



FUNDAMENTALS AND RECENT TRENDS IN LIFE SCIENCES PRIVATE FINANCING

JULY 26, 2017



BOSTON | SAN FRANCISCO | ASIA | EUROPE

STRICTLY CONFIDENTIAL 1

Locust Walk is positioned as a fully integrated advisor with all key capabilities necessary for life science transaction advisory



Locust Walk

Locust Walk has helped build many successful life science companies

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Advised on company acquisition	Sell-side Japan/Asia collaboration for PRS-080	Sell-side immu collaboi		Sell-side Japa agreement for	0	Sell-side US licensing agreement for arhalofenate	Buy-side US rights acquisition for Keveyis
\$55M Upfront, \$154M CVR	X ASKA Pharmaceutical \$2.75M Upfront, \$80M Milestones, Plus Royalties	\$31M Upfro Milestones, Pl		X ASKA Pharmaceutica		Kowa \$15M Upfront, \$190M Milestones, Plus Royalties	TaroPharma [®] \$8.5M Upfront, Undisc. Milestones and Royalties
Advised on company acquisition	NeoTX Therapeutics Buy-side licensing agreement for ANYARA	2010		ed Sell-side license for Canadia		A D V A X I S IMMUNOTHERAPIES [®] Immuno-Oncology Advisor	medgenics Development & commercial collab. for anti-LIGHT mAb
GRUNENTHAL	Active Biotech \$250K Upfront, \$71M Deal Value	SEREN Pharmace Undiscl	uticals	Leading Consumer Health Co Undisclosed		Undisclosed	KYOWA KIRIN Undisclosed
Advised on IPO process and syndicate selection	ess and Sell-side Asian licensing Sell-side Asian licensing		Buy-side li agreement for	Censing ALT1103 for	Buy-side asset acquisition of Somatoprim for Acromegaly	Advised private placement to leading healthcare investors	
\$25M NASDAQ IPO	Mitsubishi Tanabe Pharma \$55M Upfront, \$270M Milestones	<mark>●LEE'S P</mark> 李 氏 大 Undisclose	HARM. 藥 廠 ed Value	Acromegaly antisense \$5M Upfront, \$105M Milestones, Plus Royalties		Aspireo Pharmaceuticals \$30M in Cortendo Equity	BRCADFIN Granite Point Capital RACapital TVM/Capital LCA HealthCap NEA. \$33.2M Private Placement
	Sell-side North American Oravig® rights DARA BiOSciences Undisclosed Value		ised on 3 financing ce Investors	Advised privileading heal NEA. RAC Healt	VGBRIDGE BIOPHARMA vate placement to lithcare investors apira BROADFIN' hCap ivate Placement		

Locust Walk has closed 21 transactions across a variety

of deal types, stages of development and therapeutic areas since 2015



Goals and Objectives

- The pros and cons of various types of private financing sources
- How best to prepare for raising private money
- Insider tips on how to be successful in approaching investors
- How investors think about valuation
- What are recent trends in terms of investors' preference for stage and type of investment?









Financing a biopharma company occurs at all stages of a company's lifecycle



Early-stage investors provide the initial capital

Institutions provide the larger sums of capital required for life science development

Partner/ M&A/IPO



After successfully demonstrating the value of the technology, an IPO, M&A, or partnering agreement is made



A number of investor types exist and have varying interests depending on the financing needs and stage of a company



Stage of Company Development



Private financing focuses on VC, crossover, and family office investors

Investor type	Investment Type	Examples
Angel	An angel investor or angel is an affluent individual who provides capital for a business start-up, usually in exchange for convertible debt or ownership equity.	Committed to Funding and Mentoring Great Young Companies
Family Office	An organizational structure that manages the financial capital of ultra-high net worth individuals through investments across the fundraising spectrum.	THE KRAFT GROUP
Venture Capital	Early-stage, higher-risk investment to support expanding small companies who do not yet have access to capital markets.	NEA atlasventure C VIVO POLARIS
Venture Debt	A type of debt financing provided to venture- backed companies that lack the assets or cash flow for tradition debt financing.	square 1 bank TRIPLEPOINT Kercules.
Crossover	A long-term investment in a company prior to, during, or after a company's initial public offering.	FIDELITY BIOSCIENCES RACapital OF INCOMPANY ENTRUPES
Growth Equity/ Private Equity	A later-stage, private equity investment in relatively mature companies looking for capital to expand, restructure, or enter new markets.	1315 CERBERUS CAPITAL CAPITAL MANAGEMENT, L.P. AVEGO HEALTHCARE CAPITAL ADAMS STREET P A R T N E R S



Selecting the right type of investors is based on an opportunity's needs and future funding requirements

Investor Type	Pro	Con
Angels	Willing to go very early stageOften can provide guidance to company	 Don't often have sufficient capital reserved for later rounds Typically only invest smaller amounts
Family Offices	 Larger average check sizes than angels Often mission driven; lower IRR hurdles Most patient form of capital 	 Don't often reserve capital for later rounds Don't often understand the space and need significant guidance/education
Venture Capital	 Dedicated pool of funds with reserves to follow their initial investment "Value added" advice on board and most sophisticated money available 	 Fund cycle driven, which drives exit decision-making Often not aligned with company objectives with dueling fiduciary roles
Cross-over	 Will buy your stock in and post-IPO Improves cash position prior to IPO to maximize leverage with future investors 	 Short term focused If company not public <12 months, start getting nervous
Growth Equity	 Larger check sizes for later stage companies/assets 	 Won't go as early in company/product lifecycle
Mutual Funds / Asset Managers	 Typically only do large deals and public investments 	 Typically only do large deals and public investments
Hedge Funds	 Can move a stock quickly If fundamentally driven, can drive a herd into a stock 	 "Hot money" can quick go in and out of companies Not usually aligned with management

Key terms to understand in a private financing:

Term	Definition
Pre-Money Valuation	Valuation of the company before new money is invested
Management Pool	Shares of stock reserved for employees of the company
Investment	Amount of capital invested into the company
Post-Money Valuation	Pre-money valuation + investment
Up Round	 Price per share (this round) > Price per share (last round)
Down Round	 Price per share (this round) < Price per share (last round)
Flat Round	 Price per share (this round) = Price per share (last round)
Bridge Round	 'In-between' financing for companies that haven previously financed and are in need of capital, but do not want to set a valuation – typically provided by insiders or seed investors Generally structured as loans that convert to shares in the next round of financing at a typical discount of 10-20%, sometimes with warrant coverage and usually with a coupon
Cap Table	A detailed list of all investors and ownership (type of security and amount)



A number of types of securities are held and issued by private companies

Security	Description
Common Stock	 A security representing ownership in a corporation at the bottom of the priority ladder Holders of common stock elect one or members of the Board of Directors and vote on corporate policy In a liquidation event common stockholders have rights to company assets after bondholders, preferred shareholders, and other debtholders have been paid in full All of the upside in value for the corporation goes to equity holders
Preferred Stock	 Ownership class with a higher claim on assets and earnings than common stock Typically has a dividend that must be paid out before dividends to common shareholders Preference shares typically do not carry voting rights
Convertible Preferred Stock	• Preferred stock that includes an option to convert shares into a fixed number of common shares
Option/ Warrant	• A contract that gives the holder a right to buy stock in the company at a preset price (the exercise or strike price)

Founders (management team) will retain their shares as common stock while the new shares granted to investors will be preferred stock



An "option pool" is typically created from pre-money shareholder equity

- In a simplified example, if a Founder is the sole shareholder of a company with a \$10M valuation, and an Investor invests \$10M, each owns 50%
- However, the creation of a standard 15% option pool comes entirely out of the Founder's equity, reducing the Founder's ownership percentage







Occasionally, the option pool is calculated on a post-money basis from both founder and investor equity

• Shares are added to the overall pie, increasing company valuation











Private financings – Keys to success

- Corporate strategy drives financing requirements
- **2** Grounded perspective on value
- **3** Compelling presentation opportunity
- 4 Raising awareness for the company
- **5** Identifying potential investors
- **6** Organized, coordinated due diligence
- Productive negotiations with competitive dynamics



Financing keys to success – Strategy drives financing needs

- Before beginning a financing process, the following should be clear:
 - What is the corporate strategy?
 - Why are we financing?
 - What are we financing?
 - When are we financing (in the future)?
 - How are we financing (which types of investors)?
- A company should expect an investor to ask all of these questions if not already answered in the investor presentation

Hint!

Companies should target strategic insight and connectivity as part of the "smart money" from their investors.





Financing keys to success –

Ostrategy drives financing needs – What is the strategy?

- Who do we want to be when we grow up?
 - FIPCO (fully integrated pharmaceutical company) with R&D and sales and marketing
 - NRDO (no research development only)
 - Develop internal program to PoC ("FLIPCO")
 - Sponsored research shop doing research for larger companies
 - Platform company only focused on technology development
- Why did you choose the model above?
 - Skills of founders?
 - Breadth of platform?
 - What's en vogue with investors?
- How big of a company do you need to actualize the model above?
 - Are you feeding a research engine?
 - Are you funding multiple clinical programs simultaneously?
 - Do the people in your organization, or contracted team members, match the functions needed? Who do you add or subtract and when?

Hint!

If you don't know where you're going, you certainly won't get there. Build a roadmap, and you have a better chance to arrive where you want to be.



Financing keys to success – Strategy drives financing needs – What are we financing?

- How much capital is needed to achieve "value inflection?"
 - Value inflection point is the data with which you could reasonably expect either strategic partner interest or that outside investors would be willing to pay a higher price per share for the next round of financing. What is the value inflection being financed?
 - Always build in "slippage," typically 6 months worth at least in the event that science takes longer than planned
 - Add 6 months of "runway" to the answer to account for time needed to raise the next round or secure a strategic partnership post-data
- Do you have a thorough budget?
 - Make sure your budget is itemized and well thought through from a strategic and tactical perspective
 - Do you really need to be based in Kendall Square or does somewhere cheaper suffice?
- Which programs will receive how much funding and how far will it take each asset?
- What do we need to partner and when?

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Hint!

Prior proper planning prevents probable poor performance (7Ps).



Financing keys to success – Grounded perspective on value

- Any company near or in clinical development needs to have a perspective on commercial potential for the product/company
 - ▶ What is the Target Product Profile (TPP)?
 - Efficacy profile, safety profile, route of administration, dosing
 - Conduct a commercial assessment
 - Patient flow / segmentation for target population
 - Physician reaction to the TPP
 - Payer reaction to the TPP
 - Competitive dynamics

Hint!

Most early stage investors don't put much credence in this analysis. Mid/later stage investors and most potential partners/ acquirers do value this analysis. It is important to know your market and potential value.



Financing keys to success – Grounded perspective on value

- Thorough risk-adjusted valuation for the company and its assets
 - Based on market-informed and defensible assumptions
 - Intrinsic value or eNPV with assumptions grounded from commercial assessment
 - Comparables analysis to determine future exit values and current comparable investments
- Any company near or in clinical development needs to have a perspective on commercial potential for the product/company
 - Commercial assessment, if available, will be an important resource to inform opportunity for the asset

Setting valuation too low unnecessary dilutes the company existing investor and management; too high hurts returns for new investors and create additional pressure on the company









Financing keys to success – Compelling presentation of opportunity

- Teaser
 - Contains all non-confidential information necessary for an investor to decide if they want to proceed to confidential discussions
- Investor Management presentation
 - Ideally give under CDA but not a requirement
 - Most VC's won't sign a CDA
 - No more than 15 20 slides depending on time allocated
 - Less emphasis on clinical data (only show most important clinical data)
 - More emphasis on funding needs and financial history
- Business plan / private placement memorandum
 - Usually not necessary for early stage transactions
 - More important for family office and later stage mezzanine transactions

Hint!

The quality of the materials is an indicator for the organization of the company and its ability to tell a story to potential acquirers. Don't start outreach until the story is tight.





Financing keys to success – A Raising awareness for the company

- How to generate in-bound interest?
 - Corporate communications
 - Press release strategy to not over- or under-promote the company
 - Public relations to get placements in trade journals when newsworthy data achieved
 - Revamped website to comport with management presentation and business plan
 - Medical meetings
 - o Good chance to meet both partners and investors
 - Partnering / industry meetings
 - Investors less frequent at BIO meetings and more frequent at banker conferences
 - Use scientific or clinical advisory board to make connections

Hint!

The right PR/IR strategy can make the capital raise much easier to close via external validation and awareness.





Financing keys to success – Raising awareness at medical and investor meetings

2	* denotes projected	date P Partnering/Networking 🚺 Medic	al/Scientific 🚺 In	
	MACDOUGALL MacDouga	Il Biomedical Confere	ence Cal	endar
	biomedical communications			
	APRIL 2017			
P	Deutsche Biotechnologietage (BIO Germany, BIO.NRW, BMBF)	Hannover, Germany	5-Apr-17	6-Apr-
4	ESGCT - European Society of Gene & Cell Therapy - Annual Congress	Granada, Spain	5-Apr-17	7-Apr-
4	ISHLT - Int'l. Society for Heart & Lung Transplantation - Annual Meeting and Scientific Sessions	San Diego, CA	5-Apr-17	8-Apr-
I	Future Leaders in the Biotech Industry (BioCentury)	New York, NY	7-Apr-17	7-Apr-
м	World Vaccine Congress - US (Terrapinn)	Washington, DC	10-Apr-17	12-Apr-
P	Cancer Advance Conference at Harvard Medical School (BBC)	Boston, MA	11-Apr-17	11-Apr
м	NKF - National Kidney Foundation - Spring Clinical Meetings	Orlando, FL	18-Apr-17	22-Apr-
м	World Orphan Drug Congress - USA (Terrapinn)	Washington, DC	19-Apr-17	21-Apr-
м	EASL - European Association for the Study of the Liver - International Liver Congress™	Amsterdam, The Netherlands	19-Apr-17	23-Apr-
M	ISN - International Society of Nephrology - World Congress	Mexico City, Mexico	21-Apr-17	25-Apr-
4	ESCMID - European Society of Clinical Microbiology and Infectious Diseases - Congress	Vienna, Austria	22-Apr-17	25-Apr
м	AAA/APS/ASBMB/ASIP/ASN/ASPET - Experimental Biology	Chicago, IL	22-Apr-17	26-Apr
м	AAN - American Academy of Neurology - Annual Meeting	Boston, MA	22-Apr-17	28-Apr-
4	NFID - National Foundation for Infectious Diseases - Conference on Vaccine Research	Bethesda, MD	24-Apr-17	26-Apr
м	ASPHO - American Society of Pediatric Hematology/Oncology - Annual Meeting	Montreal, QC	26-Apr-17	29-Apr
I	ARM Annual Cell & Gene Therapy Investor Day	Boston, MA	27-Apr-17	27-Apr
4	ESC - European Society of Cardiology - Heart Failure Congress	Paris, France	29-Apr-17	2-May
	MAY 2017			
4	AAPS - American Association of Pharmaceutical Scientists - National Biotechnology Conference	San Diego, CA	1-May-17	3-May
4	World Medical Innovation Forum - Cardiovascular (Partners HealthCare)	Boston, MA	1-May-17	3-May
I	Deutsche Bank Annual Healthcare Conference	Boston, MA	3-May-17	4-May
P	OIS - Ophthalmology Innovation Summit at ASCRS	Los Angeles, CA	4-May-17	4-May
м	ELCC - European Lung Cancer Conference (ESMO, IASLC)	Geneva, Switzerland	5-May-17	8-May
М	ACOG - American Congress of Obstetricians and Gynecologists - Annual Clinical Meeting	San Diego, CA	6-May-17	9-May
4	DDW - Digestive Disease Week (AASLD, AGA, ASGE, SSAT)	Chicago, IL	6-May-17	9-May
М	ARVO - Association for Research in Vision and Ophthalmology - Annual Meeting	Baltimore, MD	7-May-17	11-May
P	ChinaBio Partnering Forum (EBD Group, ChinaBio)	Shunde, China	10-May-17	11-May
м	ASGCT - American Society of Gene & Cell Therapy - Annual Meeting	Washington, DC	10-May-17	13-May
P	Convergence Forum East: The Life Sciences Leaders Forum	Harwich, MA	11-May-17	12-May
м	AUA - American Urological Association - Annual Meeting	Boston, MA	12-May-17	16-May
I	Bank of America Merrill Lynch Health Care Conference	Las Vegas, NV	16-May-17	18-May
М	APS - American Pain Society - Annual Scientific Meeting	Pittsburgh, PA	17-May-17	20-May
м	NICE - National Institute for Health and Clinical Excellence - Annual Conference	Liverpool, UK	18-May-17	19-May
м	ATS - American Thoracic Society - International Conference	Washington, DC	19-May-17	24-May
м	APA - American Psychiatric Association - Annual Meeting	San Diego, CA	20-May-17	24-May
м	ACR - American College of Radiology - Annual Meeting and Chapter Leadership Conference	Washington, DC	21-May-17	25-May
м	ICAR - International Conference on Antiviral Research (ISAR)	Atlanta, GA	21-May-17	25-May
I	BioEquity Europe (BIO, BioCentury, EBD Group)	Paris, France	22-May-17	23-May
Ρ	Cell & Gene Exchange (EBD Group)	Washington, DC	22-May-17	23-May
I	UBS Global Healthcare Conference	New York, NY	22-May-17	24-May
м	ILTS/ELITA/LICAGE - Joint International Congress on Liver Transplantation	Prague, Czech Republic	24-May-17	27-May-
м	ESHG - European Society of Human Genetics - Conference	Copenhagen, Denmark	27-May-17	30-May-
P	Boston CEO Conference (BBC)	Boston, MA	30-May-17	31-May-
P	NIO - Neurotechnology Industry Organization - Investing and Partnering Conference	San Francisco, CA	31-May-17	1-Jun-

Hint!

Selecting the right meetings is key to raising awareness for a financing opportunity. Don't spread yourself too thin and make appointments in advance for meetings.



Source: http://www.macb.io



Financing keys to success –Identifying potential investors

- Define universe of potential investors for your raise
 - Investors are tiered (Tier 1, 2, 3) based on their ability to fund, activity, interest in the space, and degree of relationship
- Look to venture databases or your agent to help identify ideal investors
 - Medtrack, ThomsonOne, Bloomberg, VentureSource, Pitchbook, CB Insights
 - Get introductions to VC partners via mutual friends and meet them prior to needing them
- Find the VC with the right experience at the appropriate firm who will champion your deal within their partnership
- Maintain a contact log of every interaction with every investor
- Get in front of prospective investors early and often if you are not known to them

Hint!

Don't expect a VC with >6 board positions to offer much time and attention.

Operating experience often makes a difference as does time to dedicate to the company as an active board member.



Financing keys to success – **6** Organized, coordinated due diligence and data room

- Responding to due diligence requests
- Most investors are reluctant to sign a CDA
 - The potential repercussions of an investor maliciously using confidential data are much lower than for a strategic partner
- What goes into the data room?
 - ▶ Clinical: Protocols, plans, budgets, study reports
 - IB (investigators brochure)
 - Scientific papers and experimental reports
 - CMC
 - Management background
 - Commercial reports, assessments
 - Contracts
- What would you potentially hold back until later in the due diligence process?
 - CRF (case report forms)
 - FDA correspondence (perhaps earlier if not too sensitive)
 - IP, but you may not even want to put this in the VDR
- What level of access to provide?
 - Read-only vs. print rights?
 - Access time limits

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Hint!

Most investors won't invest until their questions have been answered satisfactorily. Don't be cagey or avoid questions as that is a red flag.



Financing keys to success – Productive negotiations with competitive dynamics

- How to generate competitive dynamics among investors?
 - Don't introduce them to each other until you sign exclusivity with a lead
 - Many will talk to each other anyway so there is only so much you can do
 - Solicit several different types of investor who might not otherwise know each other
- Negotiations best practices
 - Understand the financial and governance implications of each term in the term sheet; if you don't, reread this deck or ask your agent or attorney
 - Keep your goals in mind and focus on the main ones
 - Read these books
 - Getting to Yes
 - Getting More

Hint!

Sometimes getting any deal is worth it regardless of the terms. Know when to negotiate and when to just get the deal done.



If successful, a financing process can provide a competitive alternative to a strategic transaction



Comprehensive approach to financing transactions yields returns

2 Months

Business Plan Preparation

- Prepare commercial assessment based on market insight
 - KOL interviews
 - Primary, quantitative research
 - Secondary research
- Locust Walk prepares marketing materials:
 - Teaser
 - Management presentation
 - Other

Output

Data-driven commercial forecast and marketing materials

2 Weeks

Financing Strategy

- Outline desired transaction structure based on corporate strategy / objectives
- Create target partner list and rationale
- Set desired and reserve terms up-front
- Prioritize financial and non-financial terms
- Create structural term sheet and procedures letter to guide partners

Output

Expectations for how the process will run and potential outcomes

1 Month

Prepare Management Presentation

- Develop detailed negotiations model from company and investor perspective
- Based on proprietary and highly analytical Locust Walk model
- Aids in comparisons of term sheets
- Include precedent transactions to support position

Output

Robust valuation model enable real-time negotiations

4 to 6 Months

Deal Execution

- Investor outreach to get to a quick decision
- Facilitate management presentations
- Stage and guide due diligence process
- Lead term sheet deal negotiations
- Contracting and close with management / counsel

Output

Structured process to elicit maximum competitive tension

Some of these phases of work can be parallel processed to accelerate the transaction process



Fundraising process can take more time than expected











Venture capital term sheet review

- A term sheet delineates the terms of a deal
- Terms included in the term sheet may include, but are not limited to:
 - Amount raised
 - Management pool
 - Valuation
 - Security type
 - Seniority
 - Dividend
 - Liquidation preferences
 - Conversion
 - Anti-dilution
 - Voting rights
 - Redemption
 - Board seats
 - Information rights
 - Registration rights
 - Preemptive rights
 - Exclusivity period
 - Expenses

SERIES A	RANDESI OF TERMS VATE PLACIMENT OF PRETERRED STOCK OF NIVEO. INC.	Laboration	Stude may varie the traditions of starts a transaction as a liquidation or not. The force & Portformid Stude will not be reduceable at the		conditional upon their continued employment by the Company, In the event a Foundar Director is no longer employed by the Company, the resulting vacancy shall be filled by the holders of a majority of the Common Rock.
		Camerica		Terms of Professed Stock Purchase Agreement	
This memorandum summarism lat. (the <u>"Compary</u> "). The completion of the tr among other theory, the completion of final locus Officient Terms	the principal terms of the Series A round financing of MenGa, assochous contemplied by this momentation will be subject to, sense acceptable to the Seriesters and the Company.		Series A Professed Study shall initially be convertible into one dates of Consume Study, (solvent to antidiation adjustment as described below) at any taxes at the holder a sprices.	Representations and Warranties: Conditions to Choology	Standard representations and warmative by the Company. (a) Bandard conditions to Chesing, which dual inclusio, among other things, a customary emsities of consult for the Company and indematication agreements for the Series <u>A</u> Directory[4] in a form acceptible to the leventors.
Lease Founder(s):	NewCo. Inc., a Delevane assperation. Proc. H. Dan	Automatic Conversion:	Series A Preferred Stock automatically converts ant Constant Stock upon () the shering of a suspecty of the constanting shares of Busies & Preferred Brock or (a) the research and a subservicing public of Busing		Company and indemnification agreements for the Series A Director(s) is a form acceptable to the lovestors. (b) All current officers, empiryons and consultants shall
laradam	Mary Smith George Hall Vanhare Fund, L.P.	Autobiogen Adjurnments	Proportional adjustments for etsols splits and stock devices and similar events.		(i) All current officers, employees and consultants shall have entered into the Company's standard from propostary information and arventons agreement α consulting aprenent, as applicable.
Encurities to be insued.	1,000,000 shares of Suries & Dedword Stock the " <u>Suries A</u> Federed Stock").	Voting Rights:	Votes on an an-coverted basis, her also has a action and chara cote as provided by fars. In addition, approval of the holdens of a subjective file fluorise, between Brock engagement on (5) the resultion of any sension or gain initial security, (a) payment of dividends on any class of fluck,	Management Rights Letter	Investors shall receive a standard management rights letter providing for the consultation with management on significant invest, access to the books, records and facilities of the Company and board violation rights.
Prox	\$1.10 per share (based on the capitalization of the Company set forth on <u>Tablot. A</u> involve unlet the loading " <u>Data</u> Closing Camitalization").		security, (a) payment of dividinal on any rikes of fitted, (ii) any subsequence or spreaming and characteristic fitted and beam. A Provinsit fitted wavept fits problems at onto open remainten of neurons on the saments by the Company's of remaintening rights of first refuted rows such alones, (c) concentration of any longenities event, (v) as normalises in demans in the neurons of administed dates of Theim A Fordered Dates or Concents first, (v) are maintened of	Expense:	Counsel to the Company well straff documents. The Company shall pay, at the Coning, reasonable from and argument of investors' control, not to argued \$
Aggregate Amount to be Kaned Herwinder	\$1,800,000.00		contrictual rights of first refusal over such shares,	Other	
Expected Cloung Date	On or about (Deal) Mar "County". The Compare may well, within 180 days finderwise the change up to 20(00) additional darmon of beine of Performed Stock are told at the Changeste paralasses determined by the Company.		in decrement in the number of addeniated shares of Decise A. Frashinet Books or Commons Books, (via use summittant of the Contribute of Lancesporation or Erviters having an adverse effect on the powers, preferences or operated rights of the Decise A. Preferent Books and (vis) an increase or decrement in the size of the Sourch.	Marine David-Off	Note to do Chaing all stockholdens of the Company and the lineates shall appen not to all or subvives transfer as Common a significant stochastic structures and the Common and the stochastic structure and the structure of common and the stochastic structure and the structure of particle stochastic structure and the structure of the pathene of the structure of the structure of the structure patheness of the structure of the structure of the patheness of the structure of the structure of the patheness of the structure of the structure of the patheness of the structure of the structure of the structure patheness of the structure of the structure of the structure patheness of the structure of the structure of the structure of the patheness of the structure of the structure of the structure of the structure on a structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the st
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Confifeete of Incorporation Dividende	For any devidents or similar distribution, the Series & Probered Book participates with Commen Strick on an ar- semential basis		In addition, the approval of the South, including at least one Sector A. Discretcy in defaults below, that the sequence on () the detert or induced assemption, growing or increasing of dott encoding \$300,000 mp protocol amounts. (a) the entrying into or approxement to experimentables with entrying alloy or approxement to experimentables with Comput to the transmission and in the ordinary compared Comput to the transmission and in the ordinary compared of		Section 2711 of the EC3LA roles) following the initial public efficing (provided discover, officers and 1% worksholders of the Company upper to the some look-up); such appearant shall provide that any discontinuous relations from the look-up be dilocated to holders of registration from the look-up be dilocated to holders of registration
Liquidation Preference:	In the event of a liquidation, dandation or washing up, the proceeds shall be distributed to the stockholders as follows:		as arkitans, officer, sizestme or inclusions of the Company Generative and Instanciation makes in the originative research of becomes supers, fast and reasonable terms) and (iii) the workfoldsmoot of any retroe optims plans (or many similar glas) or any increase at the total number of shares of Common Brook research of in signation andle any reach glas.	Financial Information:	
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How VCs think about valuation

- Venture capitalists purchase their position and typically do not maintain their ownership stake in each successive round
- Therefore, it is critical for VCs to consider future dilution when targeting their desired 3–5x return on invested capital
- A strawman example:
 - ▶ A preclinical company is anticipated to exit for \$250M after Proof of Concept is demonstrated
 - A total of \$50M in new capital is required to bring the company to exit

	Series A	Series B	Series C	Total	
Pre-money	\$10M	\$20M	\$50M	-	
VC Investment	\$10M	\$5M	\$2.5M	\$17.5M	
Other Groups' Investment	\$0M	\$10M	\$22.5M	-	
Post-money	\$20M	\$35M	\$75M	-	
VC Ownership Stake	50%	42.8%	23.3%	23.3%	

\$250M x 23.3% = \$58.3M

\$58.3M / \$17.5M = 3.3x

3.3x is on the low end of the 3-5x spectrum – if the VC wanted to ensure a higher return, they
would decrease the pre-money valuation at which their position is purchased to increase their
share of the overall pie to 35% following successive rounds of financing

\$17.5M x 5x = \$87.5M



\$87.5M / \$250M = 35% Ownership







After several lackluster years, healthcare venture investment is on the rise; 2017 on track to match 2016





SOURCE: Locust Walk Analytics, BioCentury: BCIQ 2017 YTD as of Q2 2017



Early stage biopharma investments (Series A-C) continue to represent the most significant portion of VC funding

Series A	63	90	104	135	127	72	
	2012	2013	2014	2015	2016	2017 YTD	
Total with Disclosed Value (\$USD)	\$793	\$1,223	\$1,726	\$3,261	\$3,502	\$1,479	
Early Stage: Discovery/ Lead	1	4	2	13	17	9	
Mid Stage: Preclinical/Phase 1	23	34	48	69	76	45	
Late Stage: Phase 2/Phase 3/Mkt	27	33	30	36	21	12	•
Series B	46	47	68	58	54	47	•
	2012	2013	2014	2015	2016	2017 YTD	
Total with Disclosed Value (\$USD)	\$879	\$996	\$1,900	\$2,154	\$2,519	\$1,640	
Early Stage: Discovery/ Lead	1	1	1	0	1	0	
Mid Stage: Preclinical/Phase 1	9	10	13	24	31	26	
Late Stage: Phase 2/Phase 3/Mkt	25	28	41	27	17	17	
Series C	22	24	25	28	21	14	
	2012	2013	2014	2015	2016	2017 YTD	
Total with Disclosed Value (\$USD)	\$609	\$694	\$802	\$928	\$936	\$585	
Early Stage: Discovery/ Lead	0	0	0	0	1	0	
Mid Stage: Preclinical/Phase 1	3	5	6	6	5	7	
Late Stage: Phase 2/Phase 3/Mkt	14	17	15	16	15	6	

Key Takeaways

- Biopharma series A investments continue to increase steadily
- Total venture funding for 2017 on track for record year
- Significant increase in mid stage companies seeking series B and series C funding. There have been 26 investments in companies with preclinical/phase 1 leads in 2017 YTD, there were only 9 total in 2012.

LOCUST WALK SOURCE: Locust Walk Analytics, BioCentury: BCIQ

1 VYALK Methodology: Worldwide biopharma private financings included. Companies that did not disclose stage of lead asset were excluded

Oncology diagnostic and therapeutics continue to command the largest proportion of investor dollars

Company	Series	Raised	Lead Investor	Background
GRAIL	В	\$900M	Act of large strates-	 Developing a blood screening test for cancer detection Currently conducting a multi-center 200,000 patient Preclinical study
	В	\$120M	FLAGSHIP PIONEERING	 Developing a Preclinical treatment platform utilizing off-the-shelf red blood cell technology Clinical trials expected 2018
	В	\$101M	BRIDGE CAPITAL PARTNERS	 Developing anti-virals for hepatitis C Lead asset, Danoprevir commercial in China and clinical in US
WuXiNextCODE	В	\$75M	TEMASEK	• A commercially available genomic information technology currently expanding its services to leading precision medicine companies
PMV	В	\$74M	tOpspin	 Developing a pipeline seeking to restore p53 function in oncology patients Expected to enter the clinic in 2018
OCell Medica	С	\$73M	TOUCHSTONE INNOVATIONS	 Entering Phase 2 trials for the treatment of non-Hodgkin lymphoma Uses immune stem cell reconstitution technology
<u> 変 逸 醫 藥</u> Ascentage Pharma	В	\$72M	Future Industry Investment Fund	 Lead asset is a BCL-2 inhibitor and is currently in Phase 2 Aiming to generate POC data for 3 pipeline candidates by 2020
THERAPEUTICS	В	\$70M	PFM	 Neon targets abnormal proteins produced by cancer cells and are entering Phase 1 clinical trials Exploits CRISPR-CAS technologies
REPARE	А	\$68M	VERSANT	 Developing oncology drugs applying precision medicine tactics Repare's POLQ inhibitors are seeking to enter clinical trials in 2018
Ofreenome	A	\$65M	ANDREESSEN Horowitz	 Developing a liquid biopsy diagnosis platform to detect cancer from next generation DNA sequencing



Corporate VC's have emerged as a new and prominent source of capital



SOURCE: BioCentury (BCIQ), Locust Walk Analytics



US remains the powerhouse in producing leading-edge biotech companies; ROW mirrors US in trends of aggregate funding

Aggregate Value and Number of Biopharma VC Series A Investment by Region



LOCUST WALK Source: BCIQ Financing Database, Locust Walk Analytics

Methodology: All worldwide series A investments in life sciences (biopharma, drugs, diagnostics) were included

Boston and San Francisco continue their dominance as the worldwide biopharma hubs





SOURCE: BioCentury (BCIQ), Locust Walk Analytics



Summary and future outlook: Private financing alive and well

- Biopharma private venture financings continue to show impressive growth
 - CAGR of 18.2% from 2010-2016
 - ▶ 2017 is currently on pace with 2016
- Series B financings have shown a substantial increase in number
 - After the return of the Series A in '15 and '16, companies have successfully started raising their next rounds of funding
 - Locust Walk estimates an increase in partnering activity as companies progress in their corporate development
- Top VC players have changed in biopharma and life science, as corporate/strategic funds have emerged as a significant player
- US continues to lead the way for WW financings; Boston and SF remain the key biopharma hubs



Upcoming Locust Walk Institute webinar topics

- BioPharma Valuation Analysis- September 19
- BioPharma Partnering and Financing Term Sheet Review- October 17
- BioPharma Partnering in Japan
- BioPharma Partnering in Europe
- MedTech Business Development Best Practices

*Please let us know other topics you would like to see covered in future webinars. Email <u>maria@locustwalk.com</u> and we will try to accommodate your request.

