FROST & SULLIVAN
INDEPENDENT EQUITY RESEARCH

Q2-2018 Update & 12 Months Since Initiation of Coverage 12 September, 2018

Entera is now trading under NASDAQ:ENTX; Entera has completed Part 1 of a Phase 2 PK/PD Study in Hypoparathyroidism; BeamMed posted impressive revenue growth, with a strategic focus on the US; target price increased by 50% to NIS 1.19.

Primary Exchange: TASE

Ticker: TLV: DNA

Sector: Healthcare

Industries: Biotechnology and Medical Devices

Data as at 12 September, 2018
(Source: TASE)

Closing price: NIS 0.26

Market cap: NIS 38.1M

# of shares: 147,606,627

Stock performance (12 mos.): -33%

Daily-trading-vol. (12 mos.): NIS 296K

Stock target price: NIS 1.19

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Company Overview

Israeli holdings firm ***DNA Biomedical Solutions Ltd.*** (hereinafter 'DNA', 'DNA Biomed' or 'the Company') was founded in 2004 and became public on the Tel Aviv Stock Exchange (TLV: DNA) in 2007. DNA has two key holdings, respective 27.5% and 43% stakes (both fully diluted) in biomedical companies - *Entera Bio* and *BeamMed*.

Entera Bio Ltd. ('Entera' or 'the Company') is a drug development company, founded in 2009 by DNA and Oramed (TLV/NASDAQ: ORMP), the latter from whom it has licensed a unique drug delivery platform for oral administration of pharmaceutically active large molecule proteins that are nowadays injected. *Entera* is conducting clinical trials for two candidate drugs treating three indications: hypoparathyroidism, osteoporosis, and non-union fractures.

BeamMed Ltd. ('BeamMed' or 'the Company') and its global subsidiaries, are medical device companies that deliver an ultrasound based screening solution for determining a patient's risk of developing osteoporosis, with unique additional product features. They have established themselves in the screening stage of the osteoporosis therapy value chain. Their product utilizes ultrasonically measurable parameters as the basis of a patient's risk factor. After initial success in East Asia, they are now looking to expand their US sales.

Highlights & Analysis

Entera Bio completed an IPO on the NASDAQ at a valuation similar to that forecasted by Frost & Sullivan in our most recent valuation.

- Entera's operating loss has increased over the past few reporting periods due to increased G&A expenses incurred as part of its IPO. As these subside we expect the company's burn rate to stabilize, and once again be mainly comprised of R&D expenses for ongoing trials of EB612 and EB613 in Osteoporosis and Hypoparathyroidism respectively.
- In parallel, as a public company, Entera will have a more structured way to raise capital at short notice ahead of crucial clinical milestones.
- In Entera's prospectus dated 28.06.2018, the offering price corresponded to a valuation of $78M for thecompany. Week's earlier as part of our Q1-2018 update we valued Entera at $76.2M.

Entera has completed Part 1 of a Phase 2 PK/PD Study in Hypoparathyroidism.

- The Phase 2 trial is designed to evaluate the pharmacokinetics (PK) and pharmacodynamics (PD) of oral PTH (1-34) and Natpara®, an injectable PTH (1-84), in patients with hypoparathyroidism. In part 1 of the Phase 2 study, ten patients were administered various EB612 regimens or Natpara over two treatment visits including three overnight stays. Throughout the treatment visits, several tests were performed, such as blood and urine sampling.
- An analysis of the part 1 data is expected within 2-3 months. The second and final part of the study will evaluate selected dose regimens based on the results of the part one.

Due to an ongoing arbitrage, investment in TLV:DNA is a highly cost effective way to be exposed to Entera stock.

BeamMed's operating profit for H1-2018 alone was more than double that for all of 2017. US-focused sales strategy seems to be bearing fruit.

- Revenues totaled $1.8M for H1-2018 coming mainly from the US and Greater China.
- BeamMed established a major US sales force in 2017 and in 2018 its investment is seemingly a worthwhile one for the company and DNA.
- Comprehensive profit in H1-2018 totaled $198,000 an increase of 85% from the corresponding period last year. This was a result of a dramatic increase in revenues, primarily from the US market, and was slightly offset by decreased net financial income.
- On September 3, 2018 DNA announced that they would receive $177k out of a total distribution of $410k in dividends from BeamMed to its investors.

We increase our valuation of DNA by 50% to approx. $48.5 million (NIS 175M) corresponding to a target price of $0.33 (NIS 1.19) per share.

H1-2018 Financial Results

DNA

General and administrative expenses. G&A expenses for the six months ended June 30, 2018 totaled NIS 1.2 million compared to NIS 902,000 for the six months ended June 30, 2017, an increase of 28% or NIS 152,000. The decrease is insignificant.

Other losses for the half-yearly period ending 30 June 2018 totalled NIS 1.95 milion are attributable to amendments to investment agreements with 'Capital' and an additional investor, within the framework of which they were transferred ordinary shares in Entera, and the fund for the conversion of differences between investment in the holding company. There were no losses recorded of this nature for the corresponding period in 2017.

Share in losses of subsidiary companies totaled NIS 8.1 million in the six-months ending 30 June 2018 attributable to DNA's share in losses incurred by Entera. This was a substantial decrease from the corresponding period in 2017, which totaled NIS 12.4 million. The 54% decrease is attributable to decreased losses for Entera resulting from decreased expenditure.

Share in profits generated by subsidiary companies totaled NIS 305,000 in H1-2018 an increase of 258% from 2018, a result of BeamMed's significantly higher gross profit compared to the corresponding period in 2017.

Comprehenstive loss for the six months ending June 30, 2018, totaled NIS 18.8M and can be attributed to the cost variables outlined above, and two others. Firstly, NIS 11.8M in amendments to investment agreements with 'Capital' and an additional investor, within the framework of updating the terms of its options in the company, including the amount of options, and withdrawal of those options that were exercised. Secondly, income of NIS 3.8M in a fund for the conversion of differences between BeamMed and Entera.

Net Cash used in operating activities for the six months ended June 30, 2018 was NIS 1.1M comprised entirely of G&A expenses. This was a substantial increase on the NIS 344,000 in cash used for operating activities in H1-2017. No reason was provided for this substantial change.

The Cash balance of the company at 30 June, 2018 was NIS 439,000. On September 3, 2018 DNA received a dividend of NIS 639,000 from profits posted by BeamMed in H1-2018. The company will therefore have sufficient cash to cover operating expenses for H2-2018.

BeamMed

Revenues for the six months ended June 30, 2018 were $1.8M an increase of 4% on the corresponding period last year, and a 10% growth on H2-2017.

Gross profit in H1-2018 totaled $1.1 million an increase of 12% from the $965,000 recorded for the corresponding period last year. This was a result of a dramatic increase in revenues, primarily from the US market, and was marginally offset by slightly decreased COGS.

Sales and Marketing expenses for the six months ended June 30, 2018 were $365,000, compared to $369,000 for the six months ended June 30, 2017, a decrease of $4,000 or 1%. The change is insignificant.

General and administrative expenses. G&A expenses for the six months ended June 30, 2018 were $421,000, compared to $446,000 for the six months ended June 30, 2017, a decrease of $25,000 or 6%. The decrease is insignificant.

Operating profit for the six months ended June 30, 2018 was $299,000, compared to $150,000 for the six months ended June 30, 2017. The increase of 50% or $149,000 is primarily a result of increased revenues but also lower COGS, S&M, and G&E expenses.

Financial expenses, net for the six months ended June 30, 2018 totaled $58,000, compared to income of $17,000 for the corresponding period last year. The reasons for this significant change, in relative terms, were not detailed in DNAs financial statements for the period.

Taxation on income for the the six months ended June 30, 2018 totaled $43,000, a decrease of $17,000 or 28% from the $60,000 paid for the corresponding period last year. The decrease is a result of increased financial expenses, offset partially by higher operating profit.

Comprehensive Profit for the the six months ended June 30, 2018 totaled $198,000, an increase of $91,000 or 85% from the corresponding period last year. The increase is primarily a result of higher operating profit, derived from increased revenues and marginally lower expenses – partially offset by increased financial expenses.

Entera

Research and development expenses. R&D expenses for the six months ended June 30, 2018 were $4.7 million, compared to $1.3 million for the six months ended June 30, 2017, an increase of $3.4 million, or 263.9%. The increase in R&D expenses was primarily due to an increase of $1.3 million in salaries and related employee expenses, of which $0.8 million resulted from an increase in share-based compensation expenses and an increase of $1.5 million for materials, clinical manufacturing and production's capabilities.

General and administrative expenses. G&A expenses for the six months ended June 30, 2018 were $0.9 million, compared to $2.9 million for the six months ended June 30, 2017, a decrease of $2.0 million, or 70.5%. The decrease in G&A expenses was primarily due to a decrease of $2.5 million in share-based compensation expenses.

Financial income. net for the six months ended June 30, 2018 was $2.9 million, compared to a financial income, net of $0.4 million for the six months ended June 30, 2017. Financial income, net for the six months ended June 30, 2018 resulted mainly from the change in the fair value of convertible loans, preferred shares and warrants to purchase preferred shares and shares that were recorded as a financial liability at fair value through profit or loss.

Comprehensive loss. Comprehensive loss for the six months ended June 30, 2018 was approximately $2.6 million, compared with approximately $3.8 million in the same period in 2017 a decrease of approximately $1.2 million, or 31.15%.

Cash and Cash Equivalents. As of June 30, 2018, prior to the completion of the IPO, Entera had cash and cash equivalents of approximately $6.5 million. As of December 31, 2017, Entera had cash and cash equivalents of approximately $11.7 million.

Net Cash used in operating activities for the six months ended June 30, 2018 was $5.2 million, consisting primarily of our operating loss of $5.5 million arising mainly from research and development expenses and

general and administrative expenses (compared to $4.2 million for the six months ended June 30, 2017), partially offset by $0.6 million of share-based compensation (compared to $2.2 million for the six months ended June 30, 2017) and by a $0.3 million increase in working capital (compared to a $0.1 million decrease for the six months ended June 30, 2017).

Analysis

Entera, a company in which DNA holds significant interest,, announced on June 28 that it had completed the pricing process of an initial public offering (IPO) and that it had recorded 1.4 million ordinary shares and options for the acquisition of 700,000 shares in the company.

After a $91 million issue, without dilution, the total amount of the gross consideration before the options are exercised is $11.2 million. The company's shares will be traded on NASDAQ under the symbol ENTX (**NASDAQ:ENTX**). Entera rose 0.32% on the first day of trading (Friday June 29, 2018). At market close on 8 August, 2018 Entera's market cap stood at $53M and its share price at $5.05.

Entera's operating loss has increased over the past few reporting periods due to increased G&A expenses incurred as part of its IPO. As these subside we expect the company's burn rate to stabilize, and once again be mainly comprised of R&D expenses for ongoing trials of EB612 and EB613 in Osteoporosis and Hypoparathyroidism respectively. In parallel, as a public company, Entera will have a more structured way to raise capital at short notice ahead of crucial clinical milestones.

In Entera's prospectus dated 28.06.2018, the company was valued at $78M. Week's earlier as part of our Q1-2018 update we valued Entera at $76.2M.

The capital raising, conducted at a similar price, reinforces our valuation of Entera, our understanding of the company's technological basis, and its potential to use the funds raised to go through with its strategic development plans, without the need to raise additional capital, at least for the next 18 months.

DNA is expected to hold 27.5% of Entera's share capital without dilution. Due to an ongoing arbitrage, investment in TLV:DNA is the most cost effective way to be exposed to Entera stock.

On August 8, 2018 ENTX closed on the NASDAQ at $5.05, and DNA closed on the TASE at $0.063. Considering DNA's holding in Entera, at an arbitrage of one DNA stock would be trading for 27.5% * $5.05 = $1.39. It is important to emphasise that this excludes the value in DNA securities derived from its holding in revenue-generating Beammed (also targeting the osteoporosis market) net of DNA's rather predicatable and modest G&A expenses.

When evaluated relative to the current trading price of DNA, Entera shares are overvalued by a factor of 22. It is quite probable that the discrepancy is a result of both Entera trading at a relatively high price, and DNA shares being undervalued. The latter is furthermore justified by the fact that these estimates do not account for the substantial net value in DNA resulting from its holding in BeamMed and its modest and consistent expenditure levels.

BeamMed has continued to benfit from its geographical pivot towards the United States at the expense of the Far East. BeamMed expects its sales pace in Greater China to remain constant in the years to come while its sales in the US will grow rather significant year-over-year as was the case in H1-2018. As a company, BeamMed has overcome the rather deterministic turning point from being an R&D intensive firm with heavy losses to one with healthy cash flow and a stable financial position. To this effect, BeamMed announced its distribution of dividends totaling $410,000 on September 3, 2018. This represents 3.8% of the company's

equity value as estimated by Frost & Sullivan providing for a significant return to investors, particularly DNA which will receive $177,000 from the distribution.

Q2-2018 Operational Highlights

Entera

On August 1, 2018 Entera announced that it had completed the first part of the PK/PD study in hypoparathyroidism patients with its oral parathyroid hormone (PTH) drug, EB612, conducted at the Hadassah University Medical Center. Patients received various dose regimens of EB612 with or without a 100 microgram injection of Natpara administered on a separate visit. No serious adverse events were reported.

According to Entera, while treatment for hypoparathyroidism has made significant advancements over the past few years with the introduction of daily PTH injections, an oral form of PTH would be significantly advantageous in treating this chronic condition.

The Phase 2 trial is designed to evaluate the pharmacokinetics (PK) and pharmacodynamics (PD) of oral PTH (1-34) and Natpara, an injectable PTH (1-84), in patients with hypoparathyroidism. In part 1 of the Phase 2 study, ten patients completed two treatment visits, including three overnight stays each during which patients were administered various EB612 regimens or Natpara. Throughout the treatment visits, patients were continuously monitored and various tests were performed, including blood and urine sampling. An analysis of the part 1 data is expected within two to three months.

The second and final part of the study will evaluate selected dose regimens chosen based on the results of the trial's first part. The results from this Phase 2 PK/PD trial will provide input for the design of our anticipated pivotal clinical trial.

In late 2017 the FDA developed scientific tools to facilitate evaluations of these drug products and propose generic equivalents. Furtheremore, the FDA 40 or fewer amino acids to be a peptide regulated 51 under the FD&C Act, rather than a protein regulated under the Public Health Service Act.. Thus, a lengthy fracture analysis, which can take years, is no longer required under the new regulation. This is save Entera time and funds in completing its clinal trials.

In the fourth quarter of 2018, the Company expects to meet with the FDA to discuss the development of oral PTH/ EB613 for the treatment of osteoporosis and seek guidance regarding clinical endpoints necessary for the approval of EB613 for the treatment of osteoporosis. Based on recently reported guidance by the FDA, the company believes that pivotal studies with a primary endpoint of bone mineral density may be sufficient for the approval of EB613. The Company expects the FDA to give guidance on our proposed clinical endpoints and the duration of therapy necessary for approval of EB613 for the treatment of osteoporosis in the pre-IND meeting.

Entera offers a platform for oral delivery of large molecules, such as PTH, with a specific known kinetic profile.

BeamMed

BeamMed has continued to grow its sales presence in the United States, and retained its existing market share in China. The Chinese market is forecasted to witness a boost in sales should BeamMed receive CFDA approval for the Omnisense 9000, expected before the end of 2018. In the long term however, the company intends to focus on the United States where there is less competition, more favourable regulation

and in general, more demand. Results for H1-2018 are a solid foundation for executing this vision in the coming years, with substantial growth in revenues and profit being shared between investors (see above re dividends distributed to investors on September 3, 2018) and the company which is expected to reinvest these in growing an already established sales presence in the United States.

We increase our valuation of DNA by 50% to approx. $48.5 million (NIS 175M) corresponding to a target price of $0.33 (NIS 1.19) per share

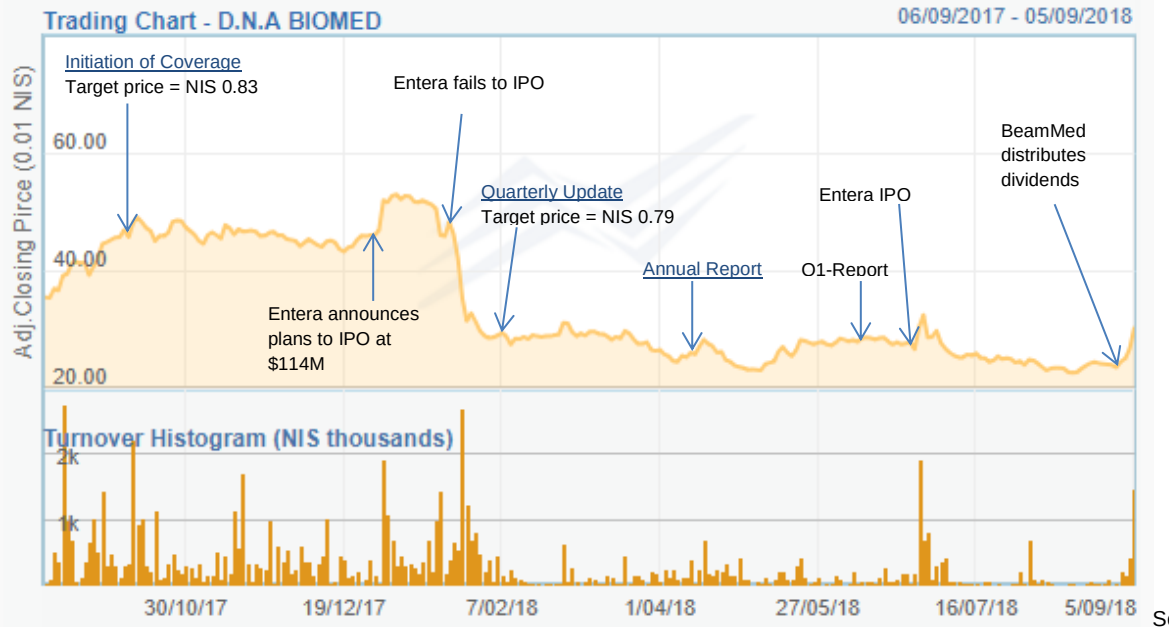
Upcoming Potential Catalysts*

***Should Entera receive FDA approval for the 505(b)(2) regulatory pathway, the milestones below will change.**

Company	Program	Indication	Event	Significance	Timeline
Entera Bio	**EB612: PTH 1-34**	Hypoparathyroidism	Results from PKPD study	Medium	**Q4-2018**
			Initiation of pivotal Phase 2b/3	High	**H1-2019**
			Topline data expected	High	**2020**
			Expected submission of NDA/BLA to the FDA	Medium	**2021**
			Expected commencement of sales	High	**2021/2022**
	EB613: PTH 1-34	Osteoporosis	Pre-IND meeting	Low	**Q4-2018**
			Phase 2a Initiation	Medium	**Q4-2019**
			IND submission	High	**Q2-2019**
			Pivotal phase 2b/3 with strategic partners	High	**H2-2019**
			Expected commencement of sales by partner	High	**2025**
		Non-union fractures	Phase 2a Initiation	Low	**H2-2018**
BeamMed	**-**	Osteoporosis	Signing distribution agreements in the United States.	High	**Ongoing**

Sources: Frost & Sullivan Analysis; DNA Biomedical Solutions Ltd.

12-Month Stock Performance



Source: TASE

Valuation Summary

Entera: Frost & Sullivan's estimation of Entera's equity value has increased exactly 100% since initiation of coverage in October 2017.

1. **Cash, Loans and G&A Expenses:** Entera has a much more stable cash balance since its IPO on the NASDAQ in mid-2018 and has concurrently reduced its loans balance. Between mid-2017 and mid-2018 Entera had extraordinarily high G&A expenses due to its four attempts at an IPO. These have since been reduced by a factor of four and has significantly decreased our assessment of its unallocated costs, and accordingly its equity value.
2. **EB-612 Progress:** Entera's positive results in Phase 2a for its EB-612 asset has led us to increase our rNPV of the asset by 21% since initiation of coverage.

BeamMed: Frost & Sullivan's estimation of BeamMed's equity value has increased 22% since initiation of coverage in October 2017. The reason for this change is a substantial increase in revenue from sales in the United States and consistent revenue from sales in Greater China. This led to an increase in the company's cash balance and also led Frost & Sullivan to significantly increase our sales forecast till 2022.

Valuation at;	Company	rNPV ($000s)	D.N.A Holding	D.N.A Holding ($000s)
12-months since Initiation (09/2018)	Entera	169,230	27.5%	46,538
	Beamed	10,713	43%	4,607
	D.N.A. Biomed - EV	**179,943**		**51,145**
Initiation of Coverage (10/2017)	Entera	84,574	35%	29,601
	Beamed	8,759	40%	3,504
	D.N.A. Biomed - EV	**93,333**		**33,105**

D.N.A Biomed: D.N.A's valuation has increased by 50% due to the following;

- **Increases in our valuation estimates** of the equity value of Entera and Beammed described above.
- **Reduced G&A expenses** in H1-2018 compared with the corresponding period in 2017.
- **Cash balance** has increased due to divdends distributed by BeamMed.
- **Weakening of the Israeli Shekel**. D.N.A reports in NIS while Entera and BeamMed report in USD.
- **Increased stake in BeamMed**, partially offset by a decrased in its stake in Entera.

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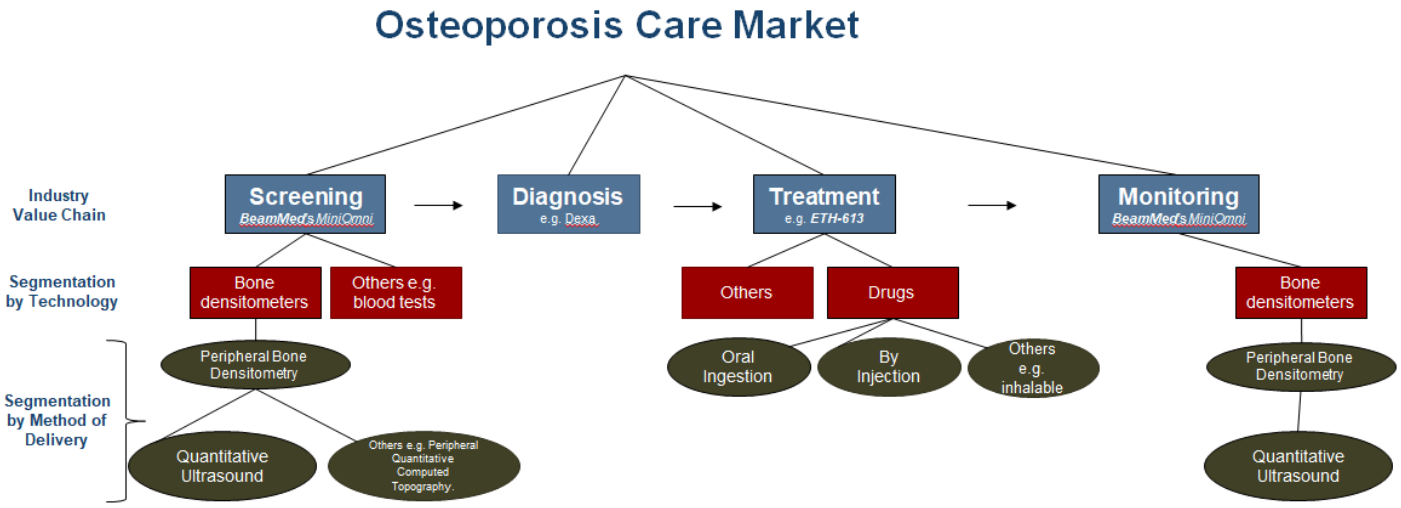
Investment Thesis

DNA Biomedical Solutions Ltd. (TASE: DNA; hereinafter "DNA") is an Israeli publicly-listed holdings company with interests in pharmaceutical and medical device companies *Entera Bio Ltd* and *BeamMed Ltd* (hereinafter either Entera or BeamMed), respectively. According to DNA, their two portfolio companies collectively address markets with an accumulative value of $10.4 billion.

As an investment target, DNA's key advantage is in holding stakes in two companies with divergent revenue cycles and business models. In short, their portfolio diversity is central to their investor attractiveness. On the one hand, Entera is a classic biomedical company with no revenues and exorbitant levels of R&D investment in its initial years, and which, pending the results of clinical trials, will grow exponentially once it is approved for market, and subsequently begins revenue-yielding operations.

On the other hand, BeamMed operates under a commercially-driven business model. Its regulatory process is rather minimal, meaning BeamMed's product reaches the market quickly. The company is now in growth stages, having begun R&D in the late 1990s they generated revenues from sales for several years now.

The synergy, from an investor's perspective, between the two companies lies in their activity in the osteoporosis value chain. As illustrated below, BeamMed sits squarely at the start of the Osteoporosis Care Market's value chain, in the screening segment (pre-diagnosis). BeamMed's device is also utilized for ongoing monitoring. Meanwhile, Entera is developing an orally ingestible treatment for patients diagnosed with osteoporosis, placing them at the top of the value chain. In other words, though they operate in the same market, they provide totally different value to patients. Moreover, BeamMed addresses a much wider audience, 'those at risk' of developing osteoporosis, while Entera addresses only those with a confirmed diagnosis. Whilst the former population is more numerous than the latter, this does not necessarily correspond to profitability. Those with confirmed diagnoses will almost certainly seek treatment, however those 'at-risk' may not necessarily get themselves screened.



Source: Frost & Sullivan

Entera's unique platform for turning large molecules into orally ingestible medications is exclusive to them and the licensor, and is central to their competitive advantage over firms offering such Hypoparathyroidism and Osteoporosis solutions exclusively by way of injections. The medical community generally prefers orally

administered solutions. Furthermore, *Entera*'s long-term pipeline is set to develop solutions for indications that are presently without treatment in any form.

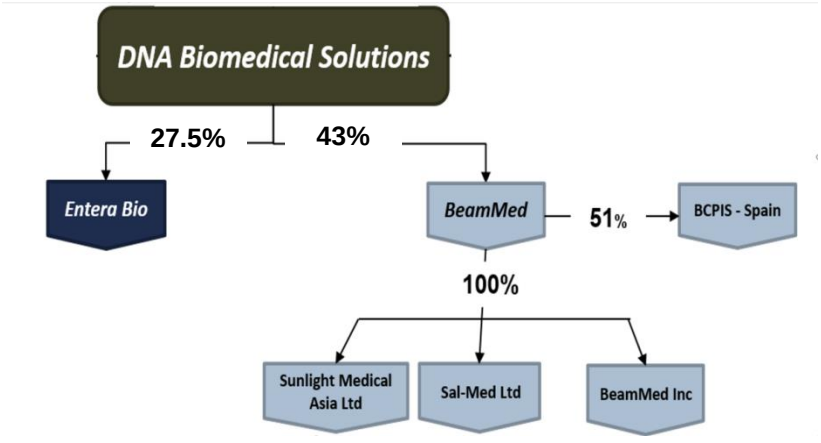
BeamMed provides value through three key product features:

1. A patient's qualitative data (demographics) are stored in a database alongside the measurements obtained ultrasonographically. This database is at the core of the company's competitive advantage and is central to the accuracy of their screening.
2. Quantitative ultrasound is far less invasive than the alternatives. This has seen an end-user preference for their device, especially in markets such as China where invasive procedures are often avoided due to cultural sensitivities.
3. By sheer virtue of being a screening solution, *BeamMed*'s product is positioned to reap the benefits of several market trends. These are primarily demographic, including a growing geriatric population in wealthy countries, and bureaucratic, especially the favor upon which regulatory and reimbursement authorities alike view preemptive detection technologies.

Thus, we view investment in DNA as an opportunity in the short term, given the potential of BeamMed's expansion in the US market, and in the longer term given the potential for further successful clinical trials to have a significant impact on the value of Entera position the company as a leading player in the Hypoparathyroidism domain. We believe that the chances of success are high, based upon its safety profile and indications of improved clinical effects compared with an available, well-characterized injection treatment for the same indication, containing the same active substance. Entera's other asset under trial utilizes the platform to make Osteoporosis treatments available for oral delivery. Therefore, DNA and both of its portfolio companies can become, pending successful clinical phases, a major force in the Osteoporosis Care Market.

Entera and BeamMed Overview

Entera Bio (NASDAQ: ENTX) has licensed a unique platform to orally deliver large molecule proteins, by way of a tablet, which can replace injectable alternatives. The company has chosen to initially focus on indications with a lack of in drugs or solutions. Entera is about to initiate mid-late stage clinical trials for hypoparathyroidism (phase 2b/3), osteoporosis (phase 2a), and non-union fractures (phase 2a). The platform utilized by Entera is licensed from cofounder and stakeholder Oramed Pharmaceuticals (NASDAQ/TLV:ORMP), and its primary aim is to optimize a patient's intake of the aforementioned molecules; this is the core value Entera brings to market.



BeamMed, and its global subsidiaries, deliver ultrasound-based screening solutions for determining a patient's risk of developing osteoporosis. Their technology was acquired from Sunlight with IP rights in 2006, and since then BeamMed has expanded their product portfolio. BeamMed operates in the Bone Densitometers industry, is most active in China, and is looking to push further into other markets, specifically the US. The proliferating geriatric population, particularly in developed economies, is a key market driver. The company's push into the US is supported by favorable reimbursement rates for early detection, which minimizes long-term costs of treating the disease.

Entera Bio

Company Overview

Entera was founded in 2009 and commenced operations in the following year with financing from DNA and Oramed, as well as scientific support from the latter, from whom its technology is licensed. The company's mission is to develop oral delivery of large molecules to address undertreated diseases, which are currently treated by injections. Oral administration offers increased patient comfort, compliance and cost effectiveness, and is therefore the preferred method of drug administration. Entera's oral delivery platform may be applied to an array of molecular drugs. The company has strategically chosen to develop tablets comprising biological substances given as injections, with a proven therapeutic and side effect profile, and are thus well positioned to 'go to market'. Currently, its platform is applied to the development of a formulation of recombinant Parathyroid hormone (PTH 1-34), an important hormone in bone remodeling, as a foothold to show the platform's feasibility. The first two products in the company's pipeline are geared towards hypoparathyroidism and osteoporosis indications, both based on PTH 1-34 as an oral drug.

The company holds orphan drug designation for the hypoparathyroidism indication from the FDA (US) and EMA (Europe) since April 2014 and June 2016 respectively, thus accelerating market penetration for this product in two key geographies. For the most part, rare-disease treatments are considered an attractive market because the relatively small patient population allows for dramatic price increases. The advent of an orally ingestible alternative will only further these, already lucrative, monetization possibilities. The company is set to begin phase 2b/3 clinical trials of its product for hypoparathyroidism, and part 2 of phase 2a of its second product for osteoporosis by the end of 2018. Another indication in the second product's pipeline addresses non-union fractures, an indication that currently has no proven treatment solution. Phase 2a initiation is expected by the end of 2018. Additional programs based on their platform are currently under development.

Success in the approval process for the hypoparathyroidism drug candidate may have positive implications for the clinical and business development of the other drug candidate treating Osteoporosis, as both deal with the same active ingredient and the same technological wrapping, although they differ in the formulation, dosage and treatment regimen. Although hypoparathyroidism has a smaller market potential, its accelerated regulatory pathway will eventually provide a market-stamp for safe and efficient use of the drug, and will open doors for other drug candidates with larger indications and markets.

The company plans to develop the product for hypoparathyroidism and bring it to market. Alternatively, for the osteoporosis product, Entera intends to recruit a strategic partner after completion of phase 2a (expected by Q3-2018), for the rest of the clinical development and commercialization, based on payments and future royalties.

Source: Entera Bio

Market, Standard of Care and Unmet Needs

Entera develops oral delivery of large molecules to address under attended clinical demand. *Entera*'s oral delivery platform can be applied to an array of molecular and therapeutic substances such as, peptides and proteins that are currently given as injectable alternatives. Peptides and proteins have great potential as therapeutics, compared with the typical small-molecule drugs that currently make up the majority of the pharmaceutical market, as they are highly selective.[1] Peptides can be designed to target a broad range of molecules, offering multiple advantages in fields such as oncology, immunology, infectious disease and endocrinology. Also, there is a lot of interest in the development of systems allowing for the oral delivery of peptide and protein therapeutics, as oral delivery improves patient compliance.[2]

Unfortunately, oral bioavailability of peptides is limited by degradation in the gastrointestinal (GI) tract, as well as their inability to cross the epithelial barrier. These therapeutics tend to have a high molecular weight, low lipophilicity and charged functional groups that hamper their absorption.[3] These characteristics lead to the low bioavailability of most orally administered peptides (<2%) and short half-lives (<30 min).[4] Moreover, even after the drug is absorbed, first-pass metabolism, known as the first-pass effect, can greatly reduce the fraction of a drug that reaches the systemic circulation through the liver. The liver metabolizes the drug, reducing the amount of the active, parent compound that enters systemic circulation.[5] Other considerations are related to the food effect which might change the rate and extent of absorption if the drug is administered before or after a meal or under fasting conditions. These might determine how the oral drug will be used and for what indication.[6]

Intravenous (IV), Intramuscular (IM), subcutaneous (SC), intrarectal, transdermal and pulmonary delivery routes of these therapeutics overcome the issue of absorption through the GI, and avoid or minimize the first-pass effect (Brunton L). However, these administration routes are limited by other factors including systemic proteases, rapid metabolism, opsonisation, conformational changes, dissociation of subunit proteins, non-covalent complexation with blood products and destruction of labile side-groups.[7] As well, the use of injections on a daily basis during long-term treatment has obvious drawbacks in contrast to the oral route which offers the advantages of self-administration with a high degree of patient acceptability.

Methods to improve the bioavailability of protein therapeutics through oral administration can be broadly classified into categories of structural modifications, enzyme inhibitors, absorption enhancers and carrier systems.

- **Structural modifications,** including cyclization, PEGylation, fusing therapeutic proteins to vitamin B12, protein lipidization, stapled peptides, substitution of natural L-amino acids with d-amino acids
- **Enzyme inhibitors** such as soybean trypsin inhibitor and Aprotinin (Trasylol)
- **Absorption enhancer,** including chitosans, medium-chain fatty acids, lectins, certain toxins, cell-penetrating peptides (CPPs) and surfactants
- **Carrier systems**, including hydrophilic mucoadhesive polymers, thiomers, polymer matrices, nanoemulsions, hydrogels, liposomes and nanoparticles (NPs).

Despite these advancements, realization of orally administered biologicals with its accompanying advantages remains an elusive goal.

[1] Craik, D. J. et al., Chem. Biol. Drug. Des. (2013). 136–147.
[2] Maher S, et al., Drug Discovery. Today. Technol. (2012) 9(2), 113-119.
[3] Aungst B, et al. . J. Control. Release. (1996) 41(1), 19–31.
[4] Borchardt T, et al., Adv. Drug Deliv. Rev. (1997) 235–256.; Bruno, B.et al., Therapy Delivery. (2013) 4(11), 1443–1467.
[5] Pond SM, et al.,. Clin. Pharmacokinet (1984) 9(1), 1–25.
[6] Kidron, M., et al., J Diabetes Sci Technology (2009) 3(3), 562-567.
[7] Torchilin, V. et al., Therap. Deliv. (2009) 5(2–3),1443–1467.

Entera Bio's platform for oral delivery of biological macromolecules

Entera's platform technology consists of an oral capsule that facilitates effective oral administration and absorption of intact proteins through the gastrointestinal (GI) tract. Its technology was proprietary to Oramed, of which Entera was formerly a subsidiary. The technology is based on co-administration of therapeutic proteins within a capsule carrier that consists of two components. The first is a proprietary combination of protease inhibitors and chemical entities that protect the therapeutic proteins from enzyme degradation and consequent drug breakdown in the stomach and intestine. Each "cocktail" is customized for the drug molecules candidate. The second is an absorption enhancer that enables molecular transport of large molecules through the intestinal wall by endocytosis induction. Endocytosis is a natural transport mechanism of molecules via vesicles, which is considered to be specific and safe.

Preclinical data in animals supports oral delivery and has been successful in various biological molecules of different sizes, from small molecules (1.6kD) to larger compounds (10kD). PK/PD profile seem favorable for multiple daily oral dosing, administered by individualized titration.

The first two products in the company's pipeline are based on a formulation of recombinant parathyroid hormone (PTH 1-34), an important hormone in bone remodeling. The drug is identical to a portion of the human parathyroid hormone (PTH), consisting of the first (N-terminus) 34 amino acids, which is the bioactive portion of the hormone. It is an effective anabolic (i.e., bone growing) agent used in the treatment of some forms of osteoporosis.[8] Its intermittent use activates osteoblasts more than osteoclasts, which leads to an overall increase in bone mass.

Market Overview

Entera's strategy to initially focus on rare diseases to prove its technological capability has strong market precedent. This is further substantiated by the drastic marginal revenue that can be yielded from rare-disease treatments, and specifically so from hypoparathyroidism, which is currently only treated by injection.[13] The company's long-term addressable market, simply as a provider of oral solutions for injectable medications, has the potential to reach up to 10% of the pharmaceutical industry in its entirety. Yet, capturing this market is subject to clinical trial and error.

Investor (Country)	*Investee (Country)*	*Amount*	*Product*	*Date*
Various - IPO (US, IL)	Entera Bio (IL)	$11.3M	Hyperparathyroidism and Osteoporosis injectables in pill form	June 2018
Johnson & Johnson (NYSE:JNJ)	Protagonist Therapeutics (NASDAQ:PGTX)	$50M	Inflammatory Bowel Disease injectables in pill form.	June 2017[9]
25 major financial institutions (US)	Chiasma (NASDAQ:CHMA)	$26.4M (at 30.8.17)	Oral therapies for acromegaly (Phase III).	Via Nasdaq 2017[10]
Google Ventures, Novartis, AstraZeneca and many others (US)	Rani Therapeutics (US)	$70M	General platform, including; TNF-alpha inhibitors, interleukin antibodies, insulin and GLP-1.	Feb 2016[11]
Hefei (Sinopharm) (CN)	Oramed (IL)	$50M	Orally ingestible Insulin	Nov 2015[12]

Entera has witnessed an emerging interest within various healthcare market segments for administration of injectable drug solutions through novel oral means that are considerably more consumer friendly, and consequently more profitable. The medical world has experienced prolific growth in the number of

[8] Saag KG, et al., The New England Journal of Medicine (2007) 20, 357
[9] https://www.businessinsider.com.au/protagonists-oral-peptides-pill-versions-of-blockbuster-drugs-2017-6?r=US&IR=T.
[10] NASDAQ Website. (2017)
[11] http://www.biospace.com/News/bay-area-startup-rani-therapeutics-tops-70-million/409783.
[12] http://www.reuters.com/article/oramed-china-idUSL8N13O0AO20151130.
[13] SHIRE Pharmaceuticals. Annual Report Q2-2015. (2015).

experiments taking place to discover oral solutions to drugs that had only been effective when ingested intravenously or intramuscularly. Oral administration has many inherent advantages over injections including self-administration, and suitability for those sensitive to injections. Consequently, the treatment tends to be more receptive among patients. The market potential for orally ingestible alternatives is lucrative, a table of recent activity among leading market players is detailed in the table below.

Hypoparathyroidism Drugs Market

Market Size

The hypoparathyroidism drugs market is extraordinarily condensed, and prior to the technological advent of oral-based solutions, consisted of a single player, Shire Pharmaceuticals (LON:SHP). The PTH injection to treat hypoparathyroidism (hereinafter referred to by its trade name, *Natpara*) was developed by NPS (acquired by Shire for $5.2B in 2015).[14] The US market size in 2018 can be roughly estimated at $147.5 million, and is forecasted to reach $441.31 million by 2022, a CAGR of 31.51%.[15] Importantly, these figures exclude the approx. 120,000 patients outside the US, where Shire does not supply the drug. The company estimates the global market at approximately $1.1 billion with a CAGR of 3.3% until 2021.

Country	Patient Population	Market Size Est. 2018	CAGR till 2022
United States	60,000	$441M	3.3%
Europe	70,000	$385M	
Japan	20,000	$110M	
ROW	30,000	$164M	
Total	**180,000**	**$1,100M**	**3.3%**

Potential Drivers of Growth

- General patient preference for oral solutions
- Despite the high costs of rare disease treatment by injection ($100K annually per patient), insurers are usually willing to cover the costs because the patient population is relatively small and the condition can be life-threatening.
- Reimbursement policy for an orally ingestible solution would only be more favorable given the lowered risk, and lower practitioner costs due to the safe self-administration of oral alternatives.
- Despite *Natpara* receiving landmark approval from the FDA as the first regulated hormone replacement in treating the condition, the FDA warned that once-a-day treatment was far less effective than treatment several times per day. The latter preferred dosage will only be easily administered if the substance can be ingested orally.
- Orphan drug designation, an accelerated pathway with benefits. A regulatory classification granted to unique FDA approval candidates being developed to address insufficiently met medical needs for diseases affecting a relatively small share of the population (up to 200,000 people in the United States). The program is designed to incentivize pharmaceutical firms to develop drugs for rare medical conditions.
    - Benefits include: taxation benefits, grants, government R&D subsidies, higher prices, barriers to entry for production of generic drugs, and most importantly, seven years of market exclusivity (even if the patent period ends, the company can continue operating monopolistically).

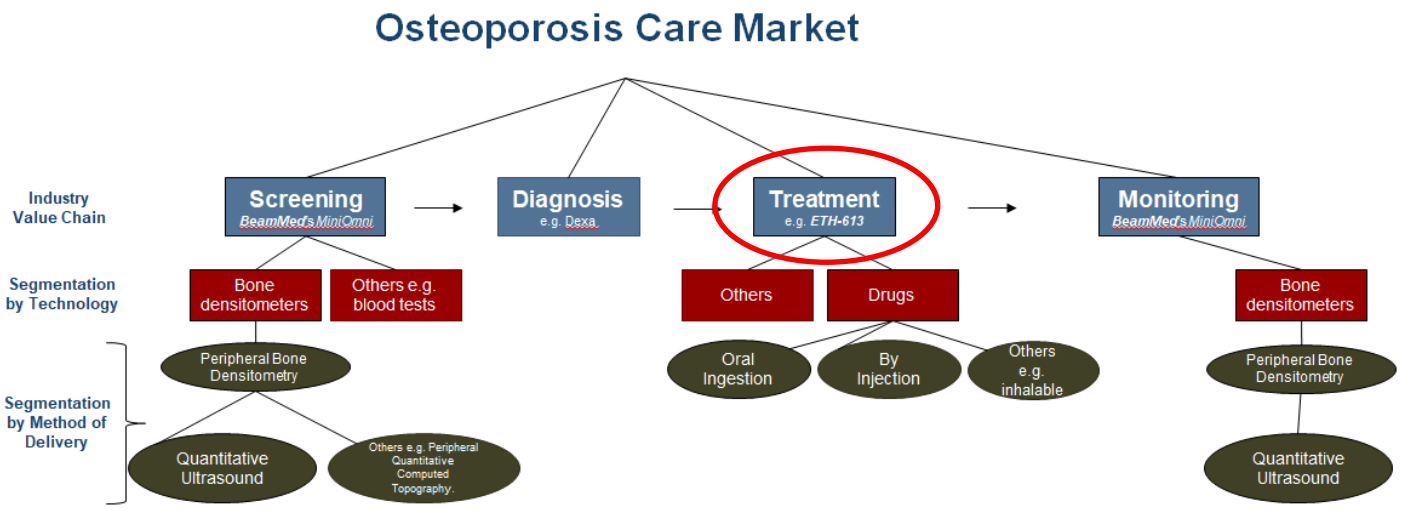
Osteoporosis Drugs Market

Market Size

The Osteoporosis Drugs Market was valued at $8.5B in 2017, and is set to grow at a CAGR of 3.3% till 2025. The osteoporosis therapeutics market is an emerging one. Some treatments are available, and many are under development by pharmaceutical companies. The International Osteoporosis Foundation estimates

[14] Shire Pharmacueticals Plc. Annual Report 2016. (2017).
[15] Evaluate Pharma, (2017).

that 200 million people suffer from Osteoporosis worldwide. The principal driver of this market size is the increasing patient population, this in turn a product of geriatrics comprising an increasingly dominant share of the population. Approximately 75 million patients worldwide live in Europe, the US or Japan, widely considered to be the most easily penetrable geographies.

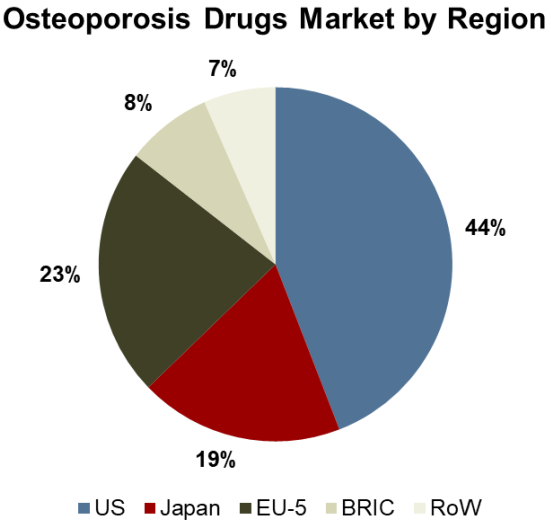


Source: Frost & Sullivan

Recently, experts have cited increased incidence rates among women who contract the condition during menopause. Moreover, the geriatric correlation is also significant among females: 67% of 90-year-old women; 40% of 80-year-old women; 20% of 70-year-old women; and 10% of 60-year-old women suffer from the disease. In addition, 33% of women over age 50 will experience at least a single osteoporotic fracture.[16] Whilst relative incidence among males is lower, real growth in the number of patients in general, and the male share in particular, is driving the market. This increase can be partially attributed to lifestyle factors that are statistically more prevalent among men and which are known to deteriorate bone health. Such factors include alcohol abuse, a sedentary lifestyle, and tobacco use. The foremost among these has a particularly significant correlation with Osteoporosis patients, and is perhaps the most influential growth factor for the number of male patients. Incidence among men for medical conditions is generally lower due to a known trend whereby men are far less likely to seek medical assistance than women. Recent awareness programs to address this issue will see higher reporting rates among men and will increase their incidence numbers, increase in both real terms and relative to the number of female patients.

Geographic Segmentation

North America dominates overall market share, driving many strategic partnerships and investments by major corporations to further their market reach. In practice, the bulk of these efforts are aimed at enhancing R&D capabilities and improving/maintaining high standards of care. On the consumer side, demand is arising both out of these new innovations and the growing disease burden. The Asian-Pacific market is also expected to grow significantly in the coming years, with enlarging upper-middle classes and rapid upgrades in local healthcare infrastructure being the leading market accelerators. Alongside, efforts to commercialize both original and generic treatments at price points accessible to the wider population, will further expand market reach. The Asian market will also



[16] https://www.iofbonehealth.org/facts-statistics#category-19.

Source: Frost & Sullivan

exhibit market growth due to worldwide trends such as biotechnological innovation and an increased focus on osteoporosis care in emerging economic giants, India and China.

Market Drivers and Constraints

- ✓ Unanimous preference for orally ingestible alternatives by all major players in the market: patients, physicians and reimbursers.
    - Oral administration has many inherent advantages over injections including self-administration and suitability for those sensitive to injections (e.g. those with fragile skin or those with psychological aversion).
    - The medical world has experienced prolific growth in the number of experiments taking place to find oral solutions to drugs that are currently only effective when ingested intravenously or intramuscularly.
- ✓ Complex drug-taking regimen, patient compliance with this regimen and the frequency of dosage.
- ✓ In the US, Osteoporosis treatment is invariably reimbursed generously because it is medically critical.
    - Although out-of-pocket costs for Osteoporosis patients are generally low, their variance is high, ranging between $5 and $150 depending on the treatment and the insurer's policy with respect to that treatment.[17]

- ⊗ Declining reimbursement rates for DEXA scans in the US could lead to fewer diagnoses and thus less patients seeking treatment despite their suffering from the condition.
    - On the other hand, technological development of alternative diagnosis and screening solutions which are reimbursed favorably may sufficiently mitigate this constraint.
- ⊗ Low levels of awareness, treatment, and diagnosis, due to the asymptomatic nature of the condition.
- ⊗ Lack of long-term clinical data.

[17] US Department of Health. National Health and Nutrition Examination Survey. (2017).

Company's Products

In June 2010 Oramed entered into an exclusive out-licensing agreement with Entera to develop oral delivery for drugs of certain indications. The out-licensed technology differs from Oramed's main delivery technology, used for its oral insulin and GLP-1 analog and is subject to different patent applications.

Entera's oral delivery capsule is a drug carrier platform that can be applied to an array of molecular and biological solutions. The company addresses large biological substances with proven therapeutic and side effect profiles that are commonly given as injections for under attended diseases, in an attempt to provide even greater efficacy to the injectable alternative. Their carrier platform consists of two key product features, the first being a molecular protection system preventing drug breakdown and elongating the half-life of the therapeutic drug delivered into the gut, and the second component being a synthetic chemical complex facilitating large molecular transfers through intestinal barriers.

The first two products in the company's pipeline are targeted towards hypoparathyroidism and osteoporosis indications, both based on a formulation of recombinant parathyroid hormone (PTH 1-34), an important hormone in bone remodeling. The company is set to begin phase 2b/3 clinical trial of its product for Hypoparathyroidism, and part 2 of its phase 2a trial for its second product for osteoporosis by the end of 2018. A third indication in the pipeline, based upon the second product, addresses non-union fractures, an indication currently without an established conclusive clinical treatment. Phase 2a initiation is also expected by the end of 2018.

EB612 (PTH 1-34) for Hypoparathyroidism

The company holds orphan drug designation for Hypoparathyroidism from the FDA (US) and EMA (Europe) since April 2014 and June 2016, respectively, to develop the oral drug of PTH 1-34. Orphan drugs are a regulatory classification granted to unique FDA approval candidates being developed to address insufficiently met medical needs for diseases affecting a relatively small share of the population (up to 200,000 people in the US). The program is designed to incentivize pharmaceutical firms to develop drugs for rare medical conditions. Such benefits include: taxation benefits; grants; government R&D subsidies; higher prices; barriers to entry for production of generic drugs; and most importantly, seven years of market exclusivity (even if the patent period ends, the company can continue operating monopolistically). Without such incentives, drug companies would be dissuaded from developing solutions with relatively high development costs, and which appeal to only a small consumer market. Accordingly the company can take advantage of the benefits above-mentioned, to drive their product to market and maximize its profitability.

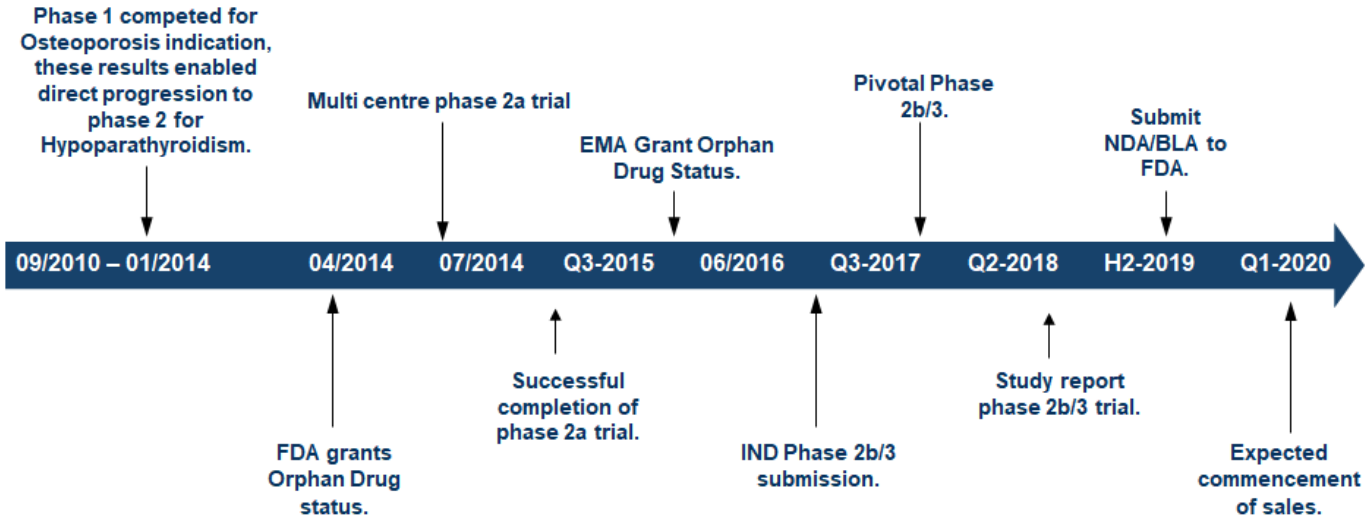
Clinical Data for EB612

Entera Bio completed multicenter, open-label, phase 2a clinical trial in Hypoparathyroidism with EB612, administered three to four times daily in parallel to a baseline regimen of calcium and vitamin D. The trial included 17 hypoparathyroidism patients, and was carried out in Israel. The trial results met the primary endpoints including reduction in calcium supplements and plasma levels, demonstrating a promising safety profile. As well, phosphate levels decreased overall and consistently following each dose. Importantly, PTH 1-34 is well studied, and has been administered as an injectable drug with the brand name Forteo to millions of osteoporosis patients for more than a decade, which further strengthens its safe use. PTH pulsed throughout the day better mimics endogenous hormone levels. Moreover, clinical evidence supports multiple daily dosing; NIH studies have shown that multiple doses daily are superior to one dose a day (QD). All in all, phase 2a results demonstrate the potential for an improved profile to the phase 3 pivotal trial findings versus Natpara.

Upcoming milestones for the clinical development of EB612 include pharmacokinetic/pharmacodynamic (PK/PD) cross over study of EB612 versus Natpara, which is intended to inform and optimize the design of

the EB612 pivotal trial initiated afterwards. The first stage of this phase's clinical trials was recently completed with results released on August 1, 2018. The phase 2b/3 pivotal trial will include 120-160 patients with EB612 individually titrated to patients, with data planned to be available by H2-19. Like Natpara, it should only need one pivotal trial, conducted with the same KOLs/PI sites. In parallel to the pivotal study, a head-to-head study is planned in the US versus Natpara to show EB612's potential to be superior to Natpara and accelerate its market acceptance. These milestones are defined to follow an efficient and well established pathway on the way to receiving regulatory approval for marketing EB612.

Forecasted clinical development timeline of EB612 for hypoparathyroidism



EB613 (PTH 1-34) for Osteoporosis

Background

Osteoporosis is a progressive systemic skeletal disease, characterized by a reduced bone mass and poor bone quality. The decrease in bone density results from loss of minerals from the bone, primarily of calcium. Consequently, bone strength decreases, resulting in fragile bones and increased risk of bone fractures. Osteoporosis itself has no symptoms, until a fracture actually occurs. Osteoporotic fractures occur in areas where healthy people would normally not break a bone, most commonly in the hip, wrist or spine. These fractures increase dramatically with age, and often cause rapid deterioration in health, resulting in death. Sometimes this phenomenon runs in families as it is inherited. Due to the asymptomatic nature of the condition, many mild-to-moderate patients are hesitant to take currently available therapies, or may not even know that they are at risk.

About 200 million people worldwide are affected by osteoporosis – about 80% are women. Over 10 million patients are affected in the US. Every second woman and every fifth man over 50 years of age suffers an osteoporotic fracture. [18] Caucasian (white) and Asian women, especially those who are post-menopausal, are at highest risk. The global annual cost of osteoporosis was estimated at $8.5 billion in 2016.

The parathyroid hormone (PTH) is one of the two major hormones modulating calcium and phosphate homeostasis in the body. It is an anabolic agent, in which therapy with it results in new bone formation. Intermittent administration of recombinant human PTH has been shown to stimulate bone formation. The first 34 amino acids (the bioactive portion of the complete hormone molecule containing 84 amino acids)- are already used in the treatment of some forms of osteoporosis by the drug Teriparatide (brand name Forteo) since 2002, given as an injection. The drug is also occasionally used off-label to speed fracture healing.

Entera's EB613 utilizes PTH 1-34, the same active molecule as Forteo, but for oral treatment of osteoporosis.

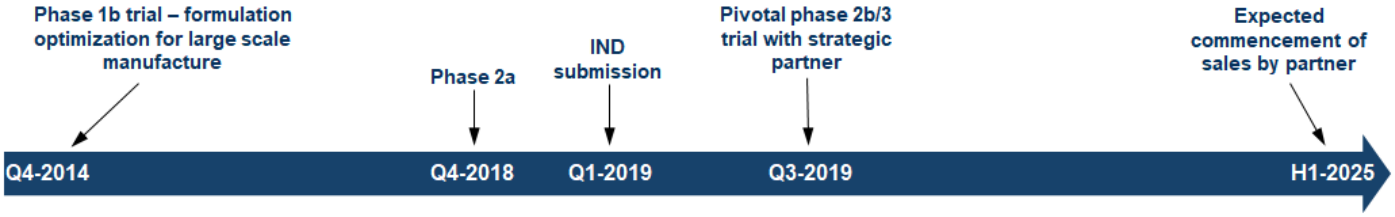
[18] http://www.iofbonehealth.org/facts-statistics.

Clinical Data for EB613

Entera Bio completed phase 1 initiated in 2014 for oral administration of EB613 to treat Osteoporosis in more than 40 subjects. The results of the trial demonstrated a favorable pharmacodynamic profile in Osteoporosis. To the best of our understanding, the safety profile and indications of clinical effect were also demonstrated. As EB613 consists of PTH 1-34, the same molecule as Forteo, the pharmacokinetic and pharmacodynamic profiles for both are highly predictive. From this perspective, the results seem promising, as an injection of Forteo is a well-characterized treatment for osteoporosis.

The company intends to initiate a multi-center, open label phase 2a clinical trial in Q4-2018; end points will include bone density and other bone markers. Following its completion, expected in Q3-2018, the company intends to engage with a strategic partner for late-stage clinical development and commercialization. The company estimates that the product will be available by 2025.

The forecasted clinical development timeline of EB613 for osteoporosis



EB613 for Non-Union Fractures

An additional indication in pipeline, that makes use of EB613, addresses non-union of fractures, an indication which currently has no proven treatment solution. Non-union of fractures occur when normal bone healing is interrupted and a fracture does not heal properly, if at all. This complication may results from a fracture's movements, poor blood supply or infection. The most common reported risk factor is an open fracture.

Failure of bone healing occurs in 5-10% of all fractures.[19] More than 300,000 people in the US annually experience fractures that fail to heal properly.[20] These are primarily fractures of the pelvis and hip, which involve extended hospital stays and result in very high costs to patients.

Numerous animal studies and off label use of Forteo suggest that PTH both accelerates bone healing and strengthens bone fusion.[21] Entera is preparing for a phase 2 clinical trial to address the clinical potential of oral PTH as a treatment for stress fractures and possibly prevention. Stress fractures refer to overuse injuries to bones caused by increased load or increased repetitions, often characterizing a military marching or training athletes. Phase 2a initiation is expected at the beginning of 2019 in an academic institution abroad in collaboration with its local military.

[19] Zura R, et al. JAMA Surg. 2016
[20] American Academy of Orthopaedic Surgeons. orthoinfo.aaos.org
[21] Coppola C, et al.Transl Med UniSa.2015

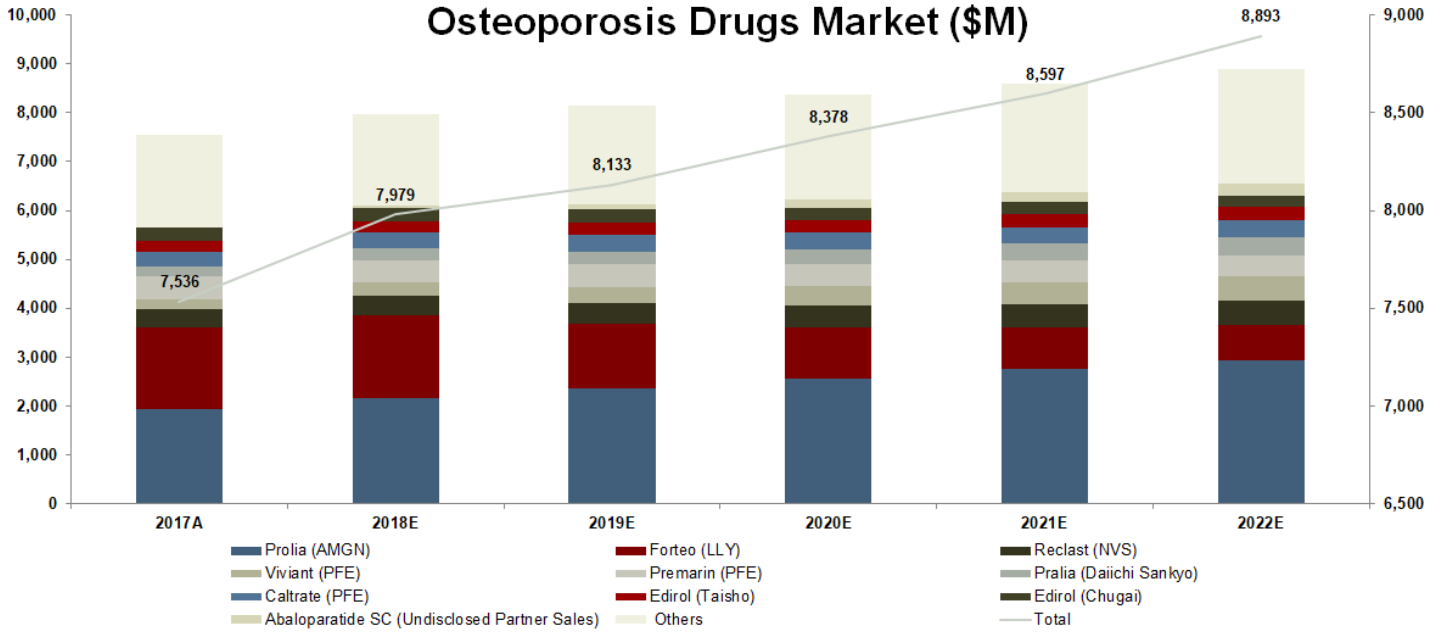
Competitive analysis

Companies which are attempting to develop oral carrier systems that will be able to deliver a variety of therapeutics with minimal modification include; Emisphere (USA), Evonik (Germany), Alkermes (Ireland), Anesta Corp. (US), Generex Biotechnology (US) and Alza Corp (US). As an example, Emisphere's Eligen system has the potential to deliver therapeutics from 0.5–150 kDa by a drug–carrier system known as SNAC. A second such system is the gastro intestional mucoadhesive patch system (GI-MAPS) of Evonik; the backing of Eudragit L100 is made of ethyl cellulose, while the surface layer is made of an enteric, pH-sensitive polymer.[22] Despite offering a very innovative oral carrier system, Oramed is excluded from this analysis as it isn't a competitor for Entera, rather a partner.

Competative Landscape - Osteoporosis

The current osteoporosis treatment landscape is mostly antiresorptive comprising five principal classes of agents: bisphosphonates (Reclast, Fosamax, Bonviva), estrogens (Premarin), selective estrogen receptor modulators (Viviant, Evista), calcitonin (Miacalcin), and monoclonal antibodies (Prolia). Each of these act by reducing loss of bone mineral. The second type of treatment includes PTH therapy, which results in new bone formation (anabolic agent).

The two most effective osteoporosis drugs on the market today are injections. The most recent entrant-Prolia (Denosumab) is a monoclonal antibody that blocks a cascade of signals causing bone breakage, given as an injection every 6 months to prevent bone loss. In 2017, its sales reached approximately $2 billion, and are expected to increase further. The second type of drug, Forteo, developed by Eli Lilly (NYSE:LLY), is the only anabolic osteoporosis agent on the US market. It is a recombinant form of PTH, administered by daily subcutaneous injections and is recommended for people with osteoporosis who are at high risk for fractures. 2017 worldwide sales of Forteo were $1.7 billion.



Source: Evaluate Pharma

Aside from commercially available drugs for treatment of osteoporosis, there are numerous drugs under development. Our search identified 29 drug candidates from stage I to late clinical or pre-registration stages.[23]

[22] Bruno BJ, et al.,Ther Deliv. (2013) 4(11), 1443–1467
[23] Pharmaprojects-a drug development database

Radius pharma also targets the osteoporosis market, they develop abaloparatide patches to potentially be used as short term treatment for postmenopausal women with osteoporosis. In 2018, Radius pharma met with the FDA to align on a regulatory development path for the abaloparatide patch. The initiation of clinical trials is expected in mid-2019.

Other than Entera, several other companies are developing oral delivery treatments of osteoporosis. Among them, RGB-10 is a biosimilar of teriparatide (PTH) given as a subcutaneous injection, under development by Gedeon Richter (Hungary) for the treatment of osteoporosis, currently at pre-registration stage.

Ostora is a recombinant oral salmon calcitonin (rsCT) once-daily tablet at a preregistration stage, under development by Tarsa Therapeutics for the treatment of osteoporosis. It was previously under development by Unigene Laboratories, Inc., a biopharmaceutical company in the US, which develops oral and nasal drug delivery technologies.[24]

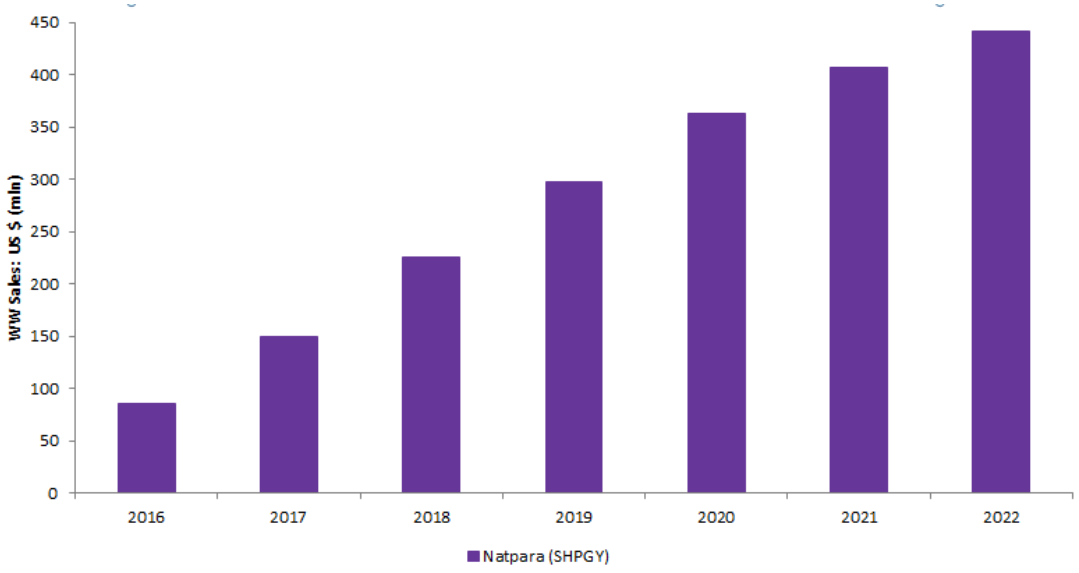
Lasofoxifene is the lead compound in a series of partial estrogen agonists based upon Ligand's intracellular technology research, developed by Pfizer (NYSE:PFE), for the treament of postmenopausal osteoporosis. It was also under development for vaginal atrophy. Currently on Phase III clinical stage.

K-5211 (LGD-4033) is a novel selective androgen receptor modulator (SARM), under development by Ligand for the treatment of sarcopenia, muscle wasting, cachexia and osteoporosis. The drug was licensed to Viking Therapeutics, and currently on phase II.

Competative Landscape – Hypoparathyroidism

The Hypoparathyroidism drugs landscape consists of a sole player - Natpara , developed by NPS which was acquired by Shire Pharmaceuticals. The drug was FDA approved in 2015, and is presently only available in the US. In 2017 the drug generated revenues just shy of $150 million,[25] and the US market is forecasted to reach $441.31 million by 2022.[26] Entera's orally delivered PTH hormone is intended to substitute the current Natpara solution. Moreover, the company estimates that its drug candidate will extend the treatment to a broader range of patients, and can treat moderate to mild to severely affected patients. The market for rare-disease treatments is considered attractive, despite a small number of patients, because companies can increase prices dramatically. Despite the high cost ($100k annually), insurers are usually willing to pay for the therapies because they have few members who need them and the drugs can be life saving.

Total worldwide market value for Natpara (2016A-2022E)



Source: Evaluate Pharma

[24] https://www.bloomberg.com/research/stocks/private/snapshot
[25] Shire PLC. Annual Report 2016. (2017).
[26] Evaluate Pharma, 2017

BeamMed

Company Overview

BeamMed is a medical device company offering unique ultrasound based solutions for Bone Health assessment and determining a patient's risk of developing osteoporosis. BeamMed was founded in 2004 and is headquartered in Israel. Its technology was acquired from Sunlight with IP rights in 2006. Ever since, BeamMed has extended its product line offering greater portability and user friendliness; MiniOmni is their most recently developed portable product, whilst the Omnisence 9000 is the latest product to go to market.

The company develops, manufactures and markets its products. Its products enable physicians to provide early assessment, diagnosis and monitoring of Osteoporosis with relation to a patient's risk factor. The technology is largely patented and based on quantitative ultrasound which has been proven effective as a screening tool for Osteoporosis, and also as a tool for ongoing monitoring of treatment effectiveness.

Additionally, the company possesses an exclusive embedded database categorized by ethnic group (Caucasian, Asian, Chinese, North American, Latin American) and by sex/age (male, female and children), which compares the physical measurement with those in the relevant group to improve clinical accuracy. This database in conjunction with the preparatory algorithm are non-patented assets which gives the company added value.

The company operates in the Bone Densitometers industry, and is mostly active in the US and China. BeamMed operates in other territories as well such as Europe, and the Far East. Thousands of devices are already in use in clinics, physician offices, HMOs, research centers, hospitals, check-up centers and pharmacies around the world. The company's push into the United States is asserted by favorable demographics with demonstrable demand for efficient and effective screening and monitoring solutions. Importantly, reimbursement bodies like health insurance companies have shown favor to 'screening' solutions as they minimize the long-term costs of treating the disease. Similarly, effective yet simple monitoring solutions are worthwhile for insurance companies to reimburse as they are a relatively inexpensive way of averting bone degradation in the patient by identifying warning signs early on, and thus potentially avoiding high treatment costs in the future.

Market, Standard of Care and Unmet Needs

Background

BeamMed's Sunlight product range utilizes their proprietary quantitative ultrasound-based technology, for early assessment of osteoporosis. Osteoporosis is a progressive systemic skeletal disease that is accepted as a major public health problem, with increasingly high associated costs.

When the level of calcium and phosphate decreases, bone density does so alongside. During a human lifespan, older bones are reabsorbed and new ones are created. The human skeleton is replaced approximately every 10 years. If the bone density does not remain balanced between older and newer bones, loss of bone structure occurs. The bone loss occurs silently and progressively, and there are often no symptoms until the first fracture occurs.[27] Finally, bone loss can lead to osteoporosis, a condition reducing bone mass and bone quality. Osteoporosis-related fractures increase dramatically with age and they often cause rapid deterioration in health, resulting in death. According to the International Osteoporosis Foundation (IOF), hundreds of millions of people worldwide are affected by osteoporosis, including approximately 80% of women. Every third woman and every fifth man over 50 years of age suffers from an Osteoporotic fracture.

[27] http://www.iofbonehealth.org/facts-statistics.

Worldwide, osteoporosis causes more than 8.9 million fractures annually. By 2050, the worldwide incidence of hip fracture is projected to increase by 310% for men and 240% for women compared to rates in 1990.[28]

Osteoporosis cannot be reversed. However, it can be effectively managed by early diagnosis of bone mass loss and by prevention of further loss. Osteoporosis assessments are used to diagnose and measure bone density, as these indicators can prevent further osteoporosis deterioration and fracture risks in older adults.

Technologies for Osteoporosis Detection

Diagnosis of Osteoporosis consists of central and peripheral skeleton screening methods. Commonly, central Dual Energy X-ray Absorptiometry (DXA), an X-ray-based imaging approach, is used as the first-in-line diagnostic tool to detect osteoporosis. Traditionally, DXA technology is used for bone density tests measuring the minerals levels in bones. Bone Mineral Density (BMD) loss provides an indication of bone status. DXA is the gold standard for osteoporosis diagnosis in postmenopausal women, particularly those aged 65 and older.[29] The technology utilizes a beam of radiation with a common and sustained energy level, which gets absorbed or passed through tissues, depending on their density. The central DXA test is usually taken on the lower spine and hips to measure bone loss. When testing cannot be done on the hip and spine, a central DXA test of the radius bone in the forearm is taken. Other central technologies for diagnosis are based on MRI (Magnetic Resonance Imaging) and CT (Computerized Tomography).

More recently, peripheral screening tests have been developed to measure bone density in the lower arm, wrist, finger, and heel. Screening tests can help identify seemingly healthy people who are most likely to benefit from further bone density testing. They are also useful when a central DXA is not available. These tests are often conducted at health fairs or medical offices.

There are several types of peripheral tests, including pDXA (peripheral dual energy x-ray absorptiometry), pQCT (peripheral quantitative computed tomography) and QUS (quantitative ultrasound), the lattermost being that performed by BeamMed devices.

BeamMed's quantitative ultrasound bone screening technology

BeamMed's Sunlight screening devices (the Omnisense catalogue) utilize Omnipath Axial Transmission technology, which is based on quantitative ultrasound. Omnipath is a unique, patented, proprietary axial transmission technology based on the speed of ultrasonic waves propagating along the bone, i.e. Speed of Sound (SoS), in m/sec. Axially transmitted SOS correlates with bone strength since multiple bone properties, such as microstructure, elasticity, cortical thickness and bone density are accounted for in the result.

Technically, the ultrasonic wave propagation times are used by a proprietary algorithm to determine the bones SOS, independent of soft tissue thickness. The frequency of acoustic waves used by Omnisense's line of products is 1.25MHz. Omnisense precision error is 0.6% at the radius, one of the highest precision ratings in the industry. Based on Omnisense's high precision levels, the FDA approved it for use in monitoring bone changes in the most relevant age group: pre- and post-menopausal women, 50-65 years of age. The output of measurement with Sunlight devices is expressed as a Z-score and a T-score, in addition to SoS in m/sec. A T-score bone density compares the specific bone density to that of a healthy adult at age 30. With this score, the physician is able to diagnose Osteopenia or Osteoporosis and determine if the patient has a greater risk of fracturing or breaking a bone. A Z-score compares the bone density to the relevant age group and body size. Additionally, BeamMed's exclusively embedded database categorized by ethnic group (Caucasian, Asian, Chinese, North American, and Latin American), whilst

[28] http://www.iofbonehealth.org/facts-statistics.
[29] Hardy, K. Radiology Today V.14 No.10. (2013).

distinguishing between children/adults and between genders, assigns the physical measurement to the relevant group. All results are depicted graphically in a report that can be stored and printed. The software includes patient history and scheduling features, which enable efficient tracking of measurement history. It has a convenient USB-port connectivity to Windows, ideal for use in any physician's office or medical clinic, pharmacy, or annual checkup center. Finally, the technology also has the potential to serve as the basis for collaborative partnerships with OEMs.

Market Overview

BeamMed has been manufacturing and selling ultrasonographical medical devices for more than a decade. The International Osteoporosis Foundation estimates that 200 million people suffer from osteoporosis worldwide. The principal driver of this growth is the increasing geriatric share of the world's population. Osteoporosis is both an underdiagnosed and undertreated disease with therapy costs exceeding those of, for instance, breast cancer. Perhaps a reason behind this surprising fact is that the latter has a well-established screening market (Solomon, 2014). The diagnosis of osteoporosis in its early stages can improve people's quality of life and lower direct and indirect costs. Traditionally, central Dual Energy X-ray Absorptiometry (DXA), an X-ray-based imaging approach, is used as the first-in-line diagnostic tool to detect osteoporosis. BeamMed and other peripheral screening providers are positioned at the start of the Osteoporosis Care Market's value chain, dominating the screening segment (pre-diagnosis), addressing healthy patients 'at risk' of developing osteoporosis rather than patients who are inclined to diagnosis. Given their position at this initial stage of the Osteoporosis Care Market's value chain, BeamMed's products are not substitutes for DXA, which is still considered to be the gold standard. Finally, BeamMed's devices provide value additional to patients further down the value chain as an effective monitoring tool for determining the effectiveness of ongoing treatment.

Market Drivers & Consolidators

- **Demographic trends**. The geriatric share of the world's population is increasing. Every second woman and every fifth man over 50 years of age suffers an Osteoporotic fracture. Approximately 75 million of the total 200 million worldwide patients live in Europe, the US or Japan, widely considered to be the most attractive markets due to high retirement savings, pension rebates and propensity to pay.
- **Insurance Reimbursement.** Favorable policy towards screening solutions in general and those for Osteoporosis in particular, appeals to end-users. Positive results from regulatory agencies, which determine the favorability of reimbursement policies, have been awarded to BeamMed by both public and private authorities across key global markets. Screening solutions are also reimbursed favorably as they offer similar long-term cost effectiveness for insurance companies.
- **Market Need.** The International Osteoporosis Foundation estimates that more than 70% of those at risk have never been diagnosed or screened. This indicates a pressing need for easy, cost-effective and safe early assessment tools. The current tools for screening are not portable, non-user friendly, and rather expensive.
- **Technological Drive.** The ultrasound industry is currently seeking innovative avenues to perform decisive, non-invasive diagnostic testing. The technological upgrades of ultrasonographic devices coupled with their reproducibility are driving this trend by ensuring better clinical output alongside increased affordability. BeamMed is part of this transformation as the leader in multi-site ultrasound-based Osteoporosis screening.[30]
- **Market education**. While those with fractures are likely to get themselves diagnosed, and those with a confirmed diagnosis will almost certainly seek treatment, without sufficient market education, there is no guarantee that those at risk will get themselves screened. Fortunately, from the BeamMed's perspective,

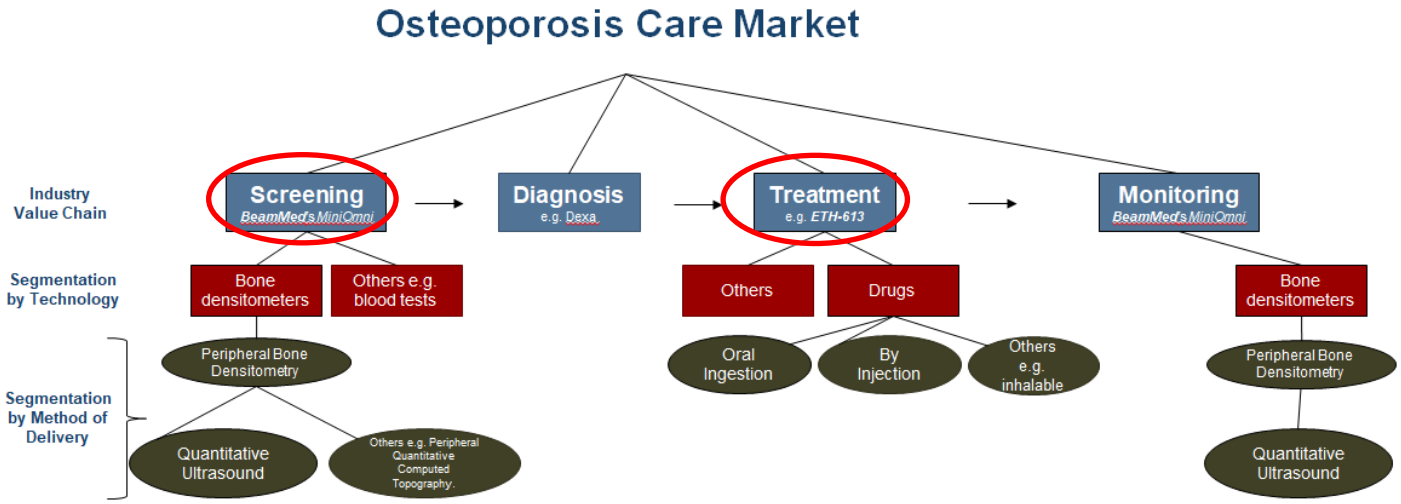
[30] Frost & Sullivan. BeamMed - Best Practice Award. (2015).

their view of this practice as a market flaw is asserted by key actors in the healthcare supply chain. Moreover, the screening segment does not face this restraint.

Bone Densitometers Market

Market Value

The Global Bone Densitometers Market is set to grow at a CAGR of 3.1% (2017-24) to $1.1B by 2024. Within this market, BeamMed's activities fall under the Peripheral Bone Densitometry segment, and their product competes as a quantitative ultrasound solution.



Source: Frost & Sullivan

Market Size

Recently, experts have cited an increase in incidence rates among women who contract osteoporosis during menopause. Moreover, the geriatric correlation is also significant among females with 67% of 90-year-olds, 40% of 80-year-olds, 20% of 70-year-olds and 10% of 60-year-old women suffering from the disease. In addition, 33% of women over age 50 will experience at least a single osteoporotic fracture.[31] Whilst relative incidence among males is lower, the real growth in the number of male patients is also driving the market. This increase can be partially attributed to lifestyle factors that are statistically more prevalent among men and which are known to deteriorate bone health, including: a sedentary lifestyle, alcohol and tobacco abuse.[32] Incidence among men for medical conditions is generally lower as they are far less likely to seek medical assistance than women. Recent awareness programs to address this issue will see increased incidence numbers in both real terms, and relative to females.

Geographic Segmentation

Prior to their recent push into the US market, *BeamMed*'s core focus had been in East Asia, particularly Mainland China. This strategy reflects the market demand in terms of patient numbers. The region is the world's most populous, and the geriatric share thereof is growing, most rapidly in China. By 2050, 50% of all osteoporotic hip fractures will occur in Asia.[33] Much like in other geographies, healthcare reimburses favor screening solutions as early detection may reduce long-run treatment costs. China's elderly are disproportionately situated in rural areas, and therefore a small, portable, affordable and yet reliable screening tool is necessary to reach hundreds of millions of people.

Whilst East Asia may host the largest market size when measured by potential patient population, the most lucrative market financially is undoubtedly the US. This is generally consistent across healthcare markets,

[31] https://www.iofbonehealth.org/facts-statistics#category-19.
[32] http://www.grandviewresearch.com/industry-analysis/osteoporosis-drug-market.
[33] BeamMed. BeamMed. Corporate Presentation. (2017).

however several distinct market dynamics make the US especially attractive for the Osteoporosis Care Market, and even more so for companies offering screening solutions there. Once again, the demographics are rather favorable with a growing relative geriatric population. The at-risk population may number 61 million, and the patient population 14 million by 2020.[34]

Health Insurance Coverage

The estimated annual direct medical costs of osteoporotic fractures are predominantly covered by Medicare and will increase significantly by 2025. In parallel, Medicare's national average payment for DXA testing in physician offices has decreased from $139.46 to $61.70, with costs to the provider standing at around $70. These policies have been reinstated by the Affordable Healthcare Act, and therefore the market is ripe for solutions such as BeamMed's to screen patients on mass, and only refer those with higher risk scores for DXA scans.[35]

Medicare links healthcare providers' payments and financial bonuses to their HEDIS quality rating. HEDIS (Healthcare Effectiveness Data and Information Set) is a widely used set of quality performance measures in the US healthcare industry for comparing health plans and for tracking year-over-year performance. Improved HEDIS scoring increases the payments a healthcare provider is eligible to receive from Medicare. Specifically with regard to osteoporosis screening, Medicare recommends a bone density test every 23 months for women over the age of 67. Moreover, the higher the risk score of a patient the higher the reimbursement received by the physician.[36] Private insurers reference a different rating system, MACRA, and offer greater coverage for procedures with higher MACRA scores. BeamMed's favorable ratings under HEDIS, and potentially under MACRA incentivize end-users to purchase their machines.

With reimbursement in non-facility settings declining and many primary-care physicians doing away with their hefty DXA machines, BeamMed can take advantage of favourable point-of-care circumstances. End-users are looking for new innovative, compact, and most of all, profitable replacements and BeamMed's products seemingly 'tick all the boxes'.[37]

The burden to the healthcare system is staggering. Each year the U.S. spends nearly $17 billion treating more than 2 million osteoporosis fractures. When you add in the money spent in the US, Canada and the EU, approx. $48 billion is spent annually on treating osteoporosis fractures. This figure doesn't take into count the indirect costs such as disability and loss of productivity.

Company's Products

BeamMed's mission is to provide an alternative method of care in assessing one's risk of developing osteoporosis, and in monitoring the effectiveness of a patient's treatment regime. Their product offers an affordable, convenient and radiation-free bone density test by means of quantitative ultrasound. The screening/monitoring results provide insights into the skeletal fragility, which assists physicians in diagnosing or predicting the chances of developing osteoporosis.

BeamMed's Sunlight Omnisense product is a bone densitometer that can carry out measurements at multiple skeletal sites, allowing for a greater chance of identifying individual cases of osteoporosis. This flexibility is very important, especially for patients who cannot be tested at a particular skeletal site.

[34] https://www.iofbonehealth.org/facts-statistics#category-19
[35] Singer, A. Osteoporosis International. (2014).
[36] BeamMed. Corporate Presentation. 2017.
[37] Hardy, Radiology Today V.14 No.10. (2013).

BeamMed's Omnisense line of products are compact, lightweight, portable and standalone, do not require any external infrastructure except for electric power, and are therefore ideal for use in any clinic or physicians' office. The measurement database is segmented by gender, age, and ethnicity making it suitable for assessing bone density in patients aged 0-99 years, even in neonates.

The technology, which refers to the probe design and the Omnipath axial ultrasound signal transmission, is largely patented until 2021. The aforementioned database additionally includes a unique application and reference database for optimal screening of Chinese children. Moreover, the company has developed a proprietary algorithm that determines bones' Speed of Sound (SOS). Both assets are not patented, but are exclusively used by the company.

BeamMed's Product Line

- **Omnisense 9000** is a Quantitative Ultrasound Bone Sonometer that enables ultrasound-based osteoporosis screening at a touch. A robust device that features a cable-free touch-screen and a user-friendly interface, it is ideal for use in clinics or any other point of care with a heavy workload. Omnisense 9000 is based on a panel PC computer with advanced hardware and software. Omnisense 9000 has a CE Mark and may be approved in China before the end of 2018.

- **MiniOmni** is a smaller and more advanced version of the Sunlight Omnipath quantitative ultrasound proprietary technology, offering increased portability at a lower cost. Unlike the other systems in the series, which are bundled with a computer, MiniOmni includes an electronic card, probe and software with USB connectivity into any Windows™ 7/8-based laptop or desktop computer. MiniOmni has regulatory approvals from the FDA (USA), a CE Mark (Europe), the CFDA (China) and more.

BeamMed offers the following products to pediatric patients

- **Sunlight Pediatric Software** allows an accurate bone density assessment of children aged 0-18 years. It functions with both the Omnisense 9000 and the MiniOmni. Sunlight Pediatric was developed in response to the growing need to measure and monitor children during their critical growth years. The Sunlight bone densitometer can provide an early assessment of inadequate bone strength development, and give children a head start towards reaching their peak bone mass.
- **Sunlight PREMIER Software** enables safe and accurate bone density assessment in premature babies. The widespread prevalence of osteopenia of prematurity (OOP) among pre-term infants makes Sunlight PREMIER an essential and unique tool in hospitals' neonatal units. Currently, the company does not promote this product due to strategic and logistic considerations.

Omnipath based devices are installed in the thousands worldwide, mainly in the US and also in China. Omnisense multi-site ultrasound devices, allow for first-line early assessment, diagnosis and monitoring of osteoporosis. Countries with distribution channels include: China, India, Hong Kong, Taiwan, and the Philippines. BeamMed's largest markets are in China and the US.

Omnisense systems have class III Pre-Market Approval (PMA) from the FDA for marketing in the US since 2000 (this was first granted to Sunlight, which was acquired by BeamMed in 2006). Due to hardware changes in the more advanced series' devices, Omnisense systems were reclassified as class II under the 510K regulatory pathway in 2008. In October 2011, BeamMed received 510K market approval for the MiniOmni, its latest product in the Omnisense series. Additionally, the MiniOmni has the CE mark and CFDA approval and the Sunlight Omnisense 9000 holds CE market approval in Europe. Moreover, BeamMed devices have market approval in China, the US and Israel.

US Healthcare professionals performing examinations using BeamMed's Omnisense and MiniOmni devices are reimbursed by both private insurance companies and Medicare. The company's products have been

proven effective by dozens of healthcare providers, helping them gain Medicare stars, which are dependent upon HEDIS data collection protocol. In Asian countries, the medical system is mainly private, and therefore reimbursement variables do not limit BeamMed's sales. In China, BeamMed's devices are also acquired by public sector institutions such as hospitals.

Competitive Analysis

In 2006, BeamMed began providing Osteoporosis patients with an alternative care diagnosis method using an affordable, convenient and radiation-free bone density test by means of quantitative ultrasound. BeamMed's Sunlight Omnisense devices were the first devices that enabled ultrasound-based, multi-site measurement for early assessment of Osteoporosis with a pioneering axial technology along the bone. The company operates in the Bone Densitometers industry, where several traditional diagnostic methods indirectly compete with the quantitative ultrasound technology, on which BeamMed's devices are based.

Differentiating Screening from Diagnosis Solutions

BeamMed and its direct competitors are considered as providing peripheral screening tests, which are based on ultrasound and other technologies, such as **pDXA** (peripheral dual energy x-ray absorptiometry) and **pQCT** (peripheral quantitative computed tomography).

DXA bone density tests are perceived as the gold standard, however, usually these systems are room-sized and are expensive to purchase and operate. Bone density tests performed with central DXA technology are usually taken on the lower spine and hips, and expose patients to radiation. In recent years however, smaller roentgen machines with lower radiation have been developed that measure bone density above the wrists, hand and fingers by companies such as Lunar-GE (IDXA, Prodigy), Hologic (Discovery, Explorer) and Osteometer Meditech (DXA-200, DexaCare).

Direct competitors for the Omnisense systems are ultrasound based devices such as Hologic (Sahara), Lunar-GE (Achilles), Furuno (CM-200) and OsteoSys (Sonost 3000), as well as other smaller, less familiar players. The competitors mentioned all offer devices with ultrasound-based measurements taken at the heel. These devices are heavy, require water or oil circulation, are considered less accurate, and less convenient as patients need to remove their shoes to be tested.

BeamMed's Sunlight product line overcomes the cost and radiation exposure challenges of Dual X-ray Absorption technology (DXA). Whereas DXA technology is used for bone density tests by measuring the amount of minerals in the bones, BeamMed's omnipath technology correlates with bone strength by multiple bone properties, such as microstructure, elasticity, cortical thickness and bone density, all accounted in the result.

Competition in China

In China there are more than twenty manufacturers in this field. Most of them aim for the 'low end market' and BeamMed aims for the top tier. In China, Class I and Class II hospitals are restricted to purchasing products made in China if, as in this case, they are available. Therefore, only Class III hospitals and top Class II hospitals purchase BeamMed's products.

Competition in the US

The price in the US for a bone density test ranges between $70 and $100, and $9 to $10 after reimbursement by Medicare. The end user price for BeamMed's system is approximately $9,000 in the US, wheras the price for competing systems is range between $10,000 and $12,000.

Competitive Advantage

BeamMed's unique sales strategy versus traditional technologies is in marketing its products to primary care clinics and parties that are interested in screening tests for larger populations rather than hospitals and X-ray centers. The device can be used by any trained operator, and in any physician's office. The relatively low price of the MiniOmni as well as its plug-in features to the physician's computer, considerably increases BeamMed's market share potential.

Additional advantages of BeamMed's devices include; high accuracy, light-weight, user friendliness, and multi-site examination (lower arm, finger, tybia or metatarsal). The product can easily and safely be used at multiple points-of-care: doctors offices, clinics, HMOs, and retail venues such as pharmacies and check-up centers. Moreover, the company's line of devices are equipped with a unique built-in database which is segmented demographically. Having said that, BeamMed has a few relative disadvantages over competitors, primarily their products' measurement time, and their more limited scientific basis compared to GE devices (NYSE:GE), which are the most sought after in the US. In addition, GE's product is bulky weighing in at 15kgm, as opposed to BeamMed's which is less than 1kg.

Appendix I - Financial Reports – DNA Biomedical Solutions

Balance Sheet (NIS 000s)	31.12.2017	30.06.2018
Cash and Cash Equivilents	1,517	439
Receivables and Accounts receivable	88	73
Current Assets	**1,605**	**512**
Investment in financial instruments	468	0
Investment in company	70,592	64,569
Investment in shared transactions	5,429	6,032
Non-Current Assets	**76,489**	**70,601**
Total Assets	78,094	71,113
Payables and Accounts Payable	396	386
Options (put, call)	8,591	20,371
Current Liabilities	**8,987**	**20,757**
Non-current Liabilities	**0**	**0**
Total Liabilities	**8,987**	**20,757**
Equity	**69,107**	**50,356**
Total Liabilities + Equity	**78,094**	**71,113**

Statement of Profit and Loss (NIS 000s)	Q2-2017	Q2-2018
General and Administrative Expenses	(902)	(1,154)
Other Losses	0	(1,950)
Portion in Companies' Profit/Loss	(12,437)	(8,088)
Portion of Profits (shared transaction)	118	305
Loss from Operations	**(13,221)**	(10,887)
Financial Commitments and Financing Expenses	202,840	(11,780)
Fund for conversion of differences, net	(6,119)	3,845
Net Loss	**183,500**	**(18,822)**

Appendix II - Financial Reports – BeamMed

Balance Sheet ($000s)	31.12.2017	30.06.2018
Cash and Cash Equivalents	2,057	2,350
Restricted Deposits	122	119
Accts Receivables (Customers)	94	151
Other Receivables	148	196
Inventory	1,135	1,114
Current Assets	**3,556**	**3,930**
Intangible Assets	610	514
Deffered Income Taxes	65	65
Fixed Assets	23	20
Non-current Assets	**698**	**599**
Total Assets	**4,254**	**4,529**
Accounts Payable (Suppliers)	136	244
Other Payables	330	248
Loans from shareholders	401	408
Tax Payable	0	72
Current Liabilities	**867**	**972**
Deffered Income Taxes	97	68
Royalties Owned to Government of Israel	51	51
Net Liabilities from employee termination	3	3
Non-current Liabilities	**151**	**122**
Total Liabilities	**1,018**	**1,094**
Total Equity	**3,236**	**3,435**
Total Liabilities + Equity	**4,254**	**4,529**

Statement of Profit and Loss ($000s)	Q2-2017	Q2-2018
Sales	1,736	1,793
COGS	(771)	708
Net Earnings	**965**	**1,085**
Marketing and Sales Expenses	369	365
General and Administrative Expenses	446	421
Revenue from Operations	**150**	**299**
Net Financing Expenses/Income	17	(58)
Profit/Loss before income tax	167	**241**
Income tax	(60)	(43)
Total Net Annual Profit/Loss	**107**	**198**

Appendix III - Financial Reports – Entera Bio

Balance Sheet ($000s)	31.12.2017	30.06.2018
Cash and Cash Equivalents	11,746	6,471
Other Current Assets	671	1,017
Current Assets	**12,417**	**7,488**
Property and equipment	207	248
Intangible assets	654	654
Non-current Assets	**861**	**902**
Total Assets	**13,278**	**8,390**
Accounts Payable (Trade)	596	262
Accounts Payable (Other)	1,424	1,766
Total Current Liabilities	**2,020**	**2,028**
Convertible Loans	3,893	3,925
Preferred shares	33,455	30,905
Warrants to purchase preferred shares and shares	5,398	5,020
Net severance pay obligations	70	66
Total Non-current Liabilities	**42,816**	**39,916**
Total Liabilities	**44,836**	**41,944**
Total Capital Deficiency	**31,558**	**(33,554)**
Total Liabilities + Equity	**76,394**	**8,390**

Statement of Profit and Loss ($000s)	Q2-2017	Q2-2018
Research and Development Expenses	1,280	4,658
General and Administrative Expenses	2,894	854
Operating Loss	**4,174**	**5,152**
Net Financial Expenses (Income)	(408)	(2,919)
Net Comprehensive Loss	**3,766**	**2,593**

Appendix IV - Contact Details & Management

DNA Biomedical Solutions Ltd.

DNA Biomedical Solutions Ltd.
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Ze'ev Bronfeld is the Chairman of the DNA Biomedical Solutions Ltd. Directorate. In this capacity he serves as both a Director of Entera Bio and DNA. Mr. Bronfeld has served as a director of Protalix Ltd. (**TLV:PLX**) since 1996, and brings vast experience in management and in growing biotechnology companies. He has served as its CEO since 1986. He holds a B.A. in Economics from the Hebrew University of Jerusalem.

Yonatan Malcha is the General Manager and Director of DNA Biomedical Solutions Ltd. Mr. Malcha was previously co-CEO of Ethos Capital Ltd. He is acting Chairman of CardioArt Technologies Ltd, a manufacturer and marketer of measurement equipment for treating Congestive Heart Failure (CHF). Mr. Malcha holds a BA in Economics and Statistics and an MA in Economics and Finance – both from Bar Ilan University.

Tony Klein is the deputy CEO (Finance) of DNA Biomedical Solutions Ltd. Mr. Klein was previously a Senior Manager at Kesslman & Kesslman (PwC, Israel) and Financial Manager at Biomedix, a leading Health Technology Incubator. Mr. Klein has a BA in Economics and Accounting from the Ruppin Academic Centre and is a certified accountant.

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Tal Marom is the CEO of BeamMed. Prior to joining BeamMed in 2007, he founded and served as CEO of Mennen Medical Ventures, a private investment company that was spun off from international medical devices company Mennen Medical, where he had been VP Sales and Marketing. Previously, Mr. Marom was VP Sales at Top Image Systems and prior to that Director of Government Projects at the company. Earlier, he was an Investment Manager at Koor Technologies and worked as a lawyer at the Tel Aviv law firm of I. Gornitzki & Co. Mr. Marom holds a BA in Accountancy and a LLB (Law), both from Tel Aviv University.

Gilad Zamir is the VP Sales and Marketing of BeamMed. He joined BeamMed in 2007 from Mennen Medical where he served as a Regional Sales Manager for Europe and Asia-Pacific and as Product Manager of the company's monitors product line. Prior to that, he held similar positions at Flowmedic, which focuses on medical devices for treating circulatory disorders. Previously, he was Marketing Manager at MB Innovative Medical Technology, and a Product Manager at Dover Medical and Scientific Equipment. A qualified lawyer, Mr. Zamir worked at leading Tel Aviv law firm Shachal & Co. He graduated as a Practical Bio-Med Engineer with expertise in Respiratory Therapy and Biomedicine Pumps from the Tel Aviv Biotechnology Institute and he holds a BA in Law from the Ramat Gan Academic College for Law.

Tsafrir Rubin is the CFO at BeamMed. Mr. Rubin joined BeamMed in 2008 from the Carlton Tel Aviv Hotel where he was CFO and accountant. In this role, he oversaw the hotel's finances, inventories and expenditures and was responsible for its information technology systems. Earlier, he worked as an accountant for Rozanski Halifi Meiri & Co., where he performed audits on private and public companies and internal audits for publicly-listed corporations. Mr. Rubin is a Certified Public Accountant with a BA in Business Administration and Finance from the College of Academic Management Studies, Israel.

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Dr Phillip Schwartz is the Chief Executive Officer of *Entera Bio*. Dr. Schwartz has over 25 years of direct experience in research and drug development, with more than 15 years at Dana Farber Cancer Institute, Harvard Medical School, and Rockefeller University. For 10 years he held leading roles in Clinical Affairs and Business Development with both Serono and Endo Pharmaceuticals.

Dr Roger Garceau is the Chief Development Advisor and Director of *Entera Bio*. Dr Garceau is the Former CMO of NPS Pharmaceuticals and an expert in Global Clinical Development and Regulatory Affairs for orphan drugs. He has more than 30 years of industry expertise, most recently having led the Natpara clinical development and regulatory approval process.

Mira Rosenwig is the Chief Financial Officer of *Entera Bio*. Ms. Rosenzweig has over 15 years of experience in financial and executive management. Prior to Entera Bio, she was VP and CFO at Camtek Ltd. (NASDQ: CAMT) and Director of Finance at Elron Electronics (NASDQ-TASE: ELRN).

Dr Hillel Galitzer is the Chief Operating Officer of *Entera Bio*. Dr. Galitzer has over 15 years of biotech and research experience, most recently leading early-stage biotech companies and previously conducting medical research in various therapeutic areas. Dr. Galitzer has a PhD in Medical Research -Molecular Biology from the Hebrew University Jerusalem, focusing on PTH and calcium regulation.

Appendix V – Team Bios

Kobi Hazan is the Lead Analyst for Frost & Sullivan's Independent Equity Research practice. He has over 14 years of experience in capital markets, including research, analysis, investment advisory, and management. Mr. Hazan served as a Fund Manager for provident and mutual funds at Analyst Ltd. and, since 2012, he runs the Amida Israel Fund, a hedge fund specializing in Israeli equities. Kobi holds a BA (Economics and Management) from The College of Management Academic Studies. He is licensed as an Investment Advisor in Israel.

Dr. Tiran Rothman is Director of Operations at Frost & Sullivan, Israel and also oversees the Firm's Independent Equity Research practice. He has over a decade's experience in financial research and analysis, obtained through positions at a boutique office for economic valuations, as chief economist at the AMPAL group, and as co-founder and analyst at Bioassociate Biotech Consulting. Dr. Rothman also serves as Head of the Economics & Management School at Wizo Academic College, Haifa. Tiran holds a PhD (Economics), MBA (Finance), and was a visiting scholar at Stern Business School, NYU.

Dr. Hadar Cohen Ha-Levy is a specialist in the field of Biochemistry. Hadar holds a Ph.D. in Biochemistry from Weizmann Institute of Science, M.Sc. in Biotechnology-nanotechnology from Tel Aviv University and B. Sc. in Biotechnology from Bar Ilan University. After her studies, Hadar worked for eighteen months at Teva Pharmaceuticals (NYSE:Teva) as research scientist for the upstream department. Hadar has a broad scientific background in inter-disciplinary fields and over 10 years of conducting original research, with expertise in the interface between biology and chemistry. She has a strong track record of developing small molecules by using peptides for drug design. Hadar is the co-author of multiple scientific papers with vast experience in scientific writing.

Daniel Grunstein is a Consulting Analyst at Frost & Sullivan in Israel and has been working on the TASE since joining the company in February 2017. Daniel has five years of work experience in research and international business development in Australia and Israel. Daniel holds a BA (Economics) from the University of Sydney, and an MBA (Innovation & Strategy) from Tel Aviv University. He is currenly an MPhil candidate at the University of Oxford. Along with Dr. Rothman he has a forthcoming publication with Palgrave MacMillan focusing on the valuation of early stage technology companies.

Disclaimers, disclosures, and insights for more responsible investment decisions

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