Zacks Small-Cap Research

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Semler Scientific (SMLR-NASDAQ)

SMLR: Revolutionizing PAD Diagnosis. Initiating at Outperform

Current Recommendation	**Outperform**
Prior Recommendation	N/A
Date of Last Change	01/04/2015
Current Price (01/02/15)	$1.96
Target Price	**$6.00**

OUTLOOK

FloChec, SMLR's flagship device, looks to have several advantages over current standard testing methods for peripheral artery disease. PAD afflicts ~20% of those 65 years and older but ~75% go undiagnosed as current diagnostic methods, unlike FloChec, are not well suited for front line testing in the primary care setting.

Highly experienced mgmt team has had early success with strategic marketing plan that leverages recent changes in healthcare reimbursement from pay for service to pay for performance. FloChec use benefits providers, patients and insurers which has catalyzed demand for the device and resulted in three-year revenue CAGR of 120%+. We think revenue continues to grow at a rapid clip as SMLR expands their customer base and increases per-customer order flow.
We are initiating coverage of SMLR with an Outperform rating and $6/share price target.

SUMMARY DATA

52-Week High	**$7.25**
52-Week Low	**$1.81**
One-Year Return (%)	**N/A**
Beta	**N/A**
Average Daily Volume (sh)	**7,276**
Shares Outstanding (mil)	**5**
Market Capitalization ($mil)	**$9**
Short Interest Ratio (days)	**0.58**
Institutional Ownership (%)	**16**
Insider Ownership (%)	**24**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2014 Estimate	**N/A**
P/E using 2015 Estimate	**N/A**
Zacks Rank	**N/A**

Risk Level	**High,**
Type of Stock	**N/A**
Industry	**Med Instruments**

ZACKS ESTIMATES

Revenue
(in '000s of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2013	429 A	475 A	589 A	781 A	2274 A
2014	837 A	846 A	897 A	951 E	3531 E
2015					4880 E
2016					6642 E

Earnings per Share

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2013	-$0.73 A	-$0.78 A	-$0.66 A	-$0.67 A	-$2.84 A
2014	-$0.36 A	-$0.22 A	-$0.31 A	-$0.27 E	-$1.12 E
2015					-$0.61 E
2016					-$0.38 E

Zacks Projected EPS Growth Rate - Next 5 Years % **N/A**

SNAPSHOT

Semler Scientific, Inc. (SMLR) is a medical device company which is engaged in the development and commercialization of medical risk-assessment products. The company's flagship product, FloChec, is a novel device for the measurement of arterial blood flow in the extremities.

Arterial blood flow measurement is routine in the assessment of vascular health, including for diagnosis of peripheral artery disease (PAD), a form of vascular disease whereby plaque impedes blood flow in arteries of the legs. PAD can significantly increase risk of stroke or heart attack and is costly to treat. The condition is relatively common in the elderly population yet highly under-diagnosed. This appears to be related to lack of appropriate screening methods of asymptomatic patients, which are estimated to account for approximately 75% of all PAD sufferers. While current diagnostic methods are effective in identifying the condition, these tests are typically performed by specialists, are generally not ordered unless a patient has other symptoms consistent with PAD and require specialized training to perform. By contrast, the relatively inexpensive and simple to use FloChec can be performed with little training, is appropriate for primary care practices and therefore could be ideal as a screening tool for this large population of asymptomatic PAD patients.

FloChec received FDA 510(k) clearance in early 2010 with initial commercialization commencing about 12 months later. Sales and marketing is handled via a small in-house sales force which mainly target large third-party payers and supplemented by one major distributor. Medicare Advantage plans are particular focus given that PAD is mostly an elderly disease.

SMLR uses a leasing (as opposed to outright sales) revenue model, providing for attractive gross margins and low revenue volatility. Revenue and gross profit have ramped nicely and shown consistent growth since FloChec launched in January 2011. This recurring revenue model affords incremental period-over-period growth with expansion of the installed base, which SMLR has been very successful in doing.

Semler is looking to leverage the recent shift in how healthcare is delivered - from a fee-for-service to a pay-for-performance model. These changes related to healthcare reimbursement should provide increasing demand for lower-cost and effective therapies and diagnostics as providers look to minimize cost without sacrificing efficacy. As FloChec represents a relatively low-cost and effective alternative to commonly used arterial blood flow measurement methods, demand for the device should benefit.

The simplicity of FloChec may also provide another meaningful competitive advantage which the company is also looking to exploit. Unlike the traditional arterial blood flow measurement method (Doppler ankle-brachial index or "ABI") which requires highly trained vascular technicians to operate and takes about fifteen minutes, FloChec can be performed by a relatively low-level medical aide and done in under four minutes. The relative simplicity of FloChec means the device can be used by any of the ~250k primary care practices in the U.S., while ABI is typically used by dedicated vascular testing facilities, of which there are only about 15k in the U.S. This 15x-plus expanded reach not only offers SMLR a much greater market size than traditional methods, it also potentially offers better patient care due to earlier and more routine vascular diagnosis. This could be particularly important for the 75% of PAD patients that are asymptomatic and go undiagnosed.

In order to fully leverage these advantages the majority of SMLR's marketing targets have been Medicare Advantage plans. These plans receive a set amount each month from Medicare for each patient and as such, have a financial incentive to cover lower-cost and effective services. Semler added the first of these plans in mid-July and currently counts three of the top fifteen Medicare Advantage insurance plans as customers. The company is focused on growing this number as well as increasing order sizes from existing customers and recently noted that they have been in discussions with several of the other Medicare Advantage plans.

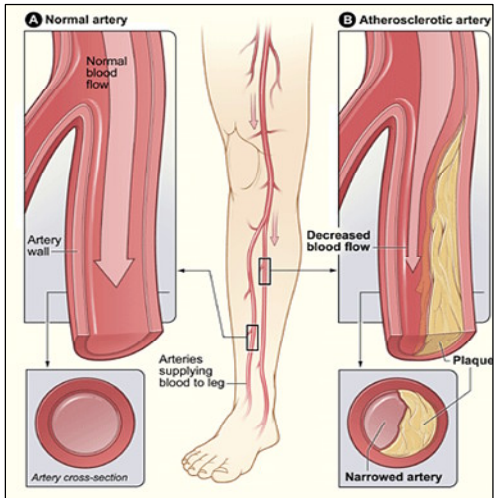
Semler is led by an experienced team. At the top leaderships roles are the company’s founder and Chairman, Dr. Herbert Semler and the CEO, Dr. Douglas Murphy-Chutorian. Dr. Semler, a board certified cardiologist, developed and marketed products for three cardiovascular companies and holds multiple patents for cardiovascular products. He has published over 90 articles in the field of cardiovascular medicine and is a Fellow of the American College of Cardiology, American College of Physicians, Society of Cardiac Interventions and Angiography, and the American Heart Association. Dr. Murphy-Chutorian, also a cardiologist with broad product development experience, is a named inventor on more than 30 patents and with extensive experience in the product regulatory approval process. He has a vast background in healthcare spanning over 30 years which has included clinician,

academic, inventor, entrepreneur, Chief Executive Officer, Chairman of the Board, and consultant to financial firms. Dr. Murphy-Chutorian received his B.A. and M.D. from Columbia University.

BACKGROUND

Peripheral Artery Disease: *Widespread, under-reported, high-risk and costly to treat..*

Arterial blood flow measurement is routine in the assessment of vascular health. PAD is a form of vascular disease whereby build-up of plaque causes ischemia in the legs. In the U.S. it is estimated to affect as many as 10 million, or about 20% of people age 65 and older and as many as 18 million Americans over the age of 50. Incidence is positively correlated with age and other risk factors such as obesity. Given the ageing population and trend towards more sedentary lifestyles, incidence of PAD will almost certainly continue to grow. Despite the high incidence, most cases of PAD go undetected with studies indicating about 75% of cases go undiagnosed.



The illustration shows how PAD can affect arteries in the legs. Figure A shows a normal artery with normal blood flow. The inset image shows a cross-section of the normal artery. Figure B shows an artery with plaque buildup that's partially blocking blood flow. The inset image shows a cross-section of the narrowed artery.

SOURCE: NHLBI, Wikipedia.com

Certain factors increase the likelihood of being affected by PAD. These include smoking, diabetes, older age, hypertension and known arterial disease, among others. Presence of PAD also significantly increases the likelihood of experiencing adverse cardiovascular events such as having a heart attack or stroke. A large study published in the Journal of the American Medical Association showed patients with PAD had a 21% chance of dying, having a heart attack or stroke or being hospitalized with cardiovascular complications within one year.

And while PAD isn't necessarily a life or death proposition, risk of severe complications, including death, increases with severity of the disease. Even patients with relatively mild cases, which typically will not develop into severe ischemia, are at an approximate 3x - 4x increased risk of dying from cardiovascular reasons as compared to non-PAD individuals. About 20% of PAD patients suffer from the most advanced stage of the disease, called critical limb syndrome - these patients have a 25% chance of dying and 30% chance of requiring leg amputation.

An initial symptom of PAD is claudication (Latin for "limping") which is pain or numbness caused by the lack of sufficient blood flow in the legs. Claudication may be more acute when walking. Other symptoms of PAD can include sores or wounds that will not heal and bluish tint or coolness of the legs - all of which are caused by the poor circulation from the accumulation of plaque in the arteries.

PAD Symptom



SOURCE: fashion-writings.com

Like almost any chronic disease, treatment is easier and more effective when the condition is found at an earlier stage. Less severe cases can often be effectively treated with medication and certain lifestyle modifications that could include stopping smoking, healthier diet and regular exercise. Later stage PAD may require more substantial intervention including invasive procedures such as angioplasty, which involves widening the arteries via threading a balloon catheter into the narrowed artery, or plaque excision whereby plaque is scraped off of the arterial wall. At the most severe stage, such as when gangrene has begun to set in, amputation may be necessary.

PAD is not only a serious health risk for the individuals suffering from the condition, it is also a serious cost to the overall healthcare system. According to the Sage Group, a research company with a focus on atherosclerotic disease in the lower limbs, PAD costs the U.S. healthcare system between $164 billion and $290 billion per year and is more costly than any other major chronic disease, including diabetes and heart disease. Mary Yost, President of Sage Group, indicates that one reason for the high cost to treat PAD is that the condition needs to be diagnosed at an earlier stage than what is the case today. She notes that ~75% of PAD patients are asymptomatic yet typically not tested due to lack of obvious symptomatic patient complaints and Medicare reimbursement guidelines. These asymptomatic patients eventually become just as costly to treat as symptomatic PAD patients

and therefore, earlier diagnosis of these asymptomatic patients represents an opportunity to reduce future complications as well as related healthcare costs.[1]

Major medical organizations are on the front lines of building awareness and communicating the serious of the disease. In fact the American College of Cardiology, the American Heart Association and the American Diabetes Association all agree that individuals over the age of 65 (as well as those over 50 with a history of smoking or heart disease) should be tested for vascular disease.

Traditional PAD Testing Methods Fail To Identify Asymptomatic Patients

Currently, most cases of PAD are not identified until after obvious symptoms are already present. This is likely due to a number of factors including that testing for symptomatic patients will be covered under Medicare reimbursement guidelines, the relatively high expertise required to perform traditional PAD testing methods and lack of widespread availability of PAD testing in the primary care setting.

This complex testing is typically done at specialist vascular centers or imaging labs, not at the primary care physician's office where an initial symptomatic diagnosis usually occurs. With chronically sick individuals, and particular those with mobility difficulties as is the case with many PAD patients, the lack of testing at the initial point of care can result in many patients foregoing a definitive diagnosis which results in further progression of the disease and resultant incremental complications. And the other advantage of being able to test at the initial point of care is that while a patient may not present with obvious symptoms, more subjective symptoms such as a mild functional impairment which may have been thought to be unrelated to PAD may provoke a primary care doctor to investigate further, including the use of a PAD test, if available.

Doppler ABI…

The standard for PAD testing is Doppler ABI, which has been shown to be highly effective in identifying the condition. Ankle Brachial Index is used to determine the presence of ischemia in the legs by comparing the blood pressure in the arms (which generally do not have arterial blockage) to the blood pressure in the lower legs. Specifically, ABI is calculated by dividing the systolic (i.e. - when the heart beats) blood pressure near the ankle by the systolic blood pressure in the arm. The Mayo Clinic guidelines for ABI values are; 1.0 - 1.4 indicates no blockage, 0.5 - 0.79 moderate blockage and < 0.5 severe blockage (with interim values corresponding to a representative degree of blockage).

Doppler ABI



SOURCE: medicalexpo.com

The procedure uses a conventional blood-pressure cuff and a Doppler wand. Doppler is used in all modern ultrasound scanners and used during an ABI procedure to determine whether blood is moving towards the wand. During the procedure the cuff is inflated until the pulse in the artery is stopped - the Doppler wand is used to determine when the pulse ceases. The cuff is then slowly deflated and a blood pressure measurement is recorded at the time that the Doppler wand redetects a pulse. This is done on both arms and on both ankles which provides the inputs to the ABI calculation.

ABI with Doppler is typically done at vascular center due to the complexity of using a Doppler wand and the cost to hire a trained technician, which can be prohibitive for a primary care practice that may not have sufficient PAD-related patient flow to make the economics work.

Another drawback to Doppler ABI is that it can produce inconclusive results in patients which have arteries that are incompressible arteries. Arterial calcification, or hardening of the arteries, can make them non-compressible and therefore procedures which rely on the use of a blood pressure cuff, such as Doppler ABI, may produce unreliable results. As FloChec does not use a blood pressure cuff it can be used with all patients, including those with incompressible arteries.

Duplex Ultrasound Scanning…

Doppler ABI represents the first-line PAD diagnostic and has been considered highly reliable in diagnosing the disease. If an even more definitive diagnosis is desired duplex ultrasound scanning (DUS) can be used. Duplex

[1] The Sage Group. Yost MA, Withersspoon H. *In Recognition of National Peripheral Artery Disease (PAD) Awareness Month, THE SAGE GROUP Comments on the Costs and Consequences of the Disease.* Business Wire, Sept 8, 2014

ultrasound imaging can also identify the location and degree of blockage and, therefore, is useful in finding the best location for access for revascularization.

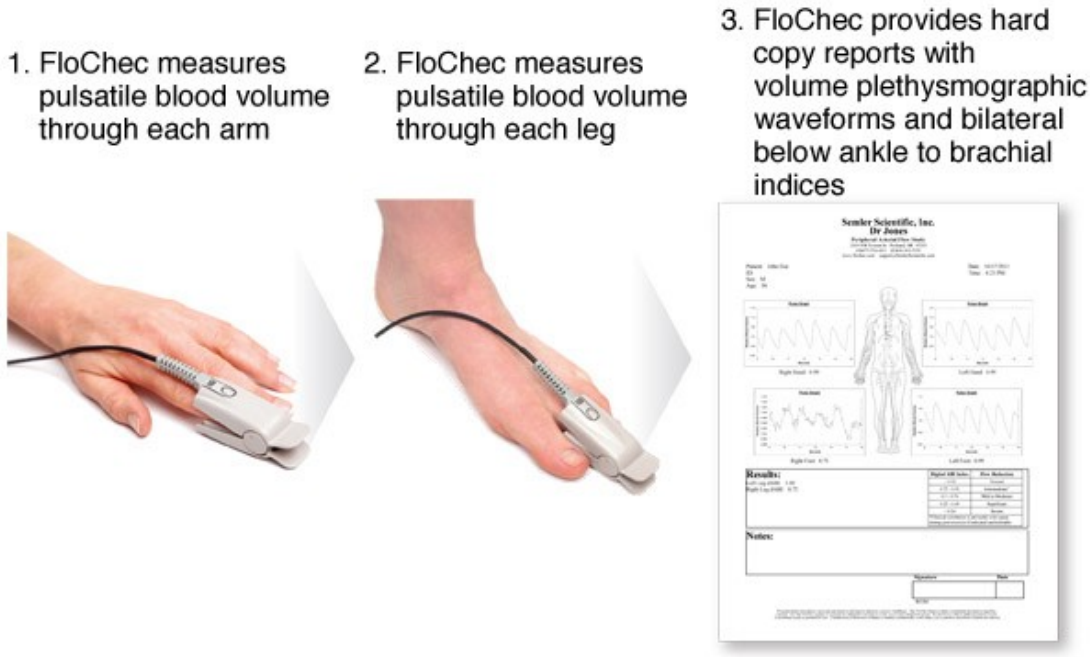
DUS is a combination of traditional ultrasound and Doppler ultrasound. While Doppler ultrasound uses sound waves to determine blood flow, traditional ultrasound uses sound waves to form pictures of the blood vessels. The combination allows a physician to see where the blockage is and the speed and direction of the blood flow. DUS is typically done in an ultrasound lab and takes approximately 30 minutes to complete. Cost of DUS, at approximately $700, is significantly more expensive than ABI.

FloChec Digital ABI: *Accurate and Simple To Use, Ideal For Primary Care Setting…*

The FloChec Volume Plethysmography Device also uses the ABI index to diagnose PAD but, unlike Doppler ABI, uses a much simpler to use technology with performance on-par or better than its more complex counterpart. High accuracy, low cost and ease of use could make it ideal for use in the primary care setting.

FloChec consists of a sensor clamp which is attached to the finger when the upper extremity blood flow is being measured and the toe when the lower extremity blood flow is being measured. LED light is emitted from the clamp into the digit and reflected back by the blood cells into the clamp sensors. The amount of blood volume in the digit affects the amount of light that is reflected back, the characteristics of which are measured by proprietary algorithms. Similar to Doppler ABI, both left and right extremities are measured, however, unlike Doppler ABI which takes approximately 15 minutes to complete, FloChec measurements can be performed in about four minutes.

These blood flow measurements are then instantly constructed into a waveform by the software and can be displayed on a computer monitor or printed in hard copy. Output consists of either "Flow Obstruction", "Borderline Flow Obstruction" or "No Obstruction". The simplicity of the procedure as well as the fully-automated output means there requires very little training - which, again, is a major point of difference as compared to Doppler ABI. The ease of use and interpretability of FloChec allows the procedure to be performed by a relatively low-level, low-cost technician or medical aide.



SOURCE: semlerscientific.com

FloChec received FDA 510(k) clearance in February 2010. The agency cited the Hokanson EC-6 and Parks Medical Mini-Lab devices as the predicate devices that FloChec was substantially equivalent to. FloChec is protected by a single issued U.S. patent (granted in 2009) with three other U.S. patents currently pending.

Abstract of the issued patent is; *A lightweight portable probe or transducer containing a transmissive or reflective electro-optical emitter and receptor in the infrared spectrum is fitted on a subject's finger or toe. Associated electronics energize and monitor the probe, detect cardio-rhythmic fluctuations therefrom, and process digital data over a prescribed window to produce a non-invasive, qualitative or quantitative measure of the subject's circulation.*

In accordance with one embodiment of the invention, a simple tri-color LED array is used to indicate the subject's circulation as being normal, reduced, or borderline.[2]

FloChec Clinical Data

SMLR has evaluated FloChec in two recent clinical studies. One compared the accuracy of the device to Doppler ABI in the identification of PAD while the other evaluated FloChec's ability to find undiscovered PAD cases in the primary care setting. These output measures of both trials closely correspond to the potential competitive advantages of FloChec as compared to alternative PAD testing devices.

> 632-Patient Undiscovered PAD in Primary Care Study

The goal of the study was to evaluate the performance of FloChec in the primary care setting, SMLR's target market and where many of the asymptomatic PAD cases may be being missed do to limited use of PAD diagnostics, including Doppler ABI. This was not a comparator study with FloChec as the only treatment device. Instead, data from other unrelated PAD studies and PAD prevalence rates were used for comparison purposes and a general guide as to the performance of FloChec. So while the study was not designed nor intended to be a pivotal trial or to provide a robust data set to support firm efficacy conclusions, it did provide some insight into the performance of FloChec as results were consistent with historical clinical data and PAD prevalence rates.

A manuscript of the study titled, *Digital Ankle-Brachial Index Technology Used In Primary Care Settings To Detect Flow Obstruction: A Population Based Registry Study* was published in October 2013 in the peer-reviewed journal BMC Research Notes. Questionnaires were used at primary care practices to identify individuals with signs and symptoms that were considered as suspicious for PAD. 632 patients at 19 U.S. medical practices were included in the study and 627 were tested with FloChec. Mean age of all participants was 67 years. 95% of the patients tested had at least one risk factor, sign and/or symptom suspicious of PAD. The results were aggregated into a database. Results were considered "abnormal", or positive for PAD, if the FloChec-generated ABI score was <0.93 and "normal", or negative for PAD, if the ABI score was $\geq$0.93.

Results (see Appendix for full results) showed 12% (76/632) of all patients were considered abnormal, or positive for PAD based on FloChec ABI scores. This falls within the range of 4.3% - 16.8% historical PAD prevalence rates. Of those 60 years of age or older, FloChec showed higher rates of PAD, which is also consistent with other, unrelated clinical studies. Similarly, prevalence rates of risk factors among those patients reporting as positive for PAD with FloChec were consistent with earlier studies. Perhaps, interestingly the study showed 25% of patients with claudication were positive for PAD, yet were asymptomatic - this compares to 11% in an earlier, unrelated study. The asymptomatic population is where the majority of PAD cases reside yet go undiagnosed and where earlier intervention could provide significantly improved patient outcomes.

While the authors acknowledge limitations of the study including that there was no comparator such as Doppler ABI, they concluded that the results do support the use of FloChec for identification of patients at risk of PAD and that, compared to Doppler ABI which is not as well suited for the primary care setting, it may allow for earlier detection of the disease.

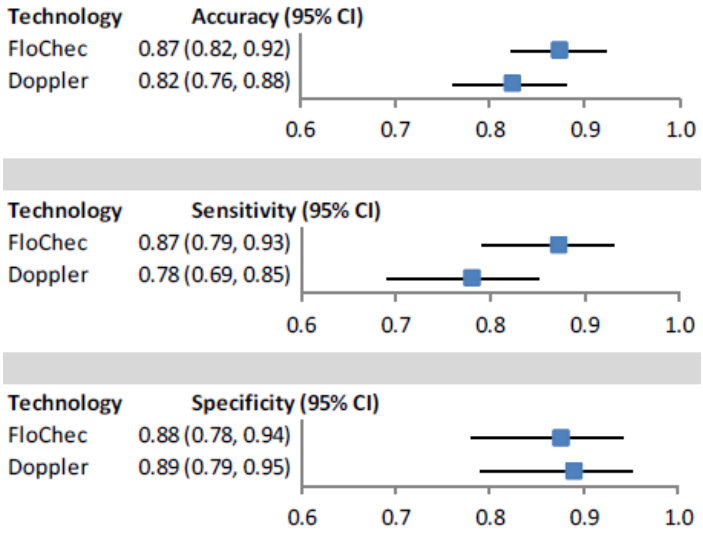
> 181-Limb Study Versus Doppler ABI

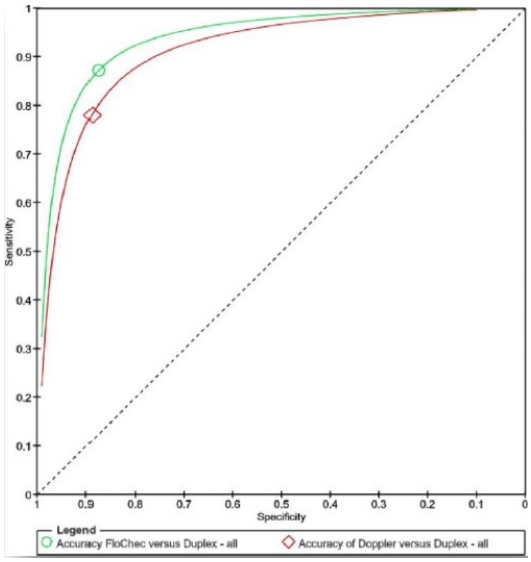
This study did use a comparator to evaluate FloChec in the diagnosis of PAD. 181 limbs from 121 patients were evaluated from five cardiovascular centers using both FloChec and Doppler ABI. Duplex ultrasound imaging was used as a definitive diagnosis. 95% confidence interval was used in the statistical analysis. Goal of the study was to compare the performance of FloChec versus that of Doppler ABI.

From November 2012 through May 2013 limbs were evaluated with each of these three methods. Each test from Doppler ABI and FloChec was compared to that from Duplex ultrasound with sensitivity, specificity and accuracy analyzed. In addition, receiver operating characteristic curves (ROC) were used - ROC curves are a visual measure of the accuracy results.

Results showed FloChec correctly identified 87% of the 181 limbs as either having disease or not having disease which compared to 82% for Doppler ABI. While the difference was not statistically significant, it trended in FloChec's favor. Accuracy, sensitivity and specificity findings as well as the ROC curve are below. Note that the closer the ROC curve (green = FloChec, red = Doppler ABI) is to the upper left, the more accurate the results are.

[2] U.S. Patent & Trademark Office



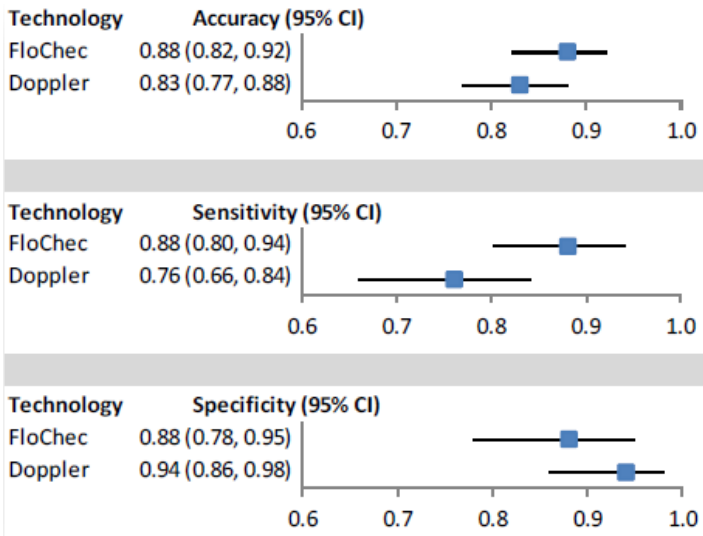


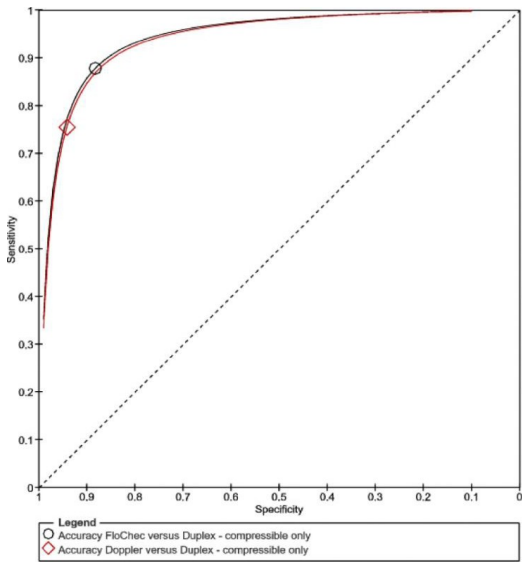
Results further showed that FloChec and Doppler ABI agreed in 78% (142 of 181) of limbs. Of the limbs where the methods did not agree, FloChec correctly identified diseased or non-diseased 62% of the time while Doppler ABI correctly identified only 38% of the time. While this difference with limbs where the methods did not agree is not statistically significant, it clearly does trend in FloChec's favor. And more importantly, the true positive rate is statistically significant (p=0.01) and also favors FloChec. FloChec's true positive rate was 68% versus 32% for Doppler ABI.

Sub-Analysis Also Favors FloChec…

A sub-analysis was also done. The sub-analysis included only limbs with compressible arteries. Arterial calcification, or hardening of the arteries, can make them non-compressible. Doppler ABI relies on a blood pressure cuff (while FloChec does not) in order to generate an ABI score and because of this, the results are known to be unreliable in patients with incompressible arteries. FloChec does not suffer from this drawback which means it can be used with all patients, providing it with yet another advantage over Doppler ABI.

There were 166 compressible limbs. Results showed FloChec correctly identified 88% of the 166 compressible limbs as either having disease or not having disease which compared to 83% for Doppler ABI. Accuracy, sensitivity and specificity findings as well as the ROC curve are below. The results indicate that FloChec is still more accurate then Doppler ABI when used on only compressible arteries.





SOURCE: semlerscientific.com

FloChec and Doppler ABI agreed in 80% (132 of 166) of the compressible limbs. Similar to the results of all limbs, of the compressible limbs where the methods did not agree, FloChec correctly identified diseased or non-diseased 62% of the time while Doppler ABI correctly identified only 38% of the time. And again, this difference is not statistically significant but does trend in favor of FloChec. Also the true positive rate for the compressible limbs was statistically significant (p=0.003) and favors FloChec. FloChec's true positive rate for compressible limbs was 73% versus 27% for Doppler ABI.

Results Indicate FloChec Is Competitive to Doppler ABI…
The results of the study indicate that performance of FloChec is on-par, or potentially superior to that of Doppler ABI. Also important to consider is that, as noted, Doppler ABI will often provide unreliable results in patients with incompressible arteries which is a limitation that FloChec does not suffer from and therefore provides Semler's device a competitive advantage in a real-world clinical setting. And this is in addition to the other advantages of FloChec which we detailed earlier including the relatively complex nature and long time of the Doppler procedure compared to that of FloChec.

COMMERCIALIZATION

Initial commercialization commenced in early 2011, which was about one year after FloChec received FDA 510(k) clearance. The company has been very methodical in implementation of a sales and marketing strategy that incorporates a small in-house sales force which mainly targets public third-party payers which is supplemented by a major distributor which focuses on the end-use customer touch point. This strategy has shown early success as evidenced by the rapid revenue growth. Revenue grew 90% in 2013 to $2.3 million and is up 73% through the first nine months of 2014. And revenue has also grown consistently on a sequential basis which is facilitated by the company's recurring revenue model. In addition to the steepening revenue curve, Semler generates very healthy gross margins - which have averaged about 80% and are a product of their licensing (as opposed to outright sales) strategy.

Medicare Advantage Provides Unique Opportunity…
Semler's focus on Medicare Advantage is driven by their quest to capture a high percentage of covered lives afflicted with PAD. Medicare Advantage plans cover approximately 16 million people, or about 40% of Americans over the age of 65 (i.e. - the target age group for PAD). And, with about 70% of these 16 million covered by the top 15 Medicare Advantage plans, Semler only has to concentrate sales resources on a small finite number of plans in order to capture the bulk of PAD covered lives.

But the company's focus on Medicare Advantage is also much more strategic then a "shooting fish in barrel"-type opportunity. The particularly strategic part has to do with leveraging how the Centers for Medicare and Medicaid Services (CMS) decides on the amount of reimbursement to provide to healthcare providers for Medicare Advantage patients. CMS pays a fee per patient (as opposed to a fee for each service) and the amount of this fee is based on the health status of the plan's membership base. So a plan with a sicker membership base would receive higher per-patient fees from CMS than one which is relatively healthy. Once every six months CMS receives statistics on the health of plans' membership base which the agency then uses to adjust the fees per patient - as a sicker base usually results in higher costs to treat, CMS will adjust payments upward in that case.

This fee per patient reimbursement model is also likely to become more widespread as payers look to reduce healthcare costs. Fee for service has incentivized providers to maximize the number of patient visits, with no financial incentive for the patient's health to improve. Patients with chronic conditions are relatively very costly to treat and these provide physicians a revolving door of income with fee for service reimbursement. Obamacare and public and private payers are addressing the potential disconnect that fee for service plans provide between what is best for the physician and what is best for the patient by moving towards fee per patient reimbursement.

But while many chronic conditions are more costly to treat once a positive diagnosis is made, that is largely not the case with PAD. Treatment of PAD patients, whether diagnosed with the condition or not, typically involves cardiovascular-related intervention (e.g. medication, dietary changes and an exercise regimen) as it is typical for these patients to be obese, have high blood pressure and sometimes have diabetes. Therefore the cost to treat an undiagnosed PAD patient is generally about the same as to treat a diagnosed PAD case.

So the combination of the potential to be paid higher per-patient fees if physicians can increase the number of positive PAD diagnoses among their patient base coupled with that treatment costs may not meaningfully increase

with more PAD diagnoses provides a real incentive for physicians and Medicare Advantage plans to identify which patients have this condition. And with 75% of PAD cases currently undiagnosed, there may be ample opportunity for physicians and Medicare Advantage plans to generate additional income. As such, Semler sees Medicare Advantage as holding a unique opportunity to drive demand at both the payer and provider levels.

Semler has estimated that CMS will pay an additional $3,000 to Medicare Advantage plans for each new PAD diagnosis. This estimate is based on hierarchical condition codes which dictate a set payment for specific conditions, including PAD. For a patient that has both diabetes and vascular disease, it's estimated that CMS will pay an additional $4,300.

In their recent investor presentation the company walks through a calculation that results in a value per FloChec test of $600. Using historical statistics that ~20% of people over 65 have PAD and assuming CMS will pay $3k per new PAD diagnosis, each test is worth $600 ($3k x 20%) to payers. Cost to run each test is a function of utilization of FloChec (as Semler licenses the instruments at an annual rate of approximately $5k) - we estimate average cost per test could be as low as $100. This means margins per test could be as much as $500 - which would likely provide significant incentive for Medicare Advantage plans to offer access to the test. Physicians would also be motivated to administer the test as the more PAD diagnosis they can make, the higher the fixed per-patient reimbursement they will receive. FloChec is particularly attractive to the physician given that a FloChec test can be run in less than four minutes and can be administered by a relatively low-level (and lower paid) medical aide. This allows for rapid patient throughput and also frees the physician to tend to other patients - which, again is an advantage over Doppler ABI which takes much longer to administer and requires a trained technician to do so.

Parent Organizaton – Largest 15 by MA enrollment	Total MA Enrollment Nov 2013
UnitedHealth Group	3,149,040
Humana	2,464,650
Kaiser	1,122,526
Aetna (Coventry)	955,027
WellPoint	626,021
CIGNA/HealthSpring	452,064
WellCare	344,996
Highmark	336,277
BCBS of Michigan	308,111
Health Net	239,448
InnovaCare (AKA Aveta)	231,848
Emblem	181,705
SCAN	149,457
Universal American	133,113
Medical Card System	128,370

SOURCE: CMS, Semler Scientific

Semler has already made headway in penetrating the Medicare Advantage space. The company counts UnitedHealth Group, which is the largest Medicare Advantage provider with over 3 million covered lives, among plans that are ordering FloChec systems for their physician networks. And during Q3 Semler converted two top-15 Medicare Advantage plans from pilot status to now submitting orders for FloChec. Semler's game plan is to further penetrate this top-15 list beyond the existing three plans that they currently have relationships with.

The company notes that the sales process has followed a fairly consistent pattern. That being the plans, following initial meetings, will run pilot studies with FloChec before converting to placing initial orders. Following the initial placements, the plans have increased order sizes based on the benefit they see with FloChec.

Major Distributor Focuses on End-User…

While the majority of revenue is generated from contracts with insurance companies, Semler supplements this with third-party distribution which focuses on the physician segment. In August 2012 Semler signed an agreement with Bard Peripheral Vascular, Inc., a major medical device company whereby Bard distributes FloChec in the U.S. to physician offices. The co-exclusive agreement allows Semler to sell directly to this segment as well. Sales through the Bard channel accounted for less than 20% of revenue in 2012 and 2013. We expect the main focus for growth will continue to be on expanding the number of Medicare Advantage plans that order systems and on increasing order sizes from the plans that are currently customers of Semler.

Commercialization Strategy Producing Rapid, Consistent Revenue Growth and Beefy Gross Margins…

Semler generated $316k in revenue in 2011, the first year that FloChec was on the market. Revenue grew 279% to $1.2 million in 2012 and then 90% to $2.3 million in 2013. Through the first nine months of 2014 revenue is up 73% to $2.6 million, already besting the full year of 2013. And importantly, particularly from the standpoint of investors who are concerned with volatility of revenue, Semler has consistently grown revenue on a sequential (as well as yoy) basis. This consistent quarter-over-quarter revenue growth is the result of the inherent predictability of the licensing and recurring revenue model.

Semler licenses FloChec for a fixed cost on a monthly or annual basis. Unlike many diagnostic device manufacturers they do not rely on consumable sales (i.e. - a razor/razor blade revenue model). The fixed monthly

cost, no cost-per-procedure (i.e. - no consumable) and opportunity to increase the fee per patient reimbursement amount through increasing the number of PAD diagnoses provides a significant incentive for physicians to maximize utilization of FloChec. It also provides an incentive to insurers reimbursing on a fee per patient basis to encourage their physician networks to maximize utilization.

This incentive appears to be what is driving increased demand for FloChec. As noted, Semler was able to bring 3 of the top 15, including the largest, Medicare Advantage plans on as customers over the last approximate 12 months. And while the company notes that consummating these types of deals can be a drawn out process, once in place they provide a recurring stream of revenue. Growth in revenue then comes from increasing the order sizes from these existing accounts and further expanding the number of plans under contract. The two contracts that in Q3 transferred from pilot trials to starting to place order should provide another impetus to revenue growth beginning with Q4. Management also noted on the recent conference call that the existing account recently increased their order size - this is another near-term catalyst to revenue growth.

The licensing model also provides for healthy gross margins - which have averaged about 80% since early 2012. Device depreciation, which is straight-line over 36 months, runs through cost of goods sold as does personnel costs related to overseeing manufacturing. We see no reason why Semler will not maintain close to this margin level going forward.

And while growth in operating expenses have recently outpaced that of revenue and resulted in increased operating loss, this is expected to begin to reverse over the near term. Operating expenses have recently been elevated as a result of investments in sales headcount and R&D related to new product development. But R&D expense is expected to come down now with development largely completed and SG&A should be highly leverageable with continued growth in revenue. The result should be significant improvement in operating income.

INVESTMENT CONSIDERATIONS

- **Significant Undiagnosed PAD Population**
  While approximately 18 million of Americans over the age of 50, including 10 million aged 65 and older (~20% of that age group) are estimated to have PAD, about 75% are believed to go undiagnosed. The low diagnosis rate relates to that most people in early stages of PAD are asymptomatic. Asymptomatic patients are typically not tested for the disease as PAD testing is generally done only after obvious symptoms have presented and after the patient has been referred to a specialist center where the bulk of PAD testing is done.

  Identifying the 75% of the PAD population that goes undiagnosed, particularly those in the earlier stages of the disease which are asymptomatic, is key to being able to most effectively treat the condition. Therapy is easier and more effective when PAD is found early with less severe cases often effectively treated with medication and certain lifestyle modifications. By the time obvious symptoms present, more substantial intervention including invasive procedures such as angioplasty, may be necessary.

- **Current Diagnostic Methods Lacking, FloChec Addresses The Unmet Need**
  Current methods to diagnose PAD, while accurate, are not well suited for front line testing. The front line for patients is typically their primary care physician and where the best opportunity lies to identify asymptomatic PAD patients. Doppler ABI and other current standard methods are relatively complex and therefore done at vascular centers. A referral to a vascular center for PAD testing typically occurs because the patient has already presented to their primary care physician with symptoms - which means these current methods do little to address the ~75% of PAD sufferers who are asymptomatic and at early stages of the disease.

  In contrast to current standard methods for PAD diagnosis, FloChec is very simple to use. PAD testing with FloChec can also be accomplished relatively quickly - in about four minutes compared to fifteen minutes for Doppler ABI. And another advantage of FloChec is that unlike Doppler ABI, it does not use a compression cuff. The use of a compression cuff means Doppler ABI will often provide unreliable results in patients with incompressible arteries which is a limitation that FloChec does not suffer from. Clinical trials to date (which we acknowledge are subject to certain aforementioned limitations) have indicated the accuracy of FloChec is on-par or better than that of Doppler ABI. The simplicity, short diagnostic time and lack of limitations with incompressible arteries of FloChec makes it an ideal fit for front line testing in the primary care setting. As such, FloChec could more easily address the unmet need to effectively identify asymptomatic PAD patients.

- **Exploiting Shift in Reimbursement, From Fee For Service to Fee Per Patient**
  The shift by public and private payers from fee for service to fee per patient incentivizes both the insurers and physicians to use FloChec. Semler is targeting Medicare Advantage plans which cover ~40% of people over the age of 65 and is highly focused on the top 15 plans, which account for 70% of covered lives. We see this as a well thought out and strategic plan. Medicare Advantage plans and their physician network are financially incentivized to use FloChec to increase the number of PAD diagnoses which in-turn will increase their fixed per-patient reimbursement from Medicare. And the major focus on the top 15 plans affords Semler efficiency in gaining access to the greatest number of patients with lowest number of sales touch points.

- **Expect Rapid Growth to Continue**
  Semler generated $316k in revenue in 2011, the first year that FloChec was on the market. Revenue grew 279% to $1.2 million in 2012 and then 90% to $2.3 million in 2013. Through the first nine months of 2014 revenue is up 73% to $2.6 million. And importantly, Semler has consistently grown revenue on a sequential (as well as yoy) basis. We see this recent rapid revenue growth validation that the company's commercialization strategy (most notably targeting large Medicare Advantage) plans is bearing fruit. With two new plans just going live in Q3, the existing plan increasing orders and the inherent predictability and consistency afforded by the licensing revenue model, we see little risk that revenue will not continue to grow over the near term.

  The recurring revenue business model should provide a solid and predictable base of revenue with little short-term volatility. The company's plan for long term growth is relatively simple yet sensible. That is to expand the number of plans licensing systems and increasing orders from existing customers. Existing customers, after seeing the benefit FloChec can have on increasing fixed reimbursement, should be further induced to expand access to FloChec to a greater portion of their insured base and physician network. Early indications suggest this is already happening with the initial plan recently increasing their order size.

  And there may be other opportunities for growth as well. The company has indicated that they may look to also commercialize outside of the U.S. and noted that they have been working on development of additional products. While Semler has yet to provide specifics about what these products are, the company has noted that they expect to talk more about these in the upcoming year.

- **Big Margins, Reduced Risk With Licensing, Streamlined Operating Infrastructure**
  Licensing instead of outright sales affords big gross margins and a fairly predictable stream of recurring revenue. Low volatility of revenue is not particularly common among small growth companies such as SMLR. This should provide some comfort to investors and we think it is reasonable that this could factor positively into the valuation of Semler. The company outsources much of its operating infrastructure including manufacturing and research and development. We think this also helps to de-risk an investment in Semler, at least to an extent. Outsourcing helps to minimize overhead and infrastructure costs and, if desired, also allows the company to quickly ramp up or down manufacturing and/or R&D activities with little to no fixed cost consequences or capacity issues. And management has indicated that their contract manufacturer has ample capacity to accelerate production in the event of a large increase in orders.

  Semler has also streamlined their sales efforts. With just 11 direct sales and clinical specialists, the company calls on the major Medicare Advantage plans and has the manpower to train clinicians on the use of FloChec. Much of the initial sales legwork can be done through telecommunications, which lends itself to scalability particularly as once an account contract is in place, stimulating growth of that customer's order volume is not expected to require much in the way of (higher cost) site visits.

- **Experienced Leadership Team**
  The quality and experience of management of Semler is also largely positively unique for a typical micro-cap company. Semler was founded by Dr. Herbert Semler who is the acting Chairman of the Board. Dr. Semler's background is impressive and (not surprisingly) highly relevant to cardiovascular and vascular disease as well as product development and commercialization. Dr. Semler, a board certified cardiologist, developed and marketed products for three cardiovascular companies and holds multiple patents for cardiovascular products. He has published over 90 articles in the field of cardiovascular medicine and is a Fellow of the American College of Cardiology, American College of Physicians, Society of Cardiac Interventions and Angiography, and the American Heart Association.

  The company brought on Dr. Douglas Murphy-Chutorian, another cardiologist, for the CEO role. He also has extensive clinical and commercial product experience. He is a named inventor on more than 30 patents and has extensive experience in the product regulatory approval process. He has a vast background in healthcare spanning

over 30 years which has included clinician, academician, inventor, entrepreneur, Chief Executive Officer, Chairman of the Board, and consultant to financial firms. Dr. Murphy-Chutorian received his B.A. and M.D. from Columbia University.

The full bio's of both Dr. Semler and Dr. Murphy-Chutorian, as well as the rest of the leadership team, are included towards the end of this report.

VALUATION / RECOMMENDATION

We look for revenue of $951k in Q4 which would result in $3.5 million in revenue for the full year 2014. That would equate to a three-year CAGR of 124% over the period 2011 to 2014. Despite the low volatility in revenue, forecasting past the near-term is challenging as revenue growth largely hinges on timing of acquiring new customers (mostly additional payers) and on the pace of increasing orders, both of which are difficult to predict. However, we think it is highly likely, given the successes on both fronts during Q3, that 2015 will be another year of significant growth.

The recurring revenue model means that already established customers should provide a fairly stable base of business. Growth beyond that will come from expanding the number of customers as well as increasing order sizes. We have revenue growing at in the high 30% in 2015 and graduating down to the low 30% in the out-year (2017) in our model. We think this is reasonable, or perhaps conservative, given the recurring revenue streams as well as the relatively much higher historical revenue growth rates - including 9% in 2013 and what we predict will be 55% in 2014.

We also expect to see much more scalability in operations as revenue grows. While management has indicated they will look to fill personnel needs as required with expansion of the company, we think the rapid revenue growth and beefy gross margins, coupled with the streamlined infrastructure, will result in significant improvement in OpEx leverage.

We use a 10-year DCF model to value SMLR. We model 10-year revenue CAGR of 29%, which again we think is reasonable if not conservative given the historical much higher rate of growth along with the recurring revenue model and significant further opportunities for growth. We show gross margins holding close to about 80% and scaling operating expenses consistent with growing revenues and efficiencies in SG&A. Our 10-yr DCF model, which uses a 11% discount and 2% terminal growth rate, values SMLR at just over $6/share. This equates to a price/sales (2015) multiple of between 5.5x and 6.0x which we think is a fair given the company's high revenue growth rate, low revenue volatility, big gross margins, scalability of operations and lower-risk business model (i.e. - licensing, outsourced manufacturing and R&D). We also assign real value to the quality of management.

We think fair value is $6/share which is significantly greater than the current market value. We are initiating coverage of SMLR with a $6/share price target and Outperform rating.

APPENDIX

632-Patient Study Population and Results[3]

Table 2 Summary of study population demographics, signs/symptoms, and risk factors

Measure	All subjects		PAD negative subjects		PAD positive subjects	
	Mean ± SD (N) or % (n/N)	95% CI	Mean ± SD (N) or % (n/N)	95% CI	Mean ± SD (N) or % (n/N)	95% CI
Age (years)	67.2 ± 13.8 (627)	66.1, 68.3	67.1 ± 13.9 (551)	65.9, 68.2	68.2 ± 12.9 (76)	65.2, 71.1
Age group (years)						
<50	10.7% (67/627)	8.3%, 13.1%	10.7% (59/551)	8.1%, 13.3%	10.5% (8/76)	3.6%, 17.4%
50-59	17.7% (111/627)	14.7%, 20.7%	18.5% (102/551)	15.3%, 21.8%	11.8% (9/76)	4.6%, 19.1%
60-69	25.5% (160/627)	22.1%, 28.9%	25.0% (138/551)	21.4%, 28.7%	28.9% (22/76)	18.8%, 39.1%
70+	46.1% (289/627)	42.2%, 50.0%	45.7% (252/551)	41.6%, 49.9%	48.7% (37/76)	37.4%, 59.9%
Male	38.0% (190/500)	33.7%, 42.3%	36.6% (158/432)	32.0%, 41.1%	47.1% (32/68)	35.2%, 58.9%
Claudication	20.3% (122/600)	17.1%, 23.6%	19.7% (104/528)	16.3%, 23.1%	25.0% (18/72)	15.0%, 35.0%
Discolored/blue legs	21.6% (133/617)	18.3%, 24.8%	20.6% (112/543)	17.2%, 24.0%	28.4% (21/74)	18.1%, 38.7%
Non-healing wound	11.4% (71/622)	8.9%, 13.9%	11.0% (60/546)	8.4%, 13.6%	14.5% (11/76)	6.6%, 22.4%
At least 1 sign/symptom	42.1% (264/627)	38.2%, 46.0%	41.2% (227/551)	37.1%, 45.3%	48.7% (37/76)	37.4%, 59.9%
High cholesterol	61.5% (375/610)	57.6%, 65.3%	61.5% (330/537)	57.3%, 65.6%	61.6% (45/73)	50.5%, 72.8%
Hypertension	72.5% (444/612)	69.0%, 76.1%	73.0% (394/540)	69.2%, 76.7%	69.4% (50/72)	58.8%, 80.1%
Diabetes	47.3% (291/615)	43.4%, 51.3%	46.5% (251/540)	42.3%, 50.7%	53.3% (40/75)	42.0%, 64.6%
Smoking history	40.1% (250/623)	36.3%, 44.0%	38.7% (212/548)	34.6%, 42.8%	50.7% (38/75)	39.4%, 62.0%
Stroke/TIA	13.2% (82/620)	10.6%, 15.9%	11.5% (63/547)	8.8%, 14.2%	26.0% (19/73)	16.0%, 36.1%
CAD	33.3% (206/618)	29.6%, 37.0%	31.6% (172/544)	27.7%, 35.5%	45.9% (34/74)	34.6%, 57.3%
Number of risk factors						
0	7.8% (49/626)	5.7%, 9.9%	8.2% (45/550)	5.9%, 10.5%	5.3% (4/76)	0.2%, 10.3%
1	13.9% (87/626)	11.2%, 16.6%	13.8% (76/550)	10.9%, 16.7%	14.5% (11/76)	6.6%, 22.4%
2	23.3% (146/626)	20.0%, 26.6%	24.5% (135/550)	20.9%, 28.1%	14.5% (11/76)	6.6%, 22.4%
3+	55.0% (344/626)	51.1%, 58.8%	53.5% (294/550)	49.3%, 57.6%	65.8% (50/76)	55.1%, 76.5%

[3] Diage et al. BMC Research Notes 2013, 6:404. http://www.biomedcentral.com/1756-0500/6/404

FINANCIAL MODEL

Semler Scientific, Inc

	2013 A	Q1A	Q2A	Q3A	Q4E	2014 E	2015 E	2016 E	2017 E
Total Revenues	$2,274.0	$837.0	$846.0	$897.0	$951.0	$3,531.0	$4,879.8	$6,641.5	$8,733.5
YOY Growth	*89.7%*	*95.1%*	*78.1%*	*52.3%*	*21.8%*	*55.3%*	*38.2%*	*36.1%*	*31.5%*
Cost of Revenues	$469.0	$155.0	$172.0	$178.0	$190.2	$695.2	$995.5	$1,368.1	$1,799.1
Gross Income	$1,805.0	$682.0	$674.0	$719.0	$760.8	$2,835.8	$3,884.4	$5,273.3	$6,934.4
Gross Margin	*79.4%*	*81.5%*	*79.7%*	*80.2%*	*80.0%*	*80.3%*	*79.6%*	*79.4%*	*79.4%*
R&D	$356.0	$229.0	$416.0	$262.0	$225.0	$1,132.0	$955.0	$1,144.0	$1,216.0
% R&D	*15.7%*	*27.4%*	*49.2%*	*29.2%*	*23.7%*	*32.1%*	*19.6%*	*17.2%*	*13.9%*
Selling & Mktg	$2,256.0	$746.0	$728.0	$1,040.0	$1,052.0	$3,566.0	$4,208.0	$4,515.0	$4,777.0
% Sell&Mktg	*99.2%*	*89.1%*	*86.1%*	*115.9%*	*110.6%*	*101.0%*	*86.2%*	*68.0%*	*54.7%*
G&A	$1,317.0	$497.0	$539.0	$784.0	$674.0	$2,494.0	$2,788.0	$2,584.0	$2,631.0
% G&A	*57.9%*	*59.4%*	*63.7%*	*87.4%*	*70.9%*	*70.6%*	*57.1%*	*38.9%*	*30.1%*
Operating Income	($2,124.0)	($790.0)	($1,009.0)	($1,367.0)	($1,190.2)	($4,356.2)	($4,066.6)	($2,969.7)	($1,689.6)
Operating Margin	*-93.4%*	*-94.4%*	*-119.3%*	*-152.4%*	*-125.2%*	*-123.4%*	*-83.3%*	*-44.7%*	*-19.3%*
Interest expense (income)	$108.0	$26.0	$25.0	$100.0	$79.0	$230.0	$25.0	$25.0	$25.0
Other Expense total	$109.0	$27.0	$23.0	$99.0	$79.0	$228.0	$25.0	$25.0	$25.0
Pre-Tax Income	($2,233.0)	($817.0)	($1,032.0)	($1,466.0)	($1,269.2)	($4,584.2)	($4,091.6)	($2,994.7)	($1,714.6)
Taxes	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Tax Rate	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Net Income	($2,233.0)	($817.0)	($1,032.0)	($1,466.0)	($1,269.2)	($4,584.2)	($4,091.6)	($2,994.7)	($1,714.6)
YOY Growth	*21.0%*	*-43.1%*	*-68.4%*	*-180.3%*	*-141.3%*	*-105.3%*	*10.7%*	*26.8%*	*42.7%*
Net Margin	*-98.2%*	*-97.6%*	*-122.0%*	*-163.4%*	*-133.5%*	*-129.8%*	*-83.8%*	*-45.1%*	*-19.6%*
EPS	($2.84)	($0.36)	($0.22)	($0.31)	($0.27)	($1.12)	($0.61)	($0.38)	($0.21)
YOY Growth	*-11.8%*	*49.8%*	*71.9%*	*53.2%*	*59.7%*	*60.5%*	*45.5%*	*37.9%*	*45.5%*
Diluted Shares O/S	787	2,241	4,708	4,708	4,710	4,092	6,700	7,900	8,300

Brian Marckx, CFA

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LEADERSHIP

Management

Dr. Douglas Murphy-Chutorian
Chief Executive Officer and Board member
Dr. Douglas Murphy-Chutorian has served as a member of our Board of Directors since September 2012 and as our Chief Executive Officer since October 31, 2012. Dr. Murphy-Chutorian has had broad, diverse career experience in healthcare over the past 30 years, stretching from clinician, academician, inventor, entrepreneur, Chief Executive Officer, Chairman of the Board, and consultant to financial firms. Since April 15, 2005, he has been Managing Director of Select Healthcare Capital, LLC. Dr. Murphy-Chutorian is a named inventor on more than 30 patents, and has guided more than 50 products through various regulatory approval processes. His business career has included extensive involvement in all facets of the medical industry from financial, research and development, manufacturing, marketing and sales, regulatory, reimbursement, and clinical trials. His breadth of healthcare experience includes all major sectors of the industry: medical devices, health services, pharmaceuticals, biotechnology and managed care. He received his B.A. and M.D. from Columbia University. He completed his Internal Medicine residency at New York University/Bellevue Medical Center and his fellowship in Cardiology at Stanford University Medical Center. He has served as a faculty member in interventional cardiology at both Stanford and Montefiore Medical Center. Dr. Murphy-Chutorian's experience as a cardiologist, inventor and executive qualify him to be our Director and Chief Executive Officer.

Robert G. McRae
Chief Operating Officer
Mr. Robert G. McRae has served as our Chief Operating Officer since November 2010. Mr. McRae is a seasoned executive experienced in medical device industry, specifically in growing early stage companies. As Chief Operating Officer, he has been responsible for all operational aspects of the company. From April 2010 until joining our company, Mr. McRae was the principal consultant of McRae Consulting. From March 2008 to April 2010, Mr. McRae was VP, Research and Business Development for Bacchus Vascular, Inc. He was part of the diligence, eventual acquisition, and subsequent integration of Bacchus Vascular into Covidien, Inc. From 2002 to 2007, Mr. McRae held several different positions with VNUS Medical, including heading Manufacturing, Research and Development, and Business Development. Mr. McRae built the infrastructures and teams that supported VNUS' growth from a start-up, through a successful IPO. Prior to VNUS, Mr. McRae worked at Stryker Endoscopy. Prior to his medical device experience, Mr. McRae held various positions in the U.S. Navy for a period of six years. Mr. McRae earned an MBA from Santa Clara University and a BSME from San Jose State University.

Scott Ashworth
Exec VP of Global Sales
Mr. Ashworth has served as Executive Vice President of Global Sales since June, 2014. Prior to joining Semler, Mr. Ashworth served as the executive vice president, global sales at Cutera, Inc., where he led the global sales organization in over 40 countries. From 2012 to 2013, Mr. Ashworth served as the senior vice president, global sales at Avinger, Inc., where he built and managed a global sales organization of more than 50 team members. Prior to that, Mr. Ashworth served as the vice president, global sales and marketing at HeartFlow, Inc., from 2011 to 2012, where he built the foundation for commercialization, including a pivotal distribution partnership with General Electric. Mr. Ashworth also held multiple senior sales executive positions at Siemens Healthcare, Ultrasound Division (formerly Acuson), from 1997 to 2011, the most recent one being vice president, worldwide sales and service where he was responsible for $800 million in revenue across global sales and service operations. At Hewlett-Packard – Medical Products Group, Mr. Ashworth held the position of business development manager, Asia Pacific, from 1995 to 1997, where he managed and directed all corporate sales and marketing efforts across the Asia Pacific region. He holds a Bachelor of Arts degree in economic theory from UCLA in Los Angeles.

Daniel E. Conger
VP of Finance
Mr. Daniel E. Conger has served as our Vice President of Finance since October 2010. From September 2008 until joining our company, Mr. Conger worked at Bacchus Vascular and its acquirer Covidien, Inc., a medical device, supplies and pharmaceuticals company, where he was the Plant Controller for the San Jose plant. At Covidien, Mr. Conger was responsible for creation of a $130 million annual budget, leading a team of six people. He had sole responsibility for preparation of monthly and quarterly financial statements, and presented quarterly results to executive management of the global business unit. Mr. Conger has been working in the medical device, start-up and biotechnology industries since 2006, and has experience designing internal control systems, implementing such systems, and running finance in a business centered manner. He received his B.S. in Business Administration from Humboldt State University in May 2001 and an MBA — Accounting Option from California State University East Bay in June 2010.

Paul Scott
Chief Sales Officer
Paul Scott, an outside consultant, has been serving as the Chief Sales Officer since April of 2013. He has spent 35 year in a broad range of sales and sales management roles including over five years in the healthcare market during his tenure with Vocera Communications. Mr. Scott has a proven track record of sales success growing small teams into large sales organizations. He was Senior Vice President of Sales at Octel Communications from 1996-2000 and Senior Vice President of Nuance Communications from 2000 - 2002. From 2002 through 2007 Mr Scott was Vice President of Sales for Vocera. He joined Verisign as Senior Vice President of Worldwide Sales in 2007 and ran that team through 2011.

James Walker
Chief Financial Officer
James Walker has served as Chief Financial Officer since June 2014 pursuant to a consulting agreement with The Brenner Group. He has over 25 years of executive management experience in various technology fields as Chief Financial Officer, Chief

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Operating Officer and Chief Executive Officer, including three initial public offerings as a CFO. He spent thirteen years as Chief Financial Officer of three mid-sized venture capital funded technology companies, all of which went through initial public offerings and ultimately acquisition by larger firms as well as six years as President and CEO of $10MM medical imaging company.

Dennis Rosenberg
Chief Marketing Officer
Dennis Rosenberg, an outside consultant, has served as Chief Marketing Officer since January 2013 and has over 27 years experience in medical device marketing with start-up companies through international public companies, including senior level marketing and sales positions with Covidien, Bacchus Vascular, VNUS Medical, Eclipse Surgical Technologies and others.

Board of Directors

Dr. Herbert J. Semler
Dr. Herbert J. Semler co-founded Semler Scientific, Inc. in 2007 and has served as Chairman of the Board of Directors since that time. Dr. Semler also served as our Chief Executive Officer until October 31, 2012. Over his 45 years of medical practice, Dr. Semler has developed, manufactured, and marketed products for three cardiovascular companies. As a board certified cardiologist, Dr. Semler holds multiple patents and patent applications for cardiovascular products. He has experience with Holter monitoring, telemedicine, cardiac telemetry, pace maker surveillance, cardiac event monitoring, including development of the "King of Hearts" device. Dr. Semler also invented a femoral vascular hemostatic device, which has been used on over fifteen million patients. Dr. Semler has had a distinguished career in medicine including the following accomplishments. He has served as Professor of Cardiology at Oregon Health Sciences University (OHSU) where he founded and funded The Dr. Herbert and Shirley Semler Cardiovascular Institute. He is a Fellow of the American College of Cardiology, American College of Physicians, Society of Cardiac Interventions and Angiography, and the American Heart Association. He has published over 90 articles in the field of cardiovascular medicine. Dr. Semler is the chairman of the Shirley & Herbert Semler Foundation and until March 2008 was the chairman of Advanced Vascular Dynamics. Dr. Semler is currently the Chief Executive Officer of Semler Health Perks, Inc., a private medical consumer software applications company founded by Dr. Semler in October 2012. Dr. Semler is the husband of our Director and co-founder, Shirley Semler. Dr. Semler's extensive experience in the fields of cardiology and medical device companies, and his experience and knowledge as a founder and executive of our company qualify him to be our Chairman of the Board and Director.

Bruce J. Barclay
Bruce J. Barclay joined Semler's Board of Directors in May 2014. Mr. Barclay chairs the board's compensation committee and is a member of the audit committee. Mr. Barclay served as president, chief executive officer and board member of Hansen Medical, Inc., from 2010 to 2014, launching multiple new products, both domestically and internationally, and generating record annual catheter sales and clinical procedures each year with the company. Prior to Hansen Medical, Mr. Barclay served as president and chief executive officer, from 2005 to 2010, president and chief operating officer, from 2003 to 2005, and board member from 2004 to 2010 of SurModics, Inc., securing multiple development and license agreements for the company and achieving record revenue for seven consecutive years. Mr. Barclay also served as president, chief executive officer and board member of Vascular Architects, Inc., successfully leading the company from feasibility through product development to U.S. and international commercial launch of its premier stent product. From 1978 to 2000, Mr. Barclay served at various managerial positions of increasing responsibility at Eli Lilly and Company and at Guidant Corporation. Mr. Barclay received a J.D. from Indiana University School of Law and a B.S. in chemistry and a B.A. in biology from Purdue University. He is also a registered patent attorney. Mr. Barclay's extensive record of high achievement in managing research, product development, operations, as well as domestic and international commercial teams in multiple markets and his deep knowledge of the medical device industry make him a highly-valued Director.

Dr. Wayne T. Pan
Dr. Pan joined Semlers Board in May 2014. Since August 2012, Dr. Pan has been chief medical officer at Thrasys, Inc., a global healthcare technology company that provides a cloud-based platform upon which healthcare delivery systems and provider organizations can build high quality, person-centered accountable care communities. Prior to Thrasys Inc., Dr. Pan was concurrently the chief medical informatics officer for Health Access Solutions, a health care software development company, from 2010 to 2012 and chief medical officer of Pacific Partners Management Services, Inc., a management services organization managing medical groups in northern California with over 50,000 covered lives. Prior to that, Dr. Pan served as chief medical officer at Affinity Medical Solutions, LLC, a medical management services organization serving independent physicians association clients and managing commercial and Medicare Advantage members, from 2009 to 2010. Dr. Pan also held the position of chief medical officer from 2008 to 2009 for Alameda Alliance for Health, a local initiative health plan with Medicaid, Medicare Advantage and IHSS plans, and the position of advisory chief medical officer at a data analytics start-up focused on big data issues in healthcare in 2007 to 2008. Dr. Pan completed his undergraduate studies in Biology at Johns Hopkins University, his M.D. and Ph.D. degrees concurrently at Mt. Sinai School of Medicine, and he has an MBA from the Wharton School of the University of Pennsylvania.

Dr. Douglas Murphy-Chutorian
(see bio above)

Greg S. Garfield
Mr. Greg S. Garfield has served as a member of our Board of Directors since November 2013. Mr. Garfield serves as a director on the boards of seven private companies in the healthcare industry. From 2006 to 2011, he had various roles at Acclarent, Inc., a medical technology company, including Chief Operating Officer and General Counsel. Acclarent, Inc. was acquired by Johnson and Johnson at a valuation of approximately $800 million cash in January 2010. From 1995 to 2006, Mr. Garfield had various roles at Guidant Corporation, a medical technology company, including Vice President of Business Development and General Counsel. Guidant was acquired by Boston Scientific Corporation in 2006 at a valuation of approximately $27 billion in cash and stock. Mr. Garfield has a Bachelor of Science degree from California Polytechnic State University and a Juris

Doctorate from McGeorge School of Law, University of the Pacific. We believe Mr. Garfield's significant business experience at other medical technology companies qualify him to be our Director.

Shirley Semler

Mrs. Shirley Semler is our co-founder and has served as a member of our Board of Directors since our formation in 2007. Mrs. Semler also served as an Executive Vice President until December 2009. Mrs. Semler is the holder of the patent on the Compressar hemostatic product that has been used on over 15 million patients. She was the co-founder and President of Instromedix, Inc., a medical product company that was acquired by Alares, Inc. She was also co-founder and President of Advanced Vascular Dynamics before it was sold. She attended Stephens College in Columbus, Missouri and the University of Colorado. Mrs. Semler is the wife of our Chairman of the Board and co-founder, Dr. Herbert J. Semler. Mrs. Semler's experience in the medical device business, and her experience and knowledge as a founder and executive of our company qualify her to be our Director.

Dr. Arthur Leibowitz

Arthur "Abbie" Leibowitz, M.D., F.A.A.P. joined Semler's Board of Directors in June 2014. Dr. Leibowitz has over 40 years of experience in healthcare, with more than 25 years in leading positions with several healthcare companies. Since 2001, Dr. Leibowitz has been co-founder, chief medical officer and executive vice president at Health Advocate, Inc., a health advocacy and assistance company that provides support and helps consumers navigate the healthcare system. Health Advocate's clients include more than 10,000 small, medium, and large sized companies, not-for-profit organizations and associations, schools, colleges and universities, unions, health plans, and third party administrators across the U.S. Prior to his role at Health Advocate, Dr. Leibowitz served as executive vice president of digital health strategies and a member of the board of directors at Medicologic, Inc., where he was responsible for developing healthcare data, information services and strategies targeted at users of the company's electronic medical record system, as well as data customers including payors, pharmaceutical companies, employers, regulatory and government agencies. Dr. Leibowitz served as vice president, medical delivery systems and chief medical officer at Aetna U.S. Healthcare, from 1996 to 2000, where he directed medical affairs and policies for one of the largest health benefits companies in the nation. In this role he was responsible for clinical policy development, technology assessment, patient management activities, and quality improvement programs. From 1993 to 1996, Dr. Leibowitz was the vice president, health delivery, corporate medical director at U.S. Healthcare, where he coordinated the expansion of medical programs regionally into eight new markets. Abbie had also served as vice president, health delivery, and a network medical director at U.S. Healthcare, from 1987 to 1993. From 1975 to 1987, Dr. Leibowitz was the senior physician at Drexel Hill Pediatric Associates, where he established 7-physician pediatric group practice serving a large and diverse urban/suburban patient population. Dr. Leibowitz received both his B.A. and M.D. degrees from Temple University. Dr. Leibowitz is an expert in managed care, health benefits and insurance, and has extensive experience in the assessment of coverage of new technologies by large health plans. He has also authored numerous articles and book chapters on population health management. Semler will greatly benefit from Dr. Leibowitz's background in direct business development and building leading-edge solutions for the complex healthcare system. He is a leader in the payor community, which is a key market for our products. This background makes Dr. Leibowitz an important addition to our Board.

Aidan Collins

Mr.Collins joined Semler's board in July 2014. Mr. Collins is the chief executive officer and founder of ControlMetric, Inc., a consulting and software company focused on bringing data-driven, fact-based approaches to operational risk management. Mr. Collins is responsible for all aspects of company operations, including business development, marketing and external relations. Prior to ControlMetric, Mr. Collins served as a partner at Bain & Company, from 2007 to 2010, where he led client relationships and consulting projects covering a range of strategic and operations issues, including IT strategy, cost reduction, post-merger integration and operations improvement. From 2004 to 2007, Mr. Collins was a partner in the advisory services practice at PricewaterhouseCoopers LLP, where he was a leader in the information technology effectiveness and healthcare payer practices in Northern California. Prior to that, Mr. Collins served as the senior vice president, sales and marketing in the healthcare group at Perot Systems, from 2002 to 2004, where he was responsible for leading sales and business development efforts for large healthcare organizations nationwide, focused on selling business process and technology outsourcing services to large healthcare payers. From 1992 to 2002, Mr. Collins served as partner with the enterprise risk services group at Deloitte & Touche LLP, where his responsibilities included leading the firm's national practice related to the Health Insurance Portability and Accountability Act (HIPAA) and the information security services practice in Northern California and Hawaii. Mr. Collins holds an MBA from The Wharton School, University of Pennsylvania, an MHA from the University of North Carolina at Chapel Hill and a BE from University of Limerick in Ireland.

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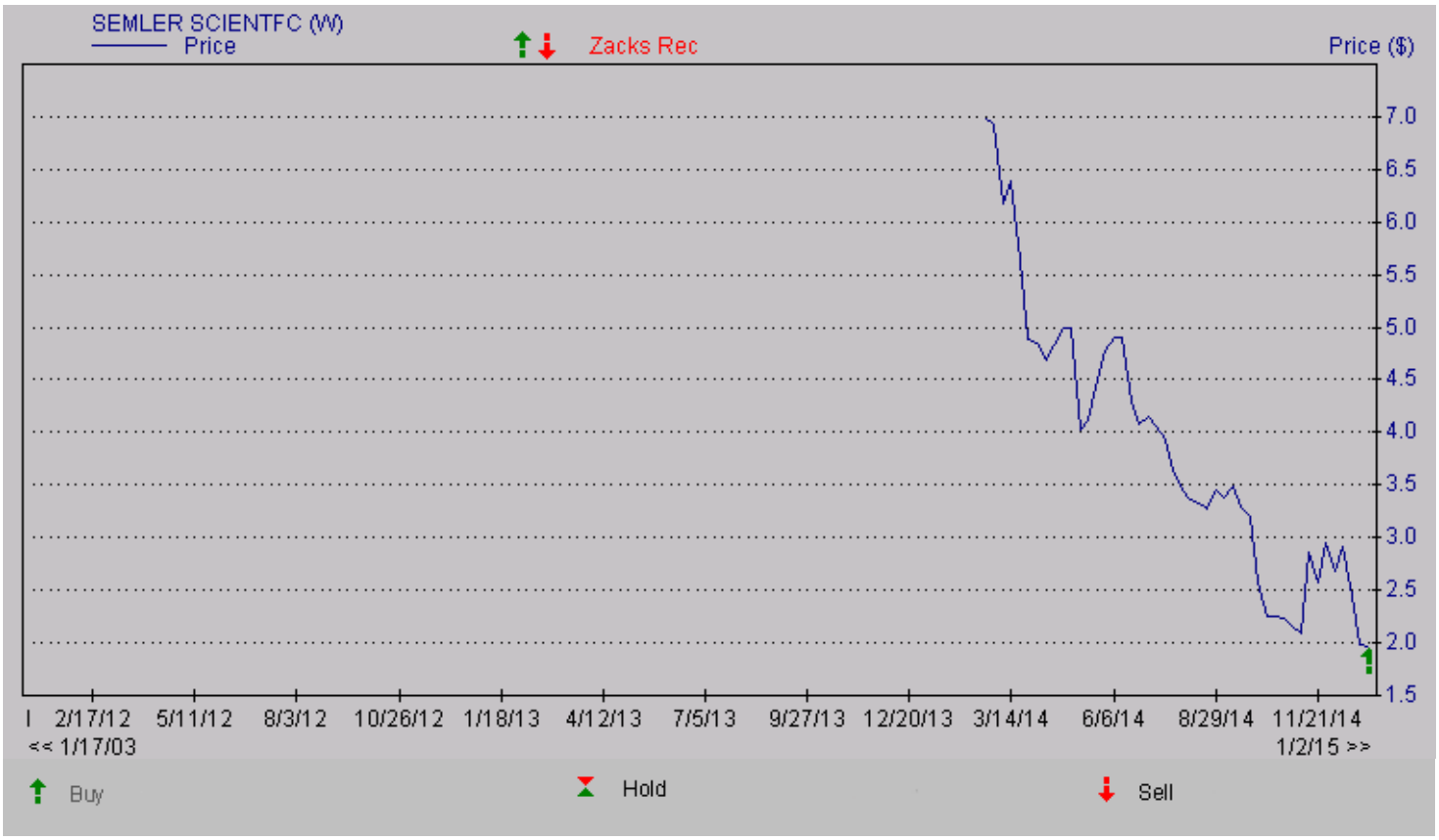

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