United States Healthcare

January 17, 2023

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Stock Data

Exchange:	NasdaqCM
52-week Range:	\$0.34-3.69
Shares Outstanding (million):	27.9
Market cap (\$million):	\$43.8
EV (\$million):	\$37.1
Debt (\$million):	\$0
Cash (\$million):	\$6.7
Avg. Daily Trading Vol. (\$million):	\$2.2
Float (million shares):	17.6
Short Interest (million shares):	0.12
Dividend, annual (yield):	NA

Revenues (US\$ million)

	<u>2021A</u> (Cur.)	<u>2022E</u> (Cur.)	<u>2023E</u> (Cur.)
Q1 Mar	3.4A	3.6A	4.3E
Q2 Jun	4.5A	3.8A	4.9E
Q3 Sep	4.5A	4.7A	5.0E
Q4 Dec	4.4A	<u>5.1E</u>	<u>6.0E</u>
Total	16.9A	17.2E	20.3E
EV/Revs	2.2x	2.2x	1.8x

Earnings per Share (pro forma)

	<u>2021A</u> (Cur.)	<u>2022E</u> (Cur.)	<u>2023E</u> (Cur.)
Q1 Mar	(0.19)A	(0.25)A	(0.19)E
Q2 Jun	(0.19)A	(0.33)A	(0.20)E
Q3 Sep	(0.26)A	(0.26)A	(0.19)E
Q4 Dec	<u>(0.35)</u> A	<u>(0.22)E</u>	<u>(0.16)E</u>
Total	(0.96)A	(1.06)E	(0.73)E
P/E	NA	NA	NA

Vivos Therapeutics, Inc.

Initiating Coverage with BUY and \$2.50 Target

Leading franchise in a major emerging treatment category: sleep apnea. Achievement of operating milestones and unwinding of Covid headwinds should provide a positive catalyst.

Initiating with BUY: We are initiating coverage of Vivos Therapeutics, Inc. with a BUY rating. Vivos has developed a novel approach to treating sleep apnea which offers significant advantages over current treatment methods.

Vivos offers a breakthrough approach to treating sleep apnea: The Vivos Method, which involves wearing Vivos' patented appliances under the supervision of a trained dentist, works by molding the soft tissues of the airway to permit better air passage. The system is nonsurgical and noninvasive and has demonstrated permanent efficacy in 12-24 months of treatment. By contrast, competing methods, such as CPAPs typically treat symptoms only and therefore offer only temporary relief, or in the case of surgery, can be high cost and prone to negative side effects.

Vivos addresses a huge potential market: *Chest Physician* estimates that obstructive sleep apnea (OSA) afflicts 54 million adults in the U.S. alone, and according to a 2016 report by Frost & Sullivan, OSA has an annual societal cost of over \$150 billion. In addition, OSA can increase the risk of comorbidities, such as high blood pressure, heart failure, stroke, diabetes, dementia, and chronic pain if left untreated.

Vivos just received FDA 510(k) clearance of its flagship oral appliance for use in treating OSA: On January 4, 2023, Vivos announced that it has received FDA 510(k) clearance of its DNA oral appliance for use in treating OSA. Previous FDA clearances of Vivos' oral appliances were based on their use as orthodontic treatments. This clearance is the first to explicitly recognize a Vivos device for its core application in treating OSA. The announcement triggered a significant upward re-valuation of the stock.

Marketing and sales milestones are key catalysts for the stock: Vivos has invested heavily to grow its franchise by training and empowering dentists to treat their patients using the Vivos Method. By Q3 2022, the number of dentists who had enrolled in Vivos' VIP (Vivos Integrated Practice) program exceeded 1,650, up 22% YoY. As the company continues to report rising numbers of new VIPs, higher revenues are likely to follow, which will in turn provide a positive catalyst for the stock.

The unwinding of the Covid downturn will be positive for the business and the stock: A Covid resurgence in late 2021 and early 2022 impacted Vivos' VIP customer base and severely dented revenue momentum, resulting in a mismatch between the company's cost structure and revenue base. As these headwinds unwind, we believe that Vivos is likely to experience a return to its previously brisk growth rates, capitalizing on its firm commercial foundation.

Cash flow bears monitoring. As of Q3 2022, Vivos had \$6.7 million of cash on the balance sheet. On January 8, the company announced a private placement netting an additional \$7.4m. Given the current burn rate of roughly \$6 million per quarter, the company will likely need to raise additional capital in 2023.

Favorable risk/reward profile: While the market for OSA treatment appliances is highly competitive and Vivos faces commercialization challenges, we believe multi-billion-dollar market potential and favorable economics present high rewards for the risks.

12-month price target of \$2.50 based on an NPV analysis: We calculate a 12-month price target for shares of VVOS of \$2.50. This is based on a NPV analysis, representing significant upside from the current share price. We believe this valuation appropriately balances out the company's high risks with the company's high growth prospects and large upside opportunities.

Company Description

Based in Littleton, Colorado, Vivos is a medical technology company focused on innovative solutions for obstructive sleep apnea (OSA) and snoring.

Important Disclosures

Ascendiant Capital Markets LLC seeks to do business with companies covered by its research team. Consequently, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making an investment decision.

For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report, beginning on page 26.



COVERAGE INITIATION

Rating: BUY

Ticker: VVOS Price: \$1.75 Target: \$2.50





Exhibit 1: Vivos Therapeutics, Inc. Weekly Stock Price (Since IPO in December, 2020)

Source: https://bigcharts.marketwatch.com/

INVESTMENT THESIS

We are initiating coverage of Vivos Therapeutics, Inc. with a BUY rating and a 12-month price target of \$2.50.

Based in Littleton, Colorado, Vivos is a medical technology company focused on the development and commercialization of noninvasive, non-surgical methods for treating Obstructive Sleep Apnea. Vivos' novel approach has its origin in research conducted by founder, Dr. Dave Singh focused on non-surgical ways to remediate cleft palate. Dr. Singh developed the 'Spatial Matrix Hypothesis', which led to the insight that the human airway can be significantly enlarged through soft-tissue intervention. This eventually led to the creation of The Vivos Method for treating OSA.

The Vivos method involves wearing of Vivos' patented appliances under the guidance of a trained dentist. Vivos has four main devices which it prescribes for treatment of OSA:

- Mandibular Repositioning Nighttime Appliance (or mRNA appliance) has 510(k) clearance from the FDA as a Class II medical device for the treatment of snoring and mild to moderate OSA in adults.
- Modified Mandibular Repositioning Nighttime Appliance (or mmRNA appliance), has 510(k) clearance from the FDA as a Class II medical device for treating mild to moderate OSA, jaw reposition and snoring in adults.



- **Daytime Nighttime Appliance** (or **DNA appliance**) has 510(k) clearance from the FDA as a Class II medical device for the treatment of snoring and mild to moderate OSA in adults.
- Vivos Guides are pre-formed, flexible, BPA-free, base polymer intraoral guide and rescue appliances. The Guides are an FDA-registered product for orthodontic tooth positioning.

Exhibit 2: Vivos Therapeutics Inc. Sleep Apnea Technology



Vivos brings to market breakthrough technology in both diagnosis and treatment of dentofacial abnormalities and/ or mild to moderate OSA and snoring.





Source: Company Documents

In addition to its corrective oral appliances, Vivos offers HST (Home Sleep Test) wearable rings for easy diagnosis of OSA under the brand **SleepImage HST rings**.

Vivos' program to train dentists and offer them other value-added services is called the **Vivos Integrated Practice (VIP)** program. The VIP program provides dentists with a strong economic incentive to provide this treatment and prescribe The Vivos Method, together with practice support services.

The Vivos Method is a non-invasive, non-surgical, non-pharmaceutical system for the treatment of mild to moderate OSA. The Vivos Method enhances and enlarges the upper airway and offers patients with mild-to-moderate OSA, snoring and Sleep Disordered Breathing (SDB) symptoms the prospect of rapid improvement (in days or weeks) with final clinical results in 12 to 24 months. The cost to consumers is relatively low at \$7,000 and \$10,000 for adults and \$3,500 to \$6,000 for children when compared to other options such as surgery. The appliances require periodic adjustments some of which can be performed by the patient and others are typically rendered at the dental office where treatment was initiated.



VVOS: Vivos Therapeutics, Inc.

Exhibit 3: The Vivos Method



is our multidisciplinary treatment protocol that uses

nonsurgical | noninvasive | cost-effective ORAL APPLIANCE TECHNOLOGY

prescribed by trained dentists and medical professionals to treat dentofacial abnormalities and/or mild to moderate OSA and snoring.



Source: Company Documents

Through the course of treatment, patients have reported a variety of outcomes, including:

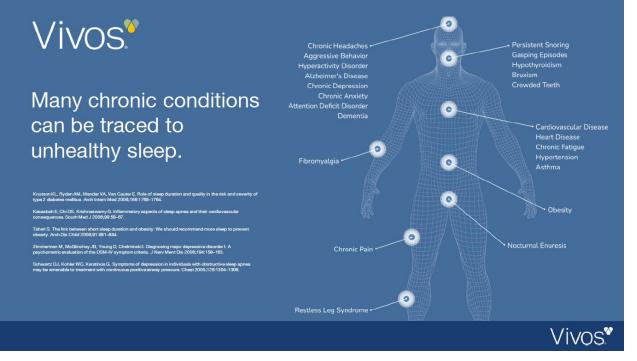
- Reduction of snoring
- Reduction in AHI (Apnea Hypopnea Index) level and/or other indicators of mild-to-moderate OSA
- Relief of mild-to-moderate OSA symptoms
- Restoration and improvement of normal (nasal) breathing
- Improvement in overall sleep quality
- Restoration and maintenance of proper facial symmetry and alignment
- Craniofacial and orthodontic correction
- Resolution of TMJ pain, clicking, and locking
- Facial aesthetic improvement, including a broader smile

The list of comorbidities that can be exacerbated by poor sleep quality is long and includes Chronic Headaches, Hyperactivity, Alzheimer's Disease, Depression, Anxiety, ADHD, Hyperthyroidism, Heart Disease, Fatigue, Hypertension, Obesity, Cancer, Diabetes, and Chronic Pain. OSA can thus be seen as a root contributor to many other chronic conditions.

The degree of sleep apnea is measured by the Apnea-Hypopnea Index. The AHI is the sum or the number of apneas (pauses in breathing) plus the number of hypopneas (periods of shallow breathing) that occur, on average, each hour. Apneas must last at least 10 seconds to count as an event.



Exhibit 4: Sleep Apnea Comorbidities



Source: Company Documents

According to an August 2019 article published in *The Lancet*, an estimated 936 million adults globally aged 30-69 have mild to severe obstructive sleep apnea, which includes 425 million adults aged 30-69 years who have moderate to severe obstructive sleep apnea. The number of affected individuals with OSA is highest in China, followed by the U.S., Brazil, and India. In the US, estimates of prevalence vary. According to a 2010 analysis from researchers at the Harvard Medical School, mild obstructive sleep apnea is defined by an AHI of between 5 and 15 and affects 8-11% of the adult population in the United States. A 2004 study published in the Journal of the American Medical Association stated the prevalence of mild obstructive sleep apnea is one in five adults.

Based on the estimated total adult population of 295 million in the United States and Canada, the total number of OSA sufferers in North America could be as high as 59 million adults. Using Vivos' estimate that over 80% of individuals diagnosed with OSA in the North American addressable market may be candidates for The Vivos Method, the total adult candidate population for in North America is ~47 million adults. Given the average charge to clinicians of \$1,600 per patient, Vivos is looking at a TAM on the order of \$75 billion. That being said, the current actual market for sleep apnea devices is much smaller (on the order of \$3.5 billion globally), indicating that only a small percentage of OSA sufferers are being treated, even in the US. This suggests that education remains a critical component of any marketing and commercialization efforts.

Vivos' commercialization plans rest heavily on their initiative to train dentists in their VIP program. The company utilizes Practice Advisors to help VIPs with onboarding and starting and increasing case starts over time. Vivos charges the dentists on the order of \$45,000 for training and related services. The company believes that VIPs can recoup their investment in VIP enrollment with approximately eight Vivos Method case starts. As of September 2022, over 1,650 dentists had been trained in The Vivos Method. However, not all VIPs are active, and an estimated 40% of VIPs who begin training end up canceling enrollment. For this reason, Vivos reports VIPs trained on a net of cancellation basis.



There are approximately 200,000 general dentists and dental specialists in the United States and another 30,000 in Canada who could potentially offer the Vivos Method to their patients. Given that many of these are affiliated with DSOs (Dental Support Organizations), the company has stepped its efforts to market directly to larger DSOs as way to leverage training and support across multiple VIP practices and gain economies of scale with the goal of faster growth, both in VIP enrollments and in Vivos case starts.

Exhibit 5: Vivos Therapeutics, Inc. Dentist Customer Stats



Source: Company Documents

Vivos estimates that the average dental practice sees 400-500 adult patients a year with a high risk of suffering from OSA. Based on a retail adult case fee of approximately \$9,000, VIP provider costs of approximately \$3,000, and profit of approximately \$6,000, Vivos offers an opportunity to earn over \$3.6 million in annual gross revenue annually with over \$2.4 million in potential net profit per VIP.

As an early mover in the Sleep Dentistry Space, Vivos has established a number of significant competitive advantages. These include

- FDA-registered appliances. These include the only appliance of its kind eligible for Medicare reimbursement.
- Insurance reimbursement. Coverage ranges up to 70% (average is about 50%).
- Body of published research and strong patient outcomes. The documented and reported benefits of treatment with the Vivos Method have been consistent across reports from dentists, and have been highlighted in approximately 55 published studies, case reports, and articles, most of which have been peer-reviewed.
- Intellectual property portfolio. Includes five design patents and two utility patents as well as two Canadian patents and one European patent.
- Extensive Training and Support Systems. This includes the Vivos Institute opened in 2021, as well as customized billing software, customer management software, and more.
- Compelling economics for VIPs. Gross profit of \$6,000 per adult patient.
- Marketplace acceptance. Over 1,500 VIPs enrolled, and 27,000 patients treated.

New FDA clearance. On January 4, 2023, Vivos announced that it has received FDA 510(k) clearance of its DNA oral appliance for use in treating OSA. Previous FDA clearances of Vivos' oral appliances were based on their use as orthodontic treatments, such as expansion of the jaw and positioning of teeth in adults and children, applications for which they are still used. This clearance is the first to explicitly recognize a Vivos device for its core application in treating OSA. The announcement triggered a significant re-valuation of the stock, with trading volume exceeding 1,000 times normal levels on the day of the announcement. While the clearance may not change the 'reality on the ground' for Vivos, given that the DNA appliance is already in use in combination with other appliances for treatment of OSA as part of the Vivos Method, it is a strong validation of Vivos' strategy and recognition of the validity of the company's proprietary technology for treating OSA.

Exhibit 6: Vivos Therapeutics, Inc. Competitive Strengths



Our Competitive Strengths

- FDA registrations and clearances since 2009
- Only appliance of its kind eligible for Medicare reimbursement
- · Significant barriers to entry
- Vivos Method Insurance reimbursement
- Body of published research and strong patient outcomes
- First mover advantage in Sleep Dentistry Space and Differentiated Products
- Established strategic alliances within the medical and dental community
- Intellectual property portfolio and research and development capabilities
- Extensive Training and Support Systems
- Compelling economics and value-added services to VIPs at all levels of the product and service delivery chain
- Marketplace acceptance approximately 25,000 patients treated – over 1,450 Vivos-trained independent dentists



Source: Company Documents

We believe the current valuation is attractive.

Our \$2.50 price target is based on a NPV analysis. Based on our expectations and assumptions, we calculate a 12-month price target for shares of Vivos to be \$2.50, representing significant upside from the current share price. We believe this valuation appropriately balances out the company's high risks with the company's high growth prospects and large upside opportunities. We acknowledge that Vivos is still at an early stage in its product commercialization, but we believe progress in commercialization and unwinding of Covid headwinds over the next year should be positive catalysts for the stock.

INVESTMENT RISKS

Capital Market Risks

We believe Vivos has enough cash to fund its operations through mid-2023. However, the company is still incurring losses and we believe that it is likely to be a few years before the company can be cash flow self-sufficient from operations. Many early-stage life science companies fund their operations from the sale of equity or debt capital until their products or services reach commercial success. Early-stage life science company valuations tend to fluctuate widely, as witnessed in the past year with the large downward volatility in the markets. There is always the chance that market valuations for companies in this industry (or the total stock market)

decline further from currently weak levels. The share price volatility in the past year (with a stock price range of \$0.34 – \$3.69) in Vivos' share price may make capital raising much more difficult and expensive. Any future sale of equity securities would likely be dilutive, while the sale of debt would incur debt service obligations which could curtail operational flexibility. Failure to raise additional funds on favorable terms could require the company to significantly curtail or terminate its operations.

Commercialization Risks

The Vivos Method is based on proprietary technology for the treatment of craniofacial deficiencies that are often associated with SDB and mild-to-moderate OSA. Currently, a relatively limited number of dentists and other medical clinicians provide treatment with the Vivos Method. It remains to be seen how quickly, if at all, the medical/dental community will accept the Vivos Method, or, if accepted, the extent of its use. For Vivos to be successful:

- Dentists must be willing to pay substantial training fees for the right to become VIPs and to commit the time and resources required to learn the technical skills and invest in the technology required to treat patients with SDB or mild-to-moderate OSA using the Vivos Method.
- Dentists must prescribe the Vivos Method to treat craniofacial deficiencies that are often associated with SDB and mild-tomoderate OSA, and achieve acceptable clinical outcomes in the patients they treat
- Patients must believe that paying out-of-pocket for treatment in the Vivos Method is the best alternative to either doing nothing or seeking another treatment option

Studies have shown that a significant percentage of people who have SDB or OSA remain undiagnosed and therefore do not seek treatment, or they may be reluctant to seek treatment or incur significant costs of treatment given the less severe nature of their condition, the potentially negative lifestyle effects of traditional treatments, and the lack of awareness of new treatment options. If public awareness of the prevalence of SDB or OSA remains low, or if the medical/dental community is slow to adopt the Vivos Method as a treatment for individuals with SDB or mild-to-moderate OSA, Vivos would suffer a material adverse effect on its business, financial condition, and results of operations.

Adoption by Pulmonologists

The majority of patients being treated today for SDB or OSA are initially referred to pulmonologists by their primary care physicians. Pulmonologists typically administer a polysomnogram, or overnight sleep study, to diagnose the presence and severity of SDB or OSA. If an individual is diagnosed with SDB or OSA by a pulmonologist, the pulmonologist typically prescribes CPAP as the therapy of choice. Although Vivos offers the Vivos Method through its VIPs, Vivos' domestic sales organization does not generally call on pulmonologists or third-party sleep centers to sell the Vivos Method. The extent to which pulmonologists will, in the future, endorse or recommend the Vivos Method to their SDB or mild-to-moderate OSA patients is unpredictable, even for those patients who are unwilling or unable to comply with CPAP therapy.

Competition Risks

Vivos operates in a highly competitive environment and competes against a wide range of other treatments and providers. According to the American Sleep Apnea Association, over 100 different oral appliances are FDA cleared for the treatment of snoring and obstructive sleep apnea. The Vivos Method must compete with more established products, treatments, and surgical procedures, which may limit Vivos' growth and negatively affect its business. Although Vivos believes that its system is superior to competing products and technologies, there is always the possibility of new entrants or challenges from existing competition. Many of Vivos' competitors have substantially greater financial resources, an established presence in the field of treating SDB, and have established relationships with pulmonologists, sleep clinics, and ear, nose, and throat specialists, which play a significant role in determining which product, treatment or procedure is recommended to the patient.

Limited Clinical Evidence of Superior Patient Compliance

Vivos believes that non-surgical treatment of limited duration results in higher patient compliance relative to the use of CPAP or other oral. However, there is limited clinical evidence to support this. If actual patient compliance as studied in a clinical trial proves



less than what the company anticipates, the acceptance of The Vivos Method in the marketplace, and Vivos' revenues and overall results of operations, may be adversely impacted.

VALUATION

We are initiating coverage of Vivos with a BUY rating and a 12-month price target of \$2.50, which is based on an NPV analysis. The company currently generates revenue but also losses as it invests to grow its businesses so traditional valuation metrics are of limited utility. In order to shed light on valuation we have estimated future cash flows and discounted them back to present value. We acknowledge that this valuation method requires a number of forward assumptions that we must estimate that may be imprecise and may vary significantly from actual results. This is particularly so for a company like Vivos which is still in the early high growth phase with its main business. However, we believe our assumptions are fair and provide a reasonable basis for our valuation analysis.

Exhibit 7: Vivos Therapeutics, Inc. NPV Calculation

Total Dentists, North America	230,000
Projected Market Share (SOM)	5%
Projected Customer Base (VIPs)	11,500
Projected Annual Revenues per VIP	\$5,000
Estimated Annual Sales	\$57,500,000
Discount Rate	12%
NPV of Future Sales	\$477,178,423
Projected Operating Margin	20%
Estimated NPV of Future Operating Profit	\$95,435,685
Net Cash	\$4,243,122
Estimated Additional Capital Required	(\$30,000,000)
Current Value for Existing Shareholders	\$69,678,807
Shares Outstanding	27,900,485
Estimated Value Per Share	\$2.50

Source: Ascendiant Capital Market Estimates, Company Documents

Our analysis projects future cash flows by estimating a 5% penetration of the pool of dentists in North America and assuming a modest annual revenue per VIP of \$5,000. We discounted the resulting operating profit back to present value, adding in net cash, and subtracting our estimate of additional capital required. Based on our NPV analysis, we arrived at our 12-month price target of \$2.50, which we believe appropriately balances out the company's risks with its high growth prospects. We note that the vast majority of Sleep Apnea sufferers are still undiagnosed, despite the very high prevalence and significant negative lifestyle consequences of the condition. As people become more aware of OSA and SDB, we believe this will create a supportive backdrop for Vivos' growth going forward.

Vivos' share price has been volatile over the past 12 months. The stock reached a high of \$3.69 in March, 2022 and a low of \$0.34 in December, 2022. On January 4, 2023, the stock suddenly jumped from \$0.74 to an intraday high of \$2.95 before settling back to \$1.50 a few days later. As of this writing, the stock is \$1.75. Going forward, we believe that there are near-term catalysts that can benefit the stock. In particular, we see a reversal in the covid headwinds that made it difficult for Vivos to recruit and cultivate new VIPS in 2021 and early 2022, due to major disruption at dental practices. As an example, Vivos reported 32 new VIPS in Q1 2022 increasing to 58 in Q2 2022 and 56 in Q3 2022. As dental practices get back to a more normal footing, there could be pent-up demand for investment and a general uptick in patient traffic leading to a higher level of prescriptions. As the company makes inroads with its core customer base of dentists over the next several years, we believe this will result in higher visibility into future cash flows and valuation expansion.



COMPANY

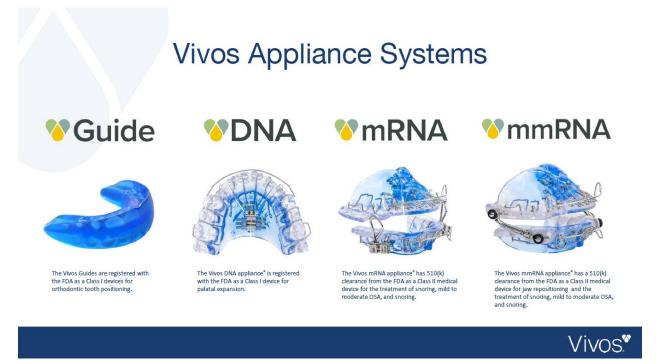
Vivos was formerly named Corrective BioTechnologies, Inc. until its name changed on September 6, 2016, to Vivos Biotechnologies and on March 2, 2018, to Vivos Therapeutics, Inc. BioModeling Solutions, Inc. (BMS) was organized on March 20, 2007, as an Oregon limited liability company, and subsequently incorporated in 2013. In September 2016, Vivos completed an agreement to acquire the business and operations of (1) BMS (now a wholly owned subsidiary), which was engaged in the manufacture and sale of Vivos' patented DNA appliance and mRNA appliance, and (2) First Vivos, Inc., a Texas corporation which proposed to develop and operate a retail chain of Vivos Centers with specially trained dentists that offer the Vivos Method and corroborating physicians. Upon the consummation of the acquisition, the historical financial statements of BMS became Vivos' historical financial statements and continued to be recorded at their historical carrying amounts.

On August 12, 2020, Vivos transferred its corporate domicile from Wyoming and became a Delaware corporation. On December 7, 2020, Vivos offered 3,500,000 shares plus an over-allotment of 525,000 shares priced at \$6 to raise \$24.5 million in an IPO.

The Vivos Method

The Vivos Method is a non-surgical, non-pharmaceutical treatment modality for mild to moderate OSA. The proprietary system enhances and enlarges the upper airway through the molding of the tissues comprising the airway to increase airflow. Permanent results can be obtained in as little as 12-24 months of treatment at a cost to consumers ranging from \$7,000 to \$10,000 for adult cases and \$3,00 to \$6,000 for children.

Exhibit 8: Vivos Therapeutics, Inc. Oral Appliances



Source: Company Documents

The Vivos Method involves wearing of Vivos' patented appliances under the guidance of a trained dentist. Vivos has four main devices which it prescribes for treatment of OSA:



- Mandibular Repositioning Nighttime Appliance (or mRNA appliance) has 510(k) clearance from the FDA as a Class II medical device for the treatment of snoring and mild to moderate OSA in adults.
- Modified Mandibular Repositioning Nighttime Appliance (or mmRNA appliance), has 510(k) clearance from the FDA as a Class II medical device for treating mild to moderate OSA, jaw reposition and snoring in adults.
- Daytime Nighttime Appliance (or DNA appliance) is a Class I FDA-registered oral appliance for expansion.
- Vivos Guides are pre-formed, flexible, BPA-free, base polymer intraoral guide and rescue appliances. The Guides are an FDA-registered product for orthodontic tooth positioning.

In addition to its corrective oral appliances, Vivos offers HST (Home Sleep Test) wearable rings for easy diagnosis of OSA under the brand **SleepImage HST rings**.

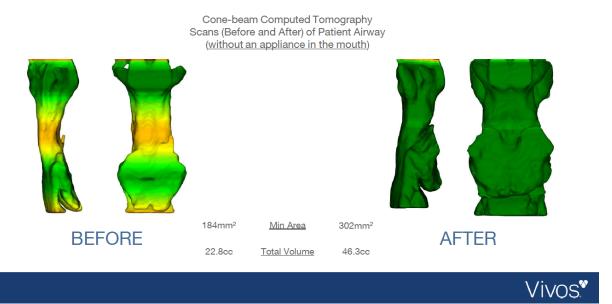
Patient Treatment

Most potential patients learn they may be a possible candidate for OSA therapy through physician referral, education, advertising campaigns, and/or dentist examinations. Some useful predictive information can be obtained from self-reported questionnaires given to the patient in advance of a formal evaluation. The most widely used such questionnaires are the Berlin Questionnaire and the Multivariable Apnea Prediction Index.

If a VIP dentist determines that a patient may have OSA, they will refer the patient to complete either a VivoScore or other home sleep apnea test or a full polysomnography, which provides detailed information on sleep state, respiratory behavior and gas exchange abnormalities, in addition to a range of other variables including body position, heart rate and rhythm, muscle tone, and activity. The sleep test will be reviewed, and a diagnosis of the test will be given by a medical doctor; usually by a doctor that specializes in sleep, a pulmonologist, or a cardiologist.

Exhibit 9: 73-Year-Old Male Airway CBT Scan Before and After Vivos Treatment

73-Year-Old Male - 17 Months Treatment



Source: Company Documents



If a patient is diagnosed with sleep apnea from the reading of the home sleep apnea test or polysomnography test and is a candidate for oral appliance therapy, additional data will be recorded including a Cone Beam Computerized Tomography (CBCT) imaging scan. After obtaining a prescription from a physician, the VIP dentist will design a treatment plan and present the case to the patient. Upon treatment acceptance, the financial arrangements will be organized including insurance pre-authorization and/or any deposits and payment plan agreements. The VIP dentist will design the appliance(s) based on treatment protocol and order the appliance through Vivos' cloud-based portal, Vivos Aire.

Fabrication of the Vivos Method appliances usually takes between two to four weeks for delivery. Upon receipt of the appliance(s) by the VIP dentist, the patient will visit the dentist for an appliance seating and delivery appointment. Routine follow-up lasts for 12 to 24 months of treatment. Upon determination of treatment completion, the patient will take a post-treatment home sleep apnea test, such as VivoScore, or a polysomnography test. Post-treatment CBCT imaging will be taken to complete the patient's treatment and records profile.

Exhibit 10: 30-Year-Old Male Airway CBT Scan Before and After Vivos Treatment



Vivos

Source: Company Documents

The primary tool used in the Vivos Method is the mRNA appliance, a specifically designed, custom oral appliance that is worn primarily in the evening hours and overnight and is available for adults. The appliances require periodic adjustments, some of which can be performed by the patient and others that are typically rendered at the dental office where treatment was initiated. Patients who undergo treatment in the Vivos Method will typically receive a customized mRNA appliance fitted to both the upper and lower arches. Alternatively, the VIP may prescribe an upper arch DNA appliance with the possibility of adding a lower arch DNA appliance later on in treatment. Each case is priced accordingly, and patient fees are set by the treating dentist. Irrespective of the Vivos device prescribed each patient is given specific protocols and instructions for wear and maintenance, including the expected duration of daily wear (typically 14-16 hours per day including overnight). In addition to the oral appliance treatment, the patient may be referred for treatment by an orofacial myofunctional therapist, a chiropractor, an ear, nose, and throat physician ("ENT"), and/or other healthcare providers for adjunctive therapy, as necessary.



As the Vivos Method treatment process progresses, the airway expands, with many patients reporting a significant reduction of their mild-to-moderate OSA symptoms. Progress is measured by CBCT scans which map the physiognomy of the upper airway, as well as improvement in symptoms observed by treating clinicians and patient testimony. Through the course of treatment with the Vivos Method, patients have reported a variety of outcomes, including:

- Reduction of snoring
- Reduction in AHI (Apnea Hypopnea Index) level and/or other indicators of mild-to-moderate OSA
- Relief of mild-to-moderate OSA symptoms
- Restoration and improvement of normal (nasal) breathing
- Improvement in overall sleep quality
- Restoration and maintenance of proper facial symmetry and alignment
- Craniofacial and orthodontic correction
- Resolution of TMJ pain, clicking, and locking
- Facial aesthetic improvement, including a broader smile

Published Research

Since 2009, Vivos' technology has been the subject of approximately 55 peer-reviewed articles in the medical, dental, and orthodontic literature. 27 of these articles are journal papers, with Dr. G. Dave Singh, Vivos' founder, as the first author on 22 of the total. Of the 27 journal articles, 17 describe the studies that examine the impact of Vivos' technology and protocols on the AHI scores of patients with varying degrees of OSA. In addition, over 25 conference papers have been published as abstracts, with Dr. Singh as the first author on 20 of these conference papers, with 19 independent dentists and 5 different sleep physicians as co-authors on these publications as well. The results published in these case reports and articles, together with patient-reported outcomes, have shown that the Vivos Method therapy provides a significant reduction in the severity of patients' mild-to-moderate OSA (as measured by industry-standard indices such as the AHI, among others), improvement in sleep-related quality of life, reduction in snoring, as well as a high patient compliance rates and a strong safety profile.

Vivos' Growth Strategies

Vivos' goal is to be the global leader in providing a clinically effective non-surgical, non-invasive, non-pharmaceutical, and low-cost alternative for patients with Sleep Disordered Breathing, including mild-to-moderate OSA. To reach this goal, the company intends to pursue the following strategies:

- Expand North American sales and marketing organization to drive adoption of the Vivos Method.
- Drive medical and dental community awareness of Vivos Method. Continue to promote awareness of the value proposition of the Vivos Method through training and educating dentists, physicians, and other healthcare providers. To accomplish this, Vivos conducts regular online, national, regional, and local training and educational programs for both the dental and medical communities. Publish additional clinical data in various industry and scientific journals and online and present at various industry conferences.
- **Continue to establish indirect marketing channels.** Vivos plans to continue to expand strategic alliances within the medical and dental communities to increase awareness of its products.
- **Build patient awareness of the Vivos Method.** Direct-to-patient marketing initiatives include celebrity endorsements, paid search, radio, television, social media, company-sponsored events, corporate wellness programs, and online video.
- **Invest in research and development** to drive innovation and further improve Vivos' products and clinical outcomes, optimize patient acceptance, and broaden the patient population that benefits from the Vivos Method.
- **Pursue international opportunities.** Vivos has trained dentists from many countries all over the world. Given that OSA is prevalent worldwide, the company believes there is a significant opportunity for its products internationally. The company is currently assessing opportunities to commercialize the Vivos Method outside of North America, including strategic collaboration opportunities in Europe and the rest of the world to maximize the commercial potential and the availability of the Vivos Method to patients.



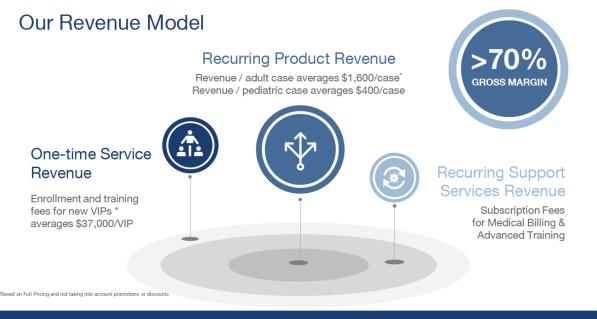
Sleep Apnea Market Size

According to the study "*Global Prevalence of Obstructive Sleep Apnea (OSA)*" conducted by an international panel of leading researchers, nearly 1 billion people worldwide have sleep apnea, and as many as 80% remain undiagnosed. Similarly, an August 2019 article published in *The Lancet* estimated that 936 million adults globally aged 30-69 years (men and women) have mild to severe obstructive sleep apnea, which includes 425 million adults aged 30-69 years who have moderate to severe obstructive sleep apnea. The number of affected individuals with OSA is highest in China, followed by the U.S., Brazil, and India. Research has shown that when left untreated, OSA can increase the risk of comorbidities, such as high blood pressure, heart failure, stroke, diabetes, dementia, chronic pain and other debilitating, life-threatening diseases.

Estimates from publicly available information vary as to the extent of obstructive sleep apnea in the United States, but the market is significant. According to an American Sleep Association study published in 2020, an estimated 50 million to 70 million people in the U.S. are suffering from some form of sleep disorders. A 2019 article published in *Chest Physician*, estimated that OSA afflicts 54 million, or 25% of adults in the U.S. A 2004 study published in the *Journal of the American Medical Association* stated the prevalence of mild obstructive sleep apnea is one in five adults. Assuming 15% prevalence, the total addressable United States and Canadian market is approximately 43 million adults.

According to a March 2021 Sleep Apnea Devices Market Size & Share Report, "Sleep Apnea Devices Market Size, Share & Trends Analysis Report By Product Type (Diagnostic Devices, Therapeutic Devices, Sleep Apnea Masks), By Region (North America, Europe, APAC, Latin America, MEA), And Segment Forecasts, 2021 – 2028", the global sleep apnea devices market size was valued at \$3.7 billion in 2020 and is expected to expand at a compound annual growth rate (CAGR) of 6.2% from 2021 to 2028. This suggests that just a small portion of sufferers are actually receiving treatment, indicating a large gap in education.

Exhibit 11: Vivos Therapeutics, Inc. Revenue Model



Vivos.*

Source: Company Documents



Vivos' Revenue Streams

Vivos' revenue consists primarily of products (e.g., Vivos oral appliances sold to its VIPs) and services, (e.g., VIP training and billing software). More specifically, Vivos breaks up its business into the following segments:

- VIP office training and enrollment fees. These fees are comprised of one-time, up-front fees, as well as optional renewal fees after 12 months. Vivos typically charges new VIPs \$45,000 for full certification. The company signed up 58 and 56 new VIPs, in Q2 2022and Q3 2022, respectively. These figures were up significantly relative to Q1 2022 when the company signed up 32 VIPs, indicating the business is starting to recover from Covid disruptions.
- **Recurring Vivos appliance sales**. Once Vivos trains a VIP on how dentists can help treat OSA, the goal is to have them initiate "new case starts" with patients, which leads to sales of appliances and guides. The appliances are sold to VIPs, who then prescribe them to their customers and charge a markup.
- **Recurring VIP subscription fees.** These are recurring fees that a portion of Vivos' VIPs pay to receive additional value-added services and training.
- SleepImage HST revenue. As part of an agreement with MyCardio LLC, Vivos offers SleepImage HST ring recorders to its VIPs as part of the VivoScore Program for home diagnosis. Revenues are not currently material, but the number of HST tests is a good indicator of future patient case counts.
- The Vivos Institute. Opened in August 2021, the 15,000-square-foot Vivos Institute provides advanced post-graduate education and certification to dentists, dental teams, and other healthcare professionals in and product-specific training for the use of Vivos products and services. Revenue from such courses is not material at the present time, but the expectation is that increased training awareness of OSA and the promotion of Vivos products and services will be enhanced by the Vivos Institute.
- **Billing Intelligence Services (BIS).** Third-party billing solution which includes a comprehensive revenue cycle management software system that allows dentists to focus on running their practice and delivering the best care for their patients. Generates recurring subscription fees from participating VIPs and independent dentists in the United States.
- AireO² Patient Management Software. Management software which enables healthcare professionals to diagnose, treat and monitor patients with OSA and its related conditions more effectively. Developed in collaboration with Lyon Dental, AireO² contains features that enhance a VIP's billing services and practice management systems. AireO² is a complement to Vivos' BIS software system. In April 2021, Vivos acquired AireO2 and folded it into its BIS division.
- Medical Integration Division (MID). The primary objective of the MID is to promote The Vivos Method to medical providers, such as pulmonologists, ENTs, and others who regularly treat and see patients with sleep disorders. The MID seeks to fulfill that objective by meeting with VIP dentists and medical providers in their local areas to establish physician practices using the trademarked name "Pneusomnia Sleep Reimagined Center". In March 2021, Vivos announced the opening of the first Pneusomnia Center in Del Mar, California, and in May 2021, the second in Modesto, California. In April 2022, the company opened its third Pneusomnia Center in Los Angeles with plans to open additional Pneusomnia Centers in several other cities in the U.S. However, it remains too early to predict the eventual impact on overall revenue.
- **MyoCorrect Program.** In March 2021, Vivos introduced orofacial myofunctional therapy (or OMT) as a service that is part of The Vivos Method, under the name MyoCorrect. Through MyoCorrect, dentists enrolled in the VIP program will have access to trained therapists who provide OMT via telemedicine technology. This OMT therapy can be a component of obstructive sleep apnea treatment in conjunction with The Vivos Method which includes Vivos' Class II oral appliances and protocols. OMT, which is given by a certified OMT therapist, involves exercises and other techniques aimed at strengthening the tongue and orofacial muscles by teaching individuals how to engage the muscles to the appropriate position.



Exhibit 11: The Vivos Ecosystem

The Vivos Ecosystem The VIP Program

- Our Secondary source of revenue is our clinical training and practice support programs.
- Our program to train dentists and offer them other value-added services is called the
- Vivos Integrated Practice (VIP) program.
- The VIP program provides dentists with a strong economic incentive to provide this treatment and prescribe the Vivos Method, together with practice support services.



Source: Company Documents

Sales and Marketing

Vivos' sales and marketing strategy revolves around direct engagement with the medical community, including general dentists and medical doctors who treat SDB and OSA, to educate them on the Vivos Method and its benefits. Vivos sells its VIP Program to dentists through a direct sales force that primarily targets general dentists in the United States and Canada. The program was developed to train dentists to identify and treat conditions associated with SDB and mild-to-moderate sleep apnea.

In Q4 2021, the company began pilot and test initiatives with Dental Support Organizations as a way to scale more quickly and cost effectively. In Q1 2022 the company announced that these initiatives have been proceeding better than expective and are likely to help drive business going forward.

For medical doctors, Vivos recently launched the MID program, which was developed to help VIPs establish clinical collaborations with local primary care physicians, sleep specialists, ENTs, pediatricians, pulmonologists, and other healthcare professionals who routinely see or treat patients with sleep and breathing disorders. Vivos currently has approximately 10 direct sales representatives in the United States and Canada focused on referring physicians as well as the 200,000+ active general dentists in the United States and Canada. Direct outreach includes digital advertising and social media marketing. Vivos' indirect marketing channels include strategic partners, industry key opinion leaders, trade shows, and Vivos' own clinical advisor network. The objective of Vivos' indirect and direct marketing efforts is to bring dentists, medical doctors, and healthcare professionals to Vivos' educational and training websites to learn about SDB, OSA, and treatment alternatives.

Economics for Dentists

As an enticement for dentists to enroll in Vivos' VIP program, the company aims to offer favorable economics for participating dentists. The company estimates that the average dental practice sees 400-500 adult patients with a high risk of suffering from



obstructive sleep apnea. Based on a retail adult case fee of approximately \$9,000, fully burdened VIP provider costs of approximately \$3,000, and gross profit of approximately \$6,000, the economic potential per dentist could exceed \$3,300,000 in revenue potential annually with over \$2,400,000 in potential gross profit. In practice, up to 40% of VIPs receive training but fail to launch patient case starts, and much of Vivos' revenue stems from a minority of productive VIPs.

Exhibit 12: Illustrative Economics for Vivos Dentists



Illustrative Economics for a General Dentist

Number of Active Patients in Typical Dental Practice	Potential patients with OSA	Potential Additional Revenue for Dentist
1,250	375	\$3,375,000
1,500	450	\$4,050,000
1,750	525	\$4,725,000
2,000	600	\$5,400,000
2,250	675	\$6,075,000

Vivos.*

Source: Company Documents

To facilitate the adoption of the Vivos Method, Vivos partners with equipment manufacturers to bundle training and equipment into a turn-key program financed by third-party lenders for those dental practices that need to purchase additional equipment. The VIP Program fees are often financed by third-party lenders separate from any equipment purchases. Loan terms and payments will vary depending on the doctor's credit, the interest rate, the amount financed, and the term of the loan.

Competing Therapies

Leading SDB and OSA treatment modalities fall into the following categories:

- **Continuous Positive Airway Pressure (CPAP):** This device is generally regarded as the first-line standard of care treatment of OSA by the medical community. However, according to published research, an estimated 29 to 83 percent of patients are nonadherent to CPAP therapy, with non-adherence defined as a mean of fewer than 4 hours of use per night. CPAP devices reportedly have 85% of the market share of those who are diagnosed with OSA according to Frost & Sullivan.
- Mandibular Advancement Devices (MADs): These oral appliances open the airway by moving the mandible (the lower jaw) forward and holding it there. This jaw position tends to open the airway and allows patients to breathe more freely during sleep. According to a published presentation, "Oral Appliances in Today's Treatment of OSA and Snoring", there are over 100 different brands and several configurations of MADs available through dentists, and an unknown number of over-the-counter devices (which purportedly treat snoring only).



- Surgical therapies: Examples include Uvulopalatopharyngoplasty (UPPP), maxillomandibular advancement (MMA), robotic tongue reduction surgery, and Inspire Medical implants.
- **Other:** Weight loss, position therapy, myofunctional therapy, certain orthodontic treatments, surgical implants such as Inspire, and maxillofacial surgery are other options to address OSA.

CPAP therapy is typically considered the first-line standard of therapy for adults with OSA. CPAP is delivered through a face or nasal mask that connects through a hose to a bedside air compressor. The CPAP machine forces air into the nasal passages at pressures high enough to overcome obstructions in the airway and facilitate normal breathing. A downside of CPAP is decreased patient adherence. Common reasons cited for lack of adherence are trouble getting used to wearing the CPAP device, difficulty tolerating forced air, dry and stuffy nose, feeling claustrophobic, skin irritation, pressure sores, leaky mask, dry mouth, bothersome noise, and more. According to published research, many patients with mild-to-moderate OSA who prefer not to use CPAP use mandibular advancement devices (or MAD) as an alternative therapy. However, treatment with MADs comes with its own set of adverse side effects, including dry mouth, dental cavities, TMJ pain and sounds, soft tissue and tongue irritation, excessive salivating, occlusal changes, damage to teeth, and tooth mobility, among other effects.

Exhibit 13: Sleep Apnea Competitive Landscape

	Treatment Protocol	Target the Underlying Condition	Required Treatment Time to Resolve Symptoms	Overall Efficacy of Treatment	Pain Associated with Treatment	Potential Negative Side- Effects	Average Duration of Treatment/ Intervention	Duration of Benefits	Health Insurance Coverage	Health Insurance Coverage	Est. Average Treatment Cost
atment asive)	Vivos."	****	Potentially Immediate	****	Minor or None	Minor	12-24 Months	****	Yes	YES In Most Case	\$9,000
Non-Surgical Treatment Options (Non-Invasive)	СРАР	****	Potentially Immediate	****	Minor or None	Moderate	Lifetime	****	Yes	Yes	\$10,000/10 years Plus Consumables
	Oral Appliance Therapy	****	Potentially Immediate	****	Minor or None	Moderate	Lifetime	****	No	YES In Most Case	\$3,000 - \$8,000
e ut	Inspire Medical®	****	Potentially Immediate	****	In Some Cases	Major	Lifetime	****	No	YES In Most Case	\$30,000- \$40,000
Surgical Treatment Options (Invasive)	Uvulopalatopharygoplasty (UPPP Surgery)	****	Potentially Immediate	****	During Recovery	Major	Surgery + Healing Time	****	No	Yes	\$2,000 - \$10,000
Surgic Option	Maxillomandibular Advancement Surgery	****	Potentially Immediate	****	During Recovery	Major	Surgery + Healing Time	****	Yes	Yes	\$70,000

Competitive Landscape



Source: Company Documents

CPAP, MADs, and other products on the market that non-surgically address SDB and OSA are palliative therapies that temporarily treat the symptoms only, which may worsen over time. Vivos believes that these therapies are not designed or intended to address or resolve the tissue obstruction which, in the opinion of some researchers, constitutes the potential root cause of the disorder in up to 98% of patients with OSA. CPAP and MADs require lifetime nightly use to be effective.

Advantages of the Vivos Method include relative safety, comfort, ease of use, and the potential to resolve underlying conditions. In addition, the Vivos Method is suitable for patients who cannot tolerate CPAP or for whom CPAP has not been effective. In certain cases, clinicians may temporarily treat patients using a combination of the Vivos Method and CPAP. Treatment in the Vivos Method is typically limited to a defined period of time (12-24 months), whereas both CPAP and oral appliance therapy require lifetime nightly



use to be effective. Treatment in the Vivos Method also addresses the underlying anatomical cause of the OSA, whereas both CPAP and oral appliances are palliative and effective only for the temporary relief of symptoms while the devices are being used.

Inspire Medical Systems' primary treatment for OSA involves surgical implant devices that seek to temporarily remove airway obstruction by moving the tongue forward via electrical stimulation. These devices relieve OSA symptoms and lower AHI scores, but pose the added cost and risks of surgery, and must be used nightly over the patient's lifetime to be effective. The Vivos Method avoids the risk of surgery and is less costly for both patients and insurance carriers than surgical options. The Vivos Method is thus less dependent on insurance reimbursement for patients to be able to afford treatment.

Exhibit 14: Vivos Therapeutics, Inc. Insurance Reimbursement



Source: Company Documents

Insurance Reimbursement

The Vivos mRNA appliance is a custom-fabricated appliance to treat mild-to-moderate OSA, SDB, and snoring in adults. The mRNA is reimbursable by many major commercial medical payers following a medical diagnosis of OSA. The level of reimbursement is approximately 50% (ranging from 5% to 70%). Although many patients pay for treatment out of pocket on a fee-for-service basis, the availability of health insurance coverage is an important consideration for many patients who desire treatment in the Vivos Method. Different medical policies have different reimbursement policies which may affect the availability of reimbursement. VIPs typically remain out of network with commercial health insurance payers, but this depends on the individual practice and the commercial payer guidelines in each state. As out-of-network providers, dentists can set their own fees and bill the patient for the cost of care not covered by the patient's health insurance.

On December 15, 2022 Vivos announced a new strategic collaboration with Nexus Dental Systems, which Vivos expects to generate new revenues starting immediately. The agreement between Vivos and Nexus effectively combines Vivos' proprietary out-of-network Billing Intelligence Service with the Nexus' in-network medical billing platform to create a comprehensive medical billing service. This

Vivos.®



collaboration is expected to provide both companies' provider networks with greater access to both in or out-of-network billing with all major medical insurance companies, facilitating case acceptances, insurance billing procedures and reimbursement.

This new relationship will give Vivos-trained dentists immediate access to robust in-network reimbursement rates, allowing higher case acceptance for Vivos-trained providers. The company expects this will create immediate additional revenue opportunities for Vivos and its VIPs.

Exhibit 15: Vivos Executive Leadership Team



Source: Company Documents



FINANCIALS

Vivos' fiscal year ends on December 31. The company was forced to delay filing its reports for Q2 and Q3 2022 due to a technical discussion with its auditors regarding the application of ASC Topic 606, 'Revenue from Contracts with Customers' classification. In particular, the analysis looked at when Vivos recognizes revenue from its VIPs and found that going forward, recognition of a portion of revenues from VIPs should be deferred. The net effect on the company's historical financials was limited, with the net result being that Q1 2022 revenues would be revised upwards by \$200,000. In addition, 2022 results will no longer be fully comparable to 2021 results. On November 25, the company filed restated results for Q1 2022. On December 20, 2022, the company reported results for Q2 2022 and Q3 2022.

FYE December (\$ mils)	2018	2018 2019 2020		2021	2022	2023
Fiscal Year End: December 31	FY-A	FY-A	FY-A	FY-A	FY-E	FY-E
Revenue	3.8	11.4	13.1	16.9	17.2	20.3
Operating income (loss)	(8.3)	(10.6)	(12.0)	(20.4)	(23.7)	(20.5)
Net income (loss)	(8.4)	(10.8)	(12.1)	(20.3)	(22.5)	(20.5)
EPS	(0.82)	(0.95)	(1.40)	(0.96)	(1.06)	(0.73)
Operating cash flow		(5.3)	(5.7)	(15.7)	(22.0)	(20.5)

Source: Company Filings, Ascendiant Capital Markets estimates

Recent Results

For its most recently reported quarter (Q3 2022), Vivos reported revenue of \$4.2 million, down 7% YoY and flat sequentially. Part of the decline in revenues YoY reflect a deferral of revenue recognition to future quarters due to the company's new revenue recognition policy. Product revenue was up 18% in Q3 on a YoY basis and down 13% sequentially. The company sold 3057 appliance units in Q3 2022, versus 2996 in Q3 2021 and 3321 in Q2 2022. While oral appliance sales were down sequentially in Q3 2022, service revenues showed signs of sustained recovery, rising to \$2.2 million in Q3 2022 from \$1.9 in Q2 2022 and \$1.7 million in Q1 2022. Service revenues had previously been impacted by a general resurgence in Covid which led to widespread closures and reduced traffic in Vivos' VIP dental practices. The company reported 56 new VIPs enrolled in the third quarter, versus 58 in Q2 2022 and 32 in Q1 2022. Total VIPs trained in the Vivos Method exceeded 1,650 in Q3 2022 up 22% from 1,350 in Q3 2021.

Operating expenses of \$7.9 million were down 9% from the prior year period, reflecting management's cost-cutting efforts.

Exhibit 17: \	/ivos Therapeu	utics, Inc. Consensu	s Estimates		
	Revenue (r	million)		EPS	
	<u>2022E</u>	<u>2023E</u>		<u>2022E</u>	<u>2023E</u>
Q1 Mar	3.6A		Q1 Mar	-0.25A	
Q2 Jun	4.2A		Q2 Jun	-0.33A	
Q3 Sep	4.2A		Q3 Sep	-0.26A	
Q4 Dec	4.0E		Q4 Dec	-0.22E	
Total	16.6E	21.7E	Total	-1.11E	-0.65E

Note: Quarterly estimates may not add up to annual estimates due to variance in analyst reporting practices

Source: Yahoo Finance, Ascendiant Capital Markets



The company does not provide specific guidance but did suggest that it is on track to achieve cash-flow breakeven in the next 12-18 months. Though we would view this as more of a goal than a prediction, we believe the company is poised to benefit from a snapback in marketing momentum due to a return to relative normal following the Covid disruptions. New initiatives such as the company's DSO marketing campaign and cost-cutting measures implemented in Q3 could translate into positive earnings momentum (i.e., smaller losses) going forward. We are thus modeling 21% sequential revenue growth in the fourth quarter of 2022 and 18% YoY growth in 2023. At the same time, we expect operating expenses to be more contained, permitting the company to avoid widening its quarterly losses.

For 2022, we are forecasting revenues of \$17.2 million (+2% YoY), a net loss of \$(22.50) million, and EPS of \$(1.06). For 2023, we are modeling revenue of \$20.3 million (+18% YoY), a net loss of \$(20.5) million, and EPS of \$(0.73). This compares to consensus estimates of a loss of \$(1.11) in FY2022 and \$(0.65) in FY 2023 on revenues of \$16.6 million and \$21.7 million, respectively. We note that consensus EPS figures appear to be inconsistent, though we are not far off from consensus on revenues.

We believe that the biggest potential variable in our financial model is the ability of the company to sign up new VIPs and encourage them to start new cases, while also controlling SG&A expenses. If the company is able to reverse the headwinds created by Covid and accelerate its VIP training efforts, then it is likely to return to healthy topline growth and eventually scale to profitability. However, if the company has difficulties in getting momentum with VIPs, then revenue and profitability may not be achieved or will likely grow at a moderate rate or not at all.

On January 9, 2023, Vivos closed an equity private placement with a single institutional investor consisting of 2,000,000 shares of common stock, pre-funded warrants to purchase 4,666,667 shares of common stock, and common stock warrants to purchase up to an aggregate of 6,666,667 shares of common stock at \$1.20 per share for 5 years and 6 months from closing. Proceeds were \$7.4 million net of costs. The company's balance sheet had \$6.7 million in cash and no debt as of September, 2022. With the addition of proceeds from the private placement, cash should last through mid 2023, but the company will likely require more financing before the end of Q2 2023.

Exchange:	NasdaqCM
52-week Range:	\$0.34-3.69
Shares Outstanding (million):	27.9
Market cap (\$million):	\$43.8
EV (\$million):	\$37.1
Debt (\$million):	\$0
Cash (\$million):	\$6.7
Avg. Daily Trading Vol. (\$million):	\$2.2
Float (million shares):	17.6
Short Interest (million shares):	0.12
Dividend, annual (yield):	NA

Exhibit 18: Vivos Therapeutics, Inc. Financial Metrics

Source: Yahoo Finance, Company Reports



Financial Model

Income Statement (\$ mils)	2018	2019	2020	2021	Mar-22	Jun-22	Sep-22	Dec-22	2022	Mar-23	Jun-23	Sep-23	Dec-23	2023
Fiscal Year End: December 31	FY-A	FY-A	FY-A	FY-A	Q1A	Q2A	Q3A	Q4E	FY-E	Q1E	Q2E	Q3E	Q4E	FY-E
Product revenue	49%	38%	37%	39%	56%	55%	47%							
Service revenue	51%	62%	63%	61%	44%	45%	53%							
Product revenue	1.8	4.4	4.9	6.5	2.0	2.3	2.0							
Service revenue	1.9	7.0	8.2	10.4	1.6	1.9	2.2							
Total revenue	3.8	11.4	13.1	16.9	3.6	4.2	4.2	5.1	17.2	4.3	4.9	5.0	6.0	20.3
Total cost of goods sold	1.1	2.7	2.7	4.3	1.1	1.6	1.8	1.4	5.8	1.1	1.7	1.8	1.4	6.1
Gross profit (loss)	2.7	8.7	10.4	12.6	2.6	2.6	2.5	3.7	11.4	3.2	3.3	3.2	4.6	14.2
Operating expenses														
General and administrative	9.3	16.2	16.1	25.8	8.3	7.7	6.6	7.0	29.6	6.8	7.0	6.8	7.1	27.7
Sales and marketing	1.2	2.3	2.3	5.6	0.8	1.7	1.1	1.3	4.9	1.4	1.6	1.6	1.7	6.3
Depreciation and amortization	0.6	0.8	0.7	0.7	0.0	0.2	0.2	0.2	0.7	0.2	0.2	0.2	0.2	0.6
Other (3, 4)			3.3	0.9					••••					
Total operating expenses	11.0	19.2	22.5	33.0	9.2	9.6	7.9	8.5	35.1	8.4	8.8	8.5	9.0	34.6
	(a. a)		(1.5. a)	()	(a. a)	()	()	(()	()	()		()	
Loss from operations	(8.3)	(10.6)	(12.0)	(20.4)	(6.6)	(7.0)	(5.4)	(4.7)	(23.7)	(5.2)	(5.5)	(5.3)	(4.4)	(20.5
Other income (expense)														
Interest income (expense)	(0.1)	(0.1)	(0.0)	0.1		(0.0)	0.0		(0.0)					0.0
Other income (expense) (5)	0.0	(0.1)	0.0	(0.0)	1.3	0.0	(0.0)		1.3					0.0
Income before taxes	(8.4)	(10.8)	(12.1)	(20.3)	(5.3)	(7.0)	(5.4)	(4.7)	(22.5)	(5.2)	(5.5)	(5.3)	(4.4)	(20.5
Taxes			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net loss	(8.4)	(10.8)	(12.1)	(20.3)	(5.3)	(7.0)	(5.4)	(4.7)	(22.5)	(5.2)	(5.5)	(5.3)	(4.4)	(20.5
NCC 1035	(0.4)	(10.0)	(12.1)	(20.5)	(5.5)	(7.0)	(3.4)	(4.7)	(22.5)	(3.2)	(5.5)	(5.5)	()	(20.5
Nonrecurring/noncash adjustments (1,2)	(1.0)	(1.0)	(5.9)	0.0	0.0									
Net income (pro forma)	(9.4)	(11.8)	(18.0)	(20.3)	(5.3)	(7.0)	(5.4)	(4.7)	(22.5)	(5.2)	(5.5)	(5.3)	(4.4)	(20.5
EBITDA	(8.9)	(11.3)	(12.8)	(21.1)	(6.8)	(7.1)	(5.6)	(4.9)	(24.4)	(5.4)	(5.7)	(5.5)	(4.6)	(21.1
2011011	(0.5)	(11.5)	(12.0)	()	(0.0)	(//	(5.0)	((2)	(5.1)	(5.77	(5.5)	()	(
Weighted average common shares outs	11.5	12.3	12.9	21.2	21.2	21.2	21.2	21.2	21.2	27.9	27.9	27.9	27.9	27.9
Shares, Diluted	11.5	12.3	12.9	21.2	21.2	21.2	21.2	21.2	21.2	27.9	27.9	27.9	27.9	27.9
EPS Basic (pro forma)	(0.82)	(0.95)	(1.40)	(0.96)	(0.25)	(0.33)	(0.26)	(0.22)	(1.06)	(0.19)	(0.20)	(0.19)	(0.16)	(0.73
EPS Diluted (pro forma)	(0.82)	(0.95)	(1.40)	(0.96)	(0.25)	(0.33)	(0.26)	(0.22)	(1.06)	(0.19)	(0.20)	(0.19)	(0.16)	(0.73
1 Preferred stock accretion (FY18-20)														
2 Warrant beneficial conversion featur	re (Q4 '20)													
3 Litigation settlement (Q4 '20 opex) 4 Impairment charge (Q4 '21 opex)														
5 PPP loan forgiveness Q1 '22														
· · · · · · · · · · · · · · · · · · ·														
Margins														
Gross margin		76%	80%	75%	70%	62%	59%	73%	66%	73%	66%	63%	76%	70%
General and admin		142%	123%	153%	227%	184%	156%	137%	172%	158%	142%	135%	119%	1379
Sales and marketing		20%	18%	33%	21%	41%	26%	26%	28%	33%	32%	32%	28%	319
Operating margin Tax rate, GAAP		-93% NM	-92% NM	-121% NM	-182% NM	-166% NM	-127% NM	-93% NM	-138% NM	-121% NM	-111% NM	-107% NM	-73% NM	-101% NN
Net margin		-94%	-92%	-120%	-146%	-167%	-128%	-93%	-131%	-121%	-111%	-107%	-73%	-1019
-		-94%	-92/0	-120%	-140%	-107%	-120%	-95%	-131%	-12170	-11170	-107%	-75%	-1017
Y/Y % change			1.50				-							
Revenue			15%	29%	6%	-7%	-7%	16%	2%	18%	18%	18%	18%	189
COGS			-3%	61%	44%	83%	28%	5%	35%	5%	5%	5%	5%	5%
Gross Profit			20%	21%	-5%	-29%	-22%	21%	-10%	24%	26%	27%	23%	25%
General and Admin			-1%	60%	64%	26%	2%	2%	2%	2%	2%	2%	2%	-6%
Sales and marketing			0% 17%	140% 47%	-12% 51%	22% 24%	-44% -9%	5% -19%	5% 6%	5% -9%	5% -8%	5% 8%	5% 6%	30% -1%
Total operating expenses			17% 14%	47% 69%	51% 95%	24% 71%	-9% -2%	-19% -36%	6% 16%	-9% -21%	-8% -21%	8% -1%	6% -7%	-19 -149
Operating Income			14% 53%	13%	95% 57%	71%	-2% 0%	-36%	16%	-21%	-21% -21%	-1% -2%	-7% -7%	-14% -9%
Net income			53% 47%	-32%	35%	73% 69%	-2%	-36%	11%	-2%	-21%	-2%	-7%	-97
EPS	1			-32%			-270				-40%	-25%	-29%	
EPS			4776	-32%	55%	05%	-270	-30%	11%	-20%	-40%	-25%	-29%	-51/

Source: Company reports , Ascendiant Capital Markets estimates



Vivos Therapeutics, Inc.

Balance Sheet (\$ mils)	Dec-20	Dec-21	Mar-22	Jun-22	Sep-22	Dec-22	Mar-23	Jun-23	Sep-23	Dec-23
Fiscal Year End: December 31		Q4A	Q1A	Q2A	Q3A	Q4E	Q1E	Q2E	Q3E	Q4E
Current assets										
Cash	18.2	24.0	17.8	12.7	6.7	1.3	4.2	(1.4)	(6.6)	(11.8)
Accounts receivable, net	1.4	1.2	1.0	0.8	0.9	1.1	0.9	1.0	1.0	1.2
Current portion of note receivable - related part	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred offering costs			0.0			0.0	0.0	0.0	0.0	0.0
Tenant improvement allowance receivable		0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prepaid expenses and other assets	0.7	1.6	2.3	2.1	2.1	2.6	2.2	2.5	2.5	3.0
Total current assets	20.4	27.3	21.6	15.5	9.7	5.0	7.3	2.1	(3.0)	(7.5)
Goodwill	2.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Property and equipment, net	0.9	2.8	2.9	3.1	3.0	2.9	2.7	2.5	2.4	2.2
Operating lease right-of-use asset			1.5	2.2	2.1	2.1	2.1	2.1	2.1	2.1
Intangible assets, net	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Note receivable, net - related party	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deposits	0.3	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5
Total assets	25.3	33.7	29.6	24.4	18.4	13.6	15.7	10.4	5.1	0.5
Liabilities and Stockholders' Equity										
Current liabilities										
Accounts payable	0.8	0.9	0.9	1.3	0.6	0.5	0.5	0.7	0.7	0.6
Payable to related party for redemption of Serie	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Accrued expenses	1.7	2.9	3.2	2.6	2.2	2.2	2.2	2.2	2.2	2.2
Contract liability	2.9	2.4	2.3	2.1	2.4	2.4	2.4	2.4	2.4	2.4
Current portion of long-term debt	0.9	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current portion of deffered rent		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current portion of lease incentive liability		0.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Other current liabilities		0.0	0.1	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Total current liabilities	7.8	7.5	6.9	6.7	6.0	5.9	5.8	6.0	6.1	5.9
Long-term debt	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deferred rent	0.2	0.3	0.0	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Lease incentive liability, net of current portion		0.3	1.9	2.5	2.4	2.4	2.4	2.4	2.4	2.4
Total liabilities	8.4	8.2	8.7	9.5	8.5	8.4	8.4	8.6	8.6	8.5
Commitments and Contingencies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stockholders' Equity										
Preferred stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Common stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Additional paid-in capital	52.3	81.2	82.0	82.8	83.2	83.2	90.6	90.6	90.6	90.6
Accumulated deficit	(35.3)	(55.6)	(61.1)	(67.9)	(73.4)	(78.1)	(83.3)	(88.8)	(94.2)	(98.6)
Total stockholders' equity	16.9	25.5	20.9	14.8	9.9	5.1	7.3	1.8	(3.5)	(7.9)
Total liabilities and stockholders' equity	25.3	33.7	29.6	24.4	18.4	13.6	15.7	10.4	5.1	0.5

Balance Sheet Drivers

	Dec-20 Jan-00	Dec-21 Q4A	Mar-22 Q1A	Jun-22 Q2A	Sep-22 Q3A	Dec-22 Q4E	Mar-23 Q1E	Jun-23 Q2E	Sep-23 Q3E	Dec-23 Q4E
Book & Cash Value (per share)										
Book Value per Share (diluted)	1.31	1.20	0.98	0.70	0.46	0.24	0.26	0.06	(0.13)	(0.28)
Cash per Share (diluted)	1.47	1.21	0.95	0.69	0.42	0.18	0.23	0.04	(0.14)	(0.31)
Net cash per Share (diluted)	1.31	1.07	0.84	0.60	0.32	0.06	0.15	(0.05)	(0.24)	(0.42)

Source: Company reports, Ascendiant Capital Markets estimates



Vivos Therapeutics, Inc.

Cash Flow Statement (\$ mils) Fiscal Year End: December 31	2020 FY-A	2021 FY-A	Mar-22 Q1A	Jun-22 Q2A	Sep-22 Q3A	Dec-22 Q4E	2022 FY-E	Mar-23 Q1E	Jun-23 Q2E	Sep-23 Q3E	Dec-23 Q4E	2023 FY-E	2024 FY-E
riscal tear End: December 31	FT-A	FT-A	ALD	QZA	U3A	Q4E	FT-E	QIE	Q2E	U3E	Q4E	PT-E	FT-E
Cash flow from operating activities													
Net loss	(12.1)	(20.3)	(5.5)	(6.8)	(5.4)	(4.7)	(22.5)	(5.2)	(5.5)	(5.3)	(4.4)	(20.5)	(18.7
Net loss from discontinuing operations	()	(2010)	(515)	(0.0)	(511)	(,	()	(5.2)	(5.5)	(515)	(,	(2010)	(1017
Adjustments:													
Stock-based compensation expense	2.2	2.7	0.6	0.7	0.4		1.6						
Depreciation and amortization	0.7	0.7	0.04	0.3	0.18	0.2	0.7	0.2	0.2	0.2	0.2	0.6	0.6
Fair value of warrants issued for services	0.0	0.2	0.2	0.1	0.1		0.5						
Common stock issued for services and se	0.5	0.0	0.0	0.0	0.0		0.0						
Accretion of discount on note receivable	(0.0)	(0.0)	0.0	0.0	0.0		0.0						
Impairment on note receivable	1.9	0.9	0.0	0.2	0.1		0.4						
Common stock issued in litigation settlem	1.5	0.0	0.0	0.0	0.0		0.0						
Forgiveness of indebtness income	0.0	0.0	(1.3)	1.3	0.0		0.0						
Loss on sale of business	0.0	0.0	0.0	0.0	0.0		0.0						
WC changes													
Accounts receivable	(0.6)	0.2	0.2	0.2	(0.1)	(0.2)	0.1	0.2	(0.1)	(0.0)	(0.2)	(0.2)	(0.2)
Prepaid expenses and other	(0.1)	(0.9)	(0.7)	0.2	(0.1)	(0.2)	(1.0)	0.2	(0.1)	(0.0)	(0.2)	(0.2)	0.0
Deposits	(0.0)	(0.0)	0.0	(0.0)	(0.0)	(0.1)	(0.1)	0.1	(0.1)	(0.0)	(0.1)	(0.1)	0.0
Accounts payable	(0.3)	0.1	(0.0)	0.4	(0.6)	(0.1)	(0.4)	(0.1)	0.2	0.1	(0.2)	0.0	0.0
Accrued expenses	0.5	1.1	0.4	(0.5)	(0.5)	0.0	(0.6)	0.0	0.0	0.0	0.0	0.0	0.0
Contract liability	(0.0)	(0.5)	(0.1)	0.3	(0.0)	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Deferred rent and lease incentive liabili	0.1	0.5	(0.0)	(1.5)	0.1	0.0	(1.4)	0.0	0.0	0.0	0.0	0.0	
Tenant improvement allowance	0.0	(0.5)	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Net cash used in operating activities	(5.7)	(0.3) (15.7)	(6.1)	(4.7)	(5.8)	(5.4)	(22.0)	(4.5)	(5.6)	(5.2)	(5.2)	(20.5)	(18.4)
	(5.7)	(10.7)	(012)	()	(5.0)	(51-1)	()	()	(5.5)	(512)	(5.2)	(2010)	(10) 1
Investing Activities													
Purchase of property and equipment	(0.1)	(2.4)	(0.1)	(0.5)	(0.1)	0.0	(0.7)	0.0	0.0	0.0	0.0	0.0	0.0
Cash acquired from acquisition	0.0	(0.2)	0.0	0.0	0.0		0.0						
Principal collections under note receivable	0.0	0.0	0.0	0.0	0.0		0.0						
Net cash used in investing activities	(0.1)	(2.6)	(0.1)	(0.5)	(0.1)	0.0	(0.7)	0.0	0.0	0.0	0.0	0.0	0.0
ũ													
Financing Activities													
Proceeds from sale of common stock, net	22.3	27.9	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	7.4	0.0
Series A Preferred Stock redemption pay	(2.2)	(1.5)	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	7.4	0.0
Payments for issuance costs	(0.2)	(2.2)	0.0	0.0	0.0		0.0						
Principal payments on debt	(0.2)	(2.2)	0.0	0.0	0.0		0.0						
Principal payments on debt Proceeds from issuance of preferred stoc	2.5	0.0	0.0	0.0	0.0		0.0						
Proceeds from issuance of debt	1.3	0.0	0.0	0.0	0.0		0.0						
Net cash provided by financing activities	23.5	24.2	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	7.4	0.0
Net cash increase (decrease)	17.7	5.8	(6.2)	(5.2)	(5.9)	(5.4)	(22.7)	2.9	(5.6)	(5.2)	(5.2)	(13.1)	(18.4)
Cash balance at beginning of period	0.5	18.2	24.0	17.8	12.7	6.7	24.0	1.3	4.2	(1.4)	(6.6)	1.3	(11.8)
Cash balance at end of period	18.2	24.0	17.8	17.0	6.7	1.3	1.3	4.2	(1.4)	(6.6)	(11.8)	(11.8)	(30.2)

Source: Company reports, Ascendiant Capital Markets estimates



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Vivos Therapeutics, Inc.

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- HOLD: We expect the stock to provide a total return of negative 15% to positive 15% within a 12-month period.



SELL: We expect the stock to have a negative total return of more than 15% within a 12-month period.

Total return is defined as price appreciation plus dividend yield.

Ascendiant Capital Markets, LLC Rating System

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Total return is defined as price appreciation plus dividend yield.

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			Investment Banking Services Past 12 months			
Rating	Count	Percent	Count	Percent		
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Sell	1	2%	0	0%		
Total	44	100%	17	39%		

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