfare and Sport to cease the reimbursement"
New Zealand	Reimbursement denied	PHARMAC	"The main reason for this decision was that the price being sought by Alexion Pharmaceuticals (the supplier) is too high"
France	Reimbursement provided	Haute Autorité de Santé	"The actual benefit is substantial"

Т

Fund	Assets, USD million	Roche	ALEXION °	Date
ABP (Netherlands; pension fund government and education sectors)	498250	649	134	3/2018
Canadian Pension Plan IB	238160	689	41	3/2017
British Columbia IMC (Canada)	101890	109	25	3/2017
New Zealand Superannuation Fund	27670	43	6	6/2017
Strathclyde Pension Fund (UK)	28230	-	6	12/2017
West Yorkshire Pension Fund (UK)	19500	43	-	3/2017
Swiss National Bank (Switzerland)	92585	-	98	2/2018
European Central Bank (EU)	185140	9260 (all bonds)	-	4/2018

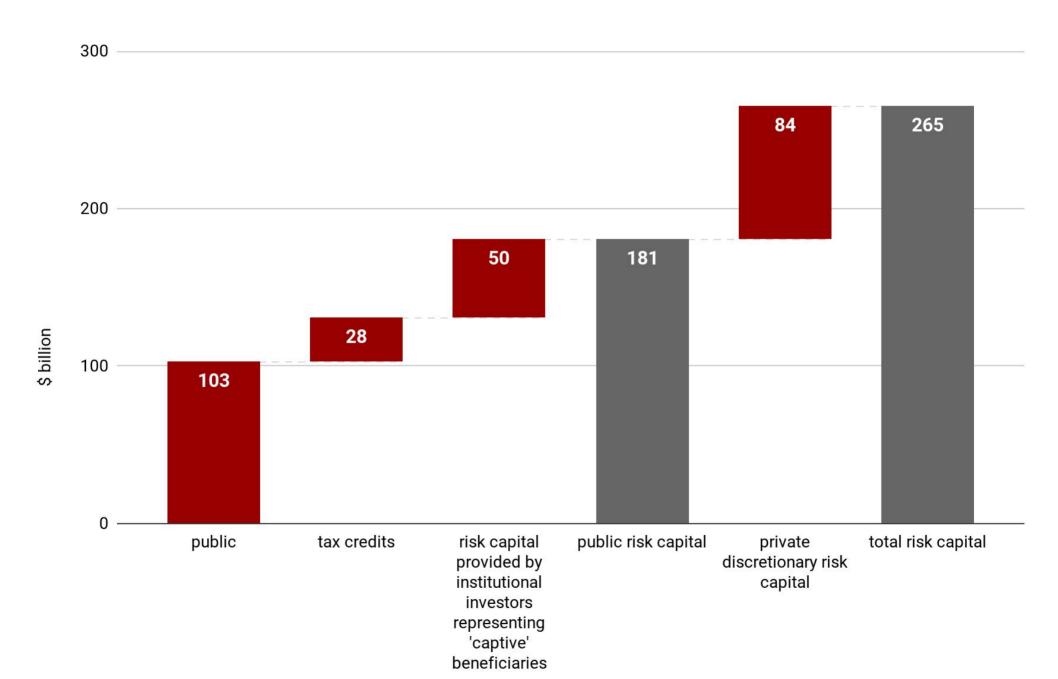
Pension Funds in Figures



Country	Total Investment by Retirement Schemes,	Allocated to Equities,	Allocated to Mutual	Allocated to Equities within	Total Allocation to Equities,
•	\$trillion	%	Funds, %	Mutual Funds, %	\$trillion
United States	25.127	31	33	-	10.581
Australia	1.523	51	0	-	0.778
Canada	2.404	23	38	16	0.695
Netherlands	1.335	14	53	48	0.524
Other OECD	7.751				2.313
TOTAL	38.1	27		33	14.3

Counting Trillions

- ¼ trillion USD: annual total biomedical R&D investment worldwide
 - o of this 1/3 public; 2/3 private
- OECD market capitalisation in 2016: \$46 trillion
 - \circ of this $\frac{1}{3}$ is controlled by retirement schemes
 - additional \$2 trillion controlled by sovereign wealth funds; \$0.5 trillion by central banks



Steps removed from the principal	Agents	Financial flows order of magnitude	Authority by	Incentive	Compensation	Geography
0. Principal	Saver/ "Captive beneficiary"	Thousands	Asset ownership	Welfare	May be based on financial performance. Linear scaling.	Dispersed
1	Pension fund board	Billions	Election	Political	Fixed retainer fee	Concentrated:
2	Pension fund executives		Appoint- ment	Financial return	Based on financial performance. Superlinear scaling.	regional or national
3	Investment managers	Trillions	Appoint- ment	Financial return	Based on financial performance. Superlinear scaling.	Concentrated: global financial centres
4	Corporate executives	Millions	Appoint- ment by voting on shares	Financial return	Based on financial performance. Superlinear scaling.	Concentrated: global economic hubs

Guardians for Trillions of Savings

"... all the money that we manage is not our money. We don't have any money. It's all our clients' money. And all our clients' money is really representing school teachers and firemen - it's mostly pension money".

[2018]

Larry Fink, the CEO and Chairman of BlackRock (\$7 tr AUM)

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Fiduciary responsibility = acting in the best interest of the beneficiary

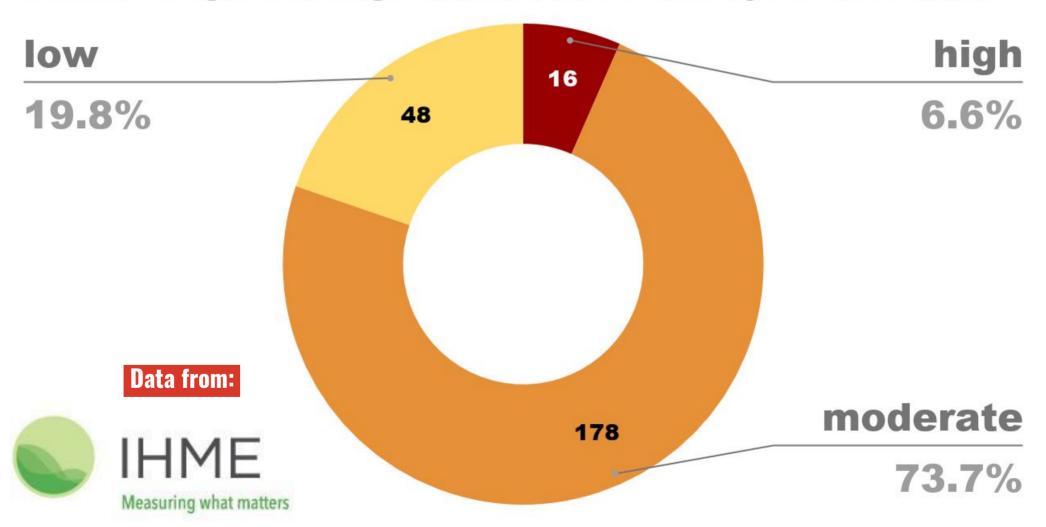
Exercising Fiduciary Duty



- Tobacco stocks divestment in 2000
- overriding the recommendation of the fund's investment staff

Beyond Access: R&D Quality & Focus

CalPERS weighted average Clinical Trial Portfolio by Disease Burden



The Golden Rule

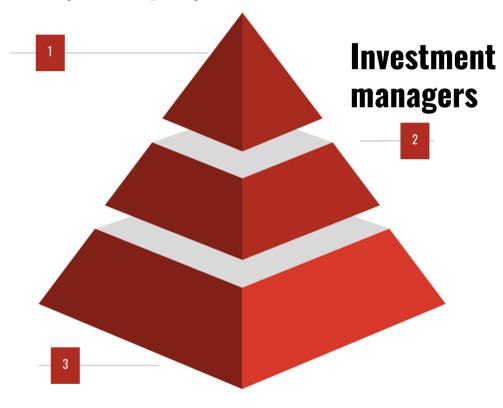
Whoever Has the Gold, Makes the Rules

- 1. Public Asset Owners = major actors in public health
- 2. Fiduciary duty = acting in the best interest of the beneficiary
- 3. To exercise their fiduciary duty effectively, the boards of Public Asset Owners need resources:
 - a. Monitoring systems
 - b. Guidelines, check-lists
 - c. Responsible investment policies, best practices

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Asset owners

representing "captive" beneficiaries



Corporate executives

If you are:

1. Contributor/beneficiary of a funded pension scheme

Ask your pension provider (and share the response publicly!):

- What drug development companies is your pension invested in?
- Does the pension provider have a policy concerning pharmaceutical firms whose business/pricing strategy results in access to medicines limitations?
- Does the fund have a Responsible Investment policy? If yes, how does it measure its investments' impact on public health?

Participate in the pension fund's board elections if applicable

If you are:

- 2. Citizen of a country with a large Public Asset Owner:
 - a. Sovereign Wealth Fund (e.g. Norway)
 - b. Central Bank (e.g. Switzerland)
- 3. Affiliated with an institution with a large endowment fund (e.g. Duke University)

Same as Contributor/beneficiary of a funded pension scheme.

Share the responses publicly, so that Best Practices can be developed

If you are:

4. Affiliated with a private Asset Owner, such as a philanthropy (e.g. Open Society Foundations)

Inquire:

 Is the endowment fund of your institution financially backing pharmaceutical firms whose business/pricing strategy results in access to medicines limitations - by holding unrestricted investments in corporate shares and bonds of such companies?
 If yes, the Investment Policy of your institution may be directly counteracting its Grant Policy. Propose change to the Investment Policy.
 Make it public.

If you are:

5. Researcher/Programmer/Data scientist

Systematically cross-check medicines reimbursement denials in your jurisdiction against investments of Public/Quasi-public Asset Owners in your jurisdiction into the companies marketing those medicines.

Share the data & code publicly.

If you are:

6. Journalist

Turn scientific articles into stories.

Find the patients who paid pension contributions their whole working life; their fund invested this capital into a pharmaceutical firm; then the firm developed a medicine and priced it so high that those patients now cannot access the medicine which they need (and which they had provided capital to develop in first place).

If you are:

7. Representing an International Organisation (e.g. WHO)

"Convene a health forum for investors"* (which are much more difficult to convene if you are a private citizen rather than an established International Organisation).

Then ask them the same questions as the Contributor/beneficiary of a funded pension scheme (slide 1) can ask their pension scheme board

*This was recommended in the 2018 Report of the WHO Independent High-Level Commission on Noncommunicable Diseases, but never materialised

If you are:

8. Representing an NGO

Get involved in governmental Sustainable Finance initiatives in your region.

The Technical expert group on sustainable finance set up by the European Commission in 2018 has 35 members, but <u>not a single doctor / public health professional</u>. Climate action groups have at least 6 seats at the table, represented by: Carbone 4, Carbon Disclosure Project, Climate Bond Initiative, Climate KIC, Green Finance Cluster Frankfurt, WWF...

If you are:

9. Representing a Consumer Protection organisation

Audit pension funds & products. "The less people know about how laws and sausages are made, the better they sleep at night." - Otto von Bismarck, Chancellor of the German Empire until 1890.

If your pension income is secured by investing into pharmaceutical firms with aggressive pricing strategies designed to limit access in order to maximise profit - is this what you want as a saver / investor / citizen?

If you are:

10. From the United States

Replicate the research article for the US market - it's so big that it deserves its own study.

US is both a #1 pharmaceutical consumption market and #1 pension investment market (US state and local government retirement systems alone manage \$4.5 trillion in invested assets).

No national reimbursement policies, but Medicare / Medicaid formularies can be used to assess a large segment of the market.