

## Foundation Medicine

### 1Q Review: In Line Quarter; Heme Ramp Encouraging But Limited Progress on Reimbursement

Foundation Medicine reported 1Q14 revenues of ~\$11.5M, driven by higher-than-expected hematologic panel test volumes, while reiterating top-line expectations of \$52-58M for 2014. In an incremental positive on the reimbursement front, the company noted that it has now received unique Z-codes for both its tests from McKesson, which could prove advantageous, should the Z-coding program go national, while it could also help in discussions with NGS, the local MAC. That said, the company has yet to receive any payments from Medicare for claims submitted earlier in the year, although this is not entirely surprising, given that it just began submitting. While 1Q performance and the 2014 outlook are both supportive of continued adoption, we look for additional progress with payors as key to a more constructive outlook, and accordingly, maintain our Neutral rating, while adjusting our December 2014 price target to \$31 based on modest adjustments to our DCF.

- **Revenue beat led by higher than expected heme test volumes.** 1Q revenues came in at ~\$11.5M, slightly above both JPMe (~\$11.3M) and the Street (\$11.4M). Clinical revenues of \$7.1M were driven by solid test volumes of 4,702 tests (+25% q/q), including 3,987 solid tumor and 715 hematologic malignancy tests (with the latter driving most of the upside relative to our estimate). Pharma revenues came in at \$4.3M on volumes of 851 tests, with management highlighting recent expansion of the ongoing collaboration with Clovis Oncology to include development of a novel companion diagnostic test for an ovarian cancer PARP inhibitor candidate. Moving down the P&L, gross margins of ~54% declined q/q (vs. ~56.5% in 4Q13), due to the earlier recognition of costs relative to revenue generated from cash-based payments for tests performed. This dynamic was particularly evident for the hematologic malignancy test, which had a strong launch in 1Q, with minimal contribution to revenues, but a full impact on COGS.
- **Heme test off to a strong start.** Management stated that the company has received 715 orders to date for the recently-launched hematologic malignancy panel. Similar to the solid tumor panel, FMI intends to initially focus on late-stage patients who either lack viable treatment options or have exhausted existing options, with initial test volumes driven by multiple myeloma, followed by acute leukemias, lymphomas and myeloproliferative neoplasms. While the heme test was off to a strong start in the quarter, management cautioned that it was still early in the commercial ramp.

#### Foundation Medicine (FMI;FMI US)

FYE Dec	2013A	2014E (Prev)	2014E (Curr)	2015E (Prev)	2015E (Curr)
Revenue (\$ mn)					
Q1 (Mar)	5	11A	11A	20	22
Q2 (Jun)	6	13	14	23	24
Q3 (Sep)	8	15	16	27	28
Q4 (Dec)	10	17	17	31	30
FY	29	56	57	100	105

Source: Company data, Bloomberg, J.P. Morgan estimates.

## Neutral

FMI, FMI US

Price: \$27.99

▲ **Price Target: \$31.00**  
Previous: \$30.00

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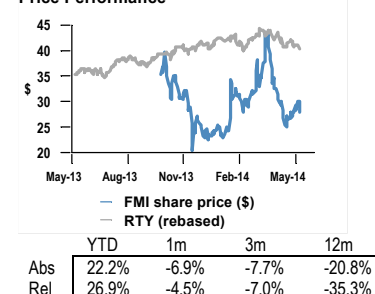
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#### Price Performance



#### Company Data

Price (\$)	27.99
Date Of Price	07 May 14
52-week Range (\$)	45.00-18.00
Market Cap (\$ mn)	787.46
Fiscal Year End	Dec
Shares O/S (mn)	28
Price Target (\$)	31.00
Price Target End Date	31-Dec-14

#### See page 8 for analyst certification and important disclosures.

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- **Incremental reimbursement progress with unique Z-code identifiers granted by McKesson, but no payments to date on submitted Medicare claims.** As a reminder, FMI began submitting claims to Medicare last quarter (using miscellaneous codes, rather than the stacked codes used to bill commercial payors), as test volumes from this segment continue to grow. On the call, management noted that FMI has yet to receive any payments based on the claims, but that this is consistent with prior expectations. The company has appealed the decisions and is engaged in dialog with the local MAC and other regional contractors. Also on the reimbursement front, FMI has received unique Z-code identifiers for both tests, pursuant to submitting an application to the McKesson Diagnostics Exchange last quarter. Given the uncertainty around approval and timing of CPT codes that adequately represent specific NGS-based tests, we view this approval of Z-code identifiers as an incremental positive, which could prove advantageous should the Z-coding program go national. As a reminder, Z-code identifiers have already been adopted by Palmetto as part of the MolDX program that determines coverage and payment for Medicare in 17 states (not including Massachusetts), with further adoption of the program by other Medicare contractors (including FMI's local administrator) and commercial payors expected in the future. On the call, management noted that average reimbursement for clinical tests remained flat q/q at \$3,400 (vs. \$3,400 in 4Q13 and \$3,300 in 3Q13), while looking ahead, FMI expects realized pricing to fluctuate around these levels in 2014. The company expects to present results from the U.S. Oncology decision impact study at ASCO next month, which should be another step toward driving payor traction.
- **Solid tumor panel update coupled with informatics enhancements bode well for continued adoption.** In line with 1Q commentary, FMI announced a new version of the solid tumor panel in 2Q, which includes performance improvements and expands content to 300+ genes (including 30 fusions). In addition to the product update, management also announced that FMI is on track to completely internalize medical reporting capabilities by the end of 2Q, leveraging the 15K patient cases in the knowledge base to improve the quality of reporting and streamline costs. Management confirmed the philosophy of a fixed price point, while continuing to update test content approximately once per year, and also reiterated planned enhancements to the Interactive Cancer Explorer online portal (including outcomes collection capabilities) in 2H14.
- **2014 outlook maintained.** FMI continues to expect \$52-58M in revenues, based on 22-25K tests (including FoundationOne Heme), for 2014. Gross margin is expected to be in the 55-65% range, while op ex is expected to be ~\$85-92M, driven by an increase in sales and marketing costs (FMI expects to have a sales force of 45-50 by 4Q14, including growing the OUS team), and investing in clinical trials, new product R&D, and informatics enhancements.
- **Modest changes to our estimates; maintain Neutral rating and adjust December 2014 price target to \$31.** We are making modest adjustments to our model for commentary from the quarter (including the strong launch of the heme test), and now forecast 2014 sales of \$57M. We are also updating our DCF assumptions and revise our price target to \$31. Our Neutral rating remains unchanged, as the company's first mover advantage in the high-growth pan-cancer panel market coupled with the operating leverage in the business model is balanced by uncertainty around reimbursement timing and evolving competitive dynamics. We view the risk reward as balanced near current valuation levels and prefer to remain on the sidelines, pending additional clarity on these key issues. Please see our [initiation](#) for additional thoughts on our investment thesis.

Figure 1: FMI: 1Q Variance

	1Q13A		1Q14E				1Q14A				Variance vs. JPM Est.	
	Actual		JPM Estimate		Consensus		Actual		Change y/y			
	\$ M	%	\$ M	%	\$ M	%	\$ M	%	Δ \$	Δ margin	\$ M	%
Clinical	2.3		7.7				7.1		213.4%		(0.6)	
Pharma	2.9		3.7				4.3		48.1%		0.7	
<b>Total Revenue</b>	<b>5.2</b>		<b>11.3</b>		<b>11.4</b>		<b>11.5</b>		<b>120.3%</b>		<b>0.1</b>	
Gross Profit	2.8	54.3%	6.8	60.0%			6.2	53.8%	118.4%	-46 bp	(1)	-619 bp
R&D	5.0	-95.8%	7.9	-70.0%			6.9	-60.4%	38.8%	3544 bp	(1)	963 bp
Sales and Marketing	1.8		5.7				5.7					
General and Admin.	3.2	-60.6%	6.2	-55.0%			5.7	-49.8%	81.0%	1082 bp	(1)	524 bp
Operating Income	(7.1)	-136.9%	(13.0)	-115.0%			(12.1)	-106.0%		3096 bp	1	901 bp
Pretax Income	(7.2)		(13.1)				(12.2)				1	
Income Tax	0.0	0.0%	0.0	0.0%			0.0	0.0%		0 bp	0	0 bp
<b>Net Income</b>	<b>(7.3)</b>		<b>(13.1)</b>				<b>(12.2)</b>				<b>1</b>	
Diluted Shares	2.8M		27.6M				27.7M		878.3%		0.1M	
<b>GAAP Diluted EPS</b>	<b>(\$2.56)</b>		<b>(\$0.47)</b>				<b>(\$0.44)</b>				<b>\$0.04</b>	

**FY14 Guidance**

**Revenue: \$52-58M**

Clinical test volume: 22-25K tests

Gross margins: 55-65%

Operating expenses: \$85-92M

Source: J.P. Morgan estimates, Company data.

**Other Notes**

1Q Clinical test volume: 4,702 tests  
including 3,987 Solid Tumor and 715 Heme tests

1Q Pharma test volume: 851 tests

## Investment Thesis, Valuation, and Risks

### Investment thesis

With its first-mover advantage in NGS-based cancer diagnostics and differentiated product, we believe FMI is poised to increase its penetration and continued market gain market share as it provides a value-added improvement for oncologists and the possibility of a truly personalized treatment regimen for patients. We expect adoption rates and sales volumes to increase in the coming quarters as the company gains further traction from its Interactive Cancer Explorer online portal and launches its analogous cancer panel for hematologic malignancies in 2014. Maintain Neutral.

### Valuation

Our December 2014 price target of \$31 is derived from a 10-year DCF analysis, with a CAPM-derived WACC discount rate of 20.2% and terminal growth of 2.0% (see Figure 3).

### Risks to rating and price target

Downside risks to our rating and price target include: (1) lack of visibility and potential delay in Medicare and commercial reimbursement; (2) competition and subsequent price erosion that could create uncertainty in the business model; (3) sole dependence on Illumina for sequencers; and (4) regulatory risk for current and future products. Upside risks include: (1) earlier than expected Medicare reimbursement approval; and (2) faster adoption and ramp of the FoundationOne panel for both solid tumors and hematologic malignancies.

Figure 2: FMI Model

Income Statement (in millions, except per share amounts)	2012A	1QA Mar	2QA Jun	3QA Sep	4QA Dec	2013A	1QA Mar	2QE Jun	3QE Sep	4QE Dec	2014E	2015E	2016E	2017E	2018E	CAGR 13-18
Clinical	3	2	3	4	5	15	7	9	10	11	37	81	159	304	472	
Pharma	8	3	3	4	4	14	4	4	6	6	20	23	27	31	36	
<b>Total Revenue</b>	<b>11</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>29</b>	<b>11</b>	<b>14</b>	<b>16</b>	<b>17</b>	<b>57</b>	<b>105</b>	<b>186</b>	<b>335</b>	<b>508</b>	<b>77%</b>
Cost of goods sold	6	2	2	3	4	12	5	6	6	6	24	37	60	98	136	
<b>Gross Profit</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>17</b>	<b>6</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>33</b>	<b>68</b>	<b>126</b>	<b>237</b>	<b>372</b>	
Research and Development	15	5	6	7	7	25	7	8	9	9	33	39	38	43	51	
Sales and Marketing	3	2	3	3	5	12	6	8	8	9	31	52	84	134	178	
General and Administrative	9	3	5	6	8	22	6	7	7	7	26	28	30	50	66	
<b>Operating Profit (Loss) - EBIT</b>	<b>(22)</b>	<b>(7)</b>	<b>(10)</b>	<b>(11)</b>	<b>(13)</b>	<b>(42)</b>	<b>(12)</b>	<b>(15)</b>	<b>(14)</b>	<b>(15)</b>	<b>(56)</b>	<b>(51)</b>	<b>(25)</b>	<b>10</b>	<b>78</b>	
Other income (expense), net	(0)	(0)	(0)	(1)	0	(1)	(0)	(0)	(0)	0	(0)	0	(2)	(2)	(2)	
<b>Pretax Income</b>	<b>(22)</b>	<b>(7)</b>	<b>(10)</b>	<b>(12)</b>	<b>(13)</b>	<b>(43)</b>	<b>(12)</b>	<b>(15)</b>	<b>(14)</b>	<b>(15)</b>	<b>(56)</b>	<b>(51)</b>	<b>(27)</b>	<b>8</b>	<b>76</b>	
Income Tax	0	0	0	0	0	0	0	0	0	0	0	0	0	3	27	
<b>Net Income (Loss) attributable to common</b>	<b>(23)</b>	<b>(7)</b>	<b>(10)</b>	<b>(13)</b>	<b>(13)</b>	<b>(43)</b>	<b>(12)</b>	<b>(15)</b>	<b>(14)</b>	<b>(15)</b>	<b>(56)</b>	<b>(51)</b>	<b>(27)</b>	<b>5</b>	<b>49</b>	
Diluted shares outstanding	2.2	2.8	3.2	3.6	27.5	9.3	27.7	27.8	27.9	28.0	27.9	28.3	28.7	29.1	29.5	
<b>GAAP Diluted EPS</b>	<b>(\$10.47)</b>	<b>(\$2.56)</b>	<b>(\$3.19)</b>	<b>(\$3.51)</b>	<b>(\$0.48)</b>	<b>(\$4.64)</b>	<b>(\$0.44)</b>	<b>(\$0.55)</b>	<b>(\$0.51)</b>	<b>(\$0.52)</b>	<b>(\$2.02)</b>	<b>(\$1.82)</b>	<b>(\$0.94)</b>	<b>\$0.19</b>	<b>\$1.67</b>	<b>N/M</b>
# Total tests performed (in 000s)	3.1	1.7	2.2	3.5	5.3	12.9	5.6	6.2	7.0	7.4	26.1	44.5	76.3	127.7	189.6	
Implied cost / test (\$/test)	\$1,833	\$1,369	\$987	\$807	\$787	\$906	\$953	\$964	\$913	\$851	\$916	\$833	\$783	\$764	\$715	
Gross Margin	47%	54%	63%	65%	56%	60%	54%	56%	59%	62%	58%	65%	68%	71%	73%	
R&D Margin (as % of revenue)	139%	96%	103%	85%	71%	86%	60%	60%	55%	55%	57%	37%	20%	13%	10%	
Sales & Marketing Margin (as % of revenue)	32%	35%	49%	37%	48%	43%	50%	60%	50%	55%	54%	50%	45%	40%	35%	
G&A Margin (as % of revenue)	81%	61%	80%	79%	78%	75%	50%	50%	45%	40%	46%	27%	16%	15%	13%	
Operating (EBIT) Margin	-206%	-137%	-169%	-136%	-140%	-144%	-106%	-114%	-91%	-88%	-99%	-49%	-14%	3%	15%	
Effective Tax Rate	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	35%	35%	
Net Margin	-213%	-139%	-173%	-152%	-135%	-149%	-106%	-114%	-91%	-88%	-99%	-49%	-14%	2%	10%	
Revenue growth (y/y)		750%	226%	170%	87%	172%	120%	128%	91%	71%	97%	84%	77%	80%	52%	
EPS growth (y/y)															788%	

Source: J.P. Morgan estimates, Company data.

Figure 3: FMI DCF Analysis

Projected FY Ending Dec	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Revenue (\$M)	29	57	105	186	335	508	673	833	945	1,043	1,144	1,244
growth y/y		97%	84%	77%	80%	52%	32%	24%	13%	10%	10%	9%
EBIT (\$M)	(42)	(56)	(51)	(25)	10	78	170	261	373	449	515	560
EBIT margin	-144%	-99%	-49%	-14%	3%	15%	25%	31%	39%	43%	45%	45%
Tax-affected EBIT (\$M)	(42)	(56)	(51)	(25)	7	51	111	170	243	292	335	364
<b>Free Cash Flow</b>	<b>(42)</b>	<b>(52)</b>	<b>(39)</b>	<b>(13)</b>	<b>17</b>	<b>55</b>	<b>98</b>	<b>161</b>	<b>213</b>	<b>283</b>	<b>314</b>	<b>357</b>
growth y/y						217%	79%	63%	32%	33%	11%	14%

Discount Rate	Discounted Cash Flows (\$M)	PV of Terminal Value (\$M) at a Perpetual Growth Rate of					Enterprise Value (\$M)					Equivalent Terminal EBITDA Multiple (forward 12 mos)				
	2015-2024	1.0%	1.5%	2.0%	2.5%	3.0%	1.0%	1.5%	2.0%	2.5%	3.0%	1.0%	1.5%	2.0%	2.5%	3.0%
19.2%	400	448	463	479	495	513	847	862	878	895	913	1.3x	1.4x	1.4x	1.4x	1.4x
19.7%	388	421	434	449	464	480	808	822	836	852	868	1.3x	1.3x	1.3x	1.3x	1.4x
<b>20.2%</b>	376	395	408	<b>421</b>	435	450	771	784	<b>797</b>	811	826	1.2x	1.2x	<b>1.3x</b>	1.3x	1.3x
20.7%	365	372	383	396	409	422	737	748	761	773	787	1.2x	1.2x	1.2x	1.2x	1.2x
21.2%	354	350	361	372	384	396	704	715	726	738	750	1.1x	1.1x	1.1x	1.2x	1.2x

Net Debt (Cash) (\$M)	Equity Value (\$M)					Equity Value per Share					Terminal Value as a % of Enterprise Value				
	1.0%	1.5%	2.0%	2.5%	3.0%	1.0%	1.5%	2.0%	2.5%	3.0%	1.0%	1.5%	2.0%	2.5%	3.0%
(63)	910	925	941	958	975	\$32.64	\$33.17	<b>\$33.74</b>	\$34.34	\$34.98	53%	54%	54%	55%	56%
(63)	871	885	899	914	931	\$31.23	\$31.72	<b>\$32.24</b>	\$32.79	\$33.38	52%	53%	54%	54%	55%
<b>(63)</b>	<b>834</b>	<b>847</b>	<b>860</b>	874	889	<b>\$29.91</b>	<b>\$30.36</b>	<b>\$30.84</b>	<b>\$31.34</b>	<b>\$31.88</b>	51%	52%	<b>53%</b>	54%	54%
(63)	799	811	823	836	850	\$28.67	\$29.09	<b>\$29.52</b>	\$29.99	\$30.47	50%	51%	52%	53%	54%
(63)	767	778	789	801	813	\$27.50	\$27.89	<b>\$28.29</b>	\$28.71	\$29.16	50%	50%	51%	52%	53%

Source: J.P. Morgan estimates, Company data.

## Foundation Medicine: Summary of Financials

Income Statement - Annual	FY13A	FY14E	FY15E	FY16E	Income Statement - Quarterly	1Q14A	2Q14E	3Q14E	4Q14E
Revenues	29	57	105	186	Revenues	11A	14	16	17
Cost of products sold	(12)	(24)	(37)	(60)	Cost of products sold	(5)A	(6)	(6)	(6)
Gross profit	-	-	-	-	Gross profit	-	-	-	-
SG&A	(29)	(51)	(74)	(107)	SG&A	(10)A	(13)	(13)	(14)
R&D	(25)	(33)	(39)	(38)	R&D	(7)A	(8)	(9)	(9)
Operating income	(42)	(56)	(51)	(25)	Operating income	(12)A	(15)	(14)	(15)
EBITDA	(37)	(50)	(45)	(19)	EBITDA	(11)A	(14)	(13)	(13)
Net interest (income) / expense	(0)	(0)	0	(2)	Net interest (income) / expense	(0)A	(0)	(0)	0
Other income / (expense)	(1)	0	0	0	Other income / (expense)	0A	0	0	0
Income taxes	0	0	0	0	Income taxes	0A	0	0	0
Net income	(43)	(56)	(51)	(27)	Net income	(12)A	(15)	(14)	(15)
Diluted shares outstanding	9	28	28	29	Diluted shares outstanding	28A	28	28	28
Diluted EPS	(4.64)	(2.02)	(1.82)	(0.94)	Diluted EPS	(0.44)A	(0.55)	(0.51)	(0.52)
Balance Sheet and Cash Flow Data	FY13A	FY14E	FY15E	FY16E	Ratio Analysis	FY13A	FY14E	FY15E	FY16E
Cash and cash equivalents	124	63	35	42	Sales growth	172.3%	97.1%	83.6%	77.3%
Accounts receivable	6	8	14	22	EBIT growth	90.6%	34.9%	(8.7%)	(51.0%)
Inventories	2	2	2	3	EPS growth	(55.7%)	(56.4%)	(10.1%)	(48.3%)
Other current assets	1	2	3	4	Gross margin	-	-	-	-
Current assets	133	74	54	71	EBIT margin	(144.1%)	(98.6%)	(49.0%)	(13.5%)
PP&E	22	25	22	27	EBITDA margin	(126.8%)	(87.6%)	(43.2%)	(10.0%)
Total assets	157	102	78	100	Tax rate	0.0%	0.0%	0.0%	0.0%
Total debt	1	0	10	30	Net margin	(148.6%)	(98.7%)	(49.0%)	(14.5%)
Total liabilities	26	26	54	103	Net Debt / EBITDA	334.1%	125.3%	55.0%	63.6%
Shareholders' equity	132	75	24	(3)	Net Debt / Capital (book)	(1377.1%)	(497.3%)	2428.1%	79.6%
Net income (including charges)	(43)	(56)	(51)	(27)	Return on assets (ROA)	(38.6%)	(43.6%)	(57.3%)	(30.2%)
D&A	5	6	6	7	Return on equity (ROE)	(46.1%)	(54.5%)	(103.6%)	(258.1%)
Change in working capital	(2)	7	9	17	Enterprise value / sales	-	-	-	-
Other	9	(9)	1	0	Enterprise value / EBITDA	-	-	-	-
Cash flow from operations	(31)	(52)	(36)	(4)	Free cash flow yield	(14.5%)	(7.8%)	(4.9%)	(1.8%)
Capex	(7)	(9)	(3)	(11)					
Free cash flow	(38)	(61)	(39)	(15)					
Cash flow from investing activities	(8)	(9)	(3)	(11)					
Cash flow from financing activities	109	(0)	11	22					
Dividends	0	0	0	0					
Dividend yield	-	-	-	-					

Source: Company reports and J.P. Morgan estimates.

Note: \$ in millions (except per-share data). Fiscal year ends Dec

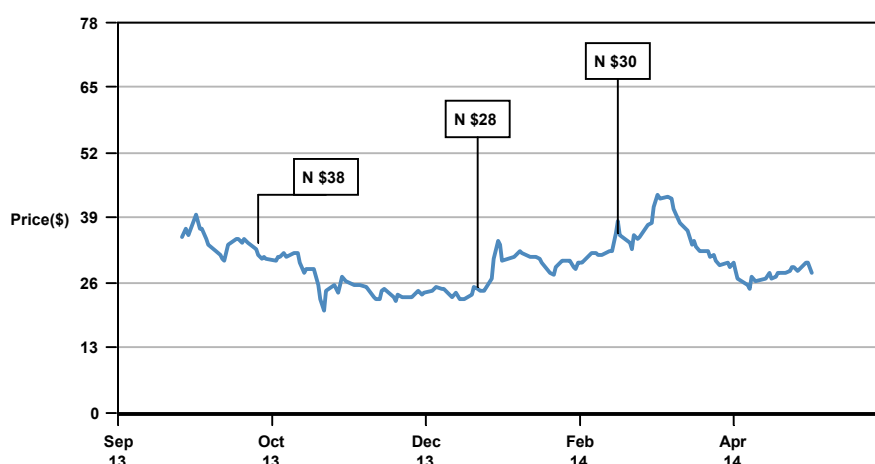
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Foundation Medicine (FMI, FMI US) Price Chart



Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends.  
Initiated coverage Oct 21, 2013.

The chart(s) show J.P. Morgan's continuing coverage of the stocks; the current analysts may or may not have covered it over the entire period.

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