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May 6, 2013

Stock Rating
Overweight

Industry View
In-Line

Initiation

Chimerix Inc

Compelling Anti-Viral Opportunity; Init OW, $26 PT

We believe CMX001, a lipid-conjugated cidofivir pro-drug, can anchor a strong anti-viral franchise. We model ~$750mn in WW 2022 sales for CMX001, primarily in CMV prevention for high risk HSCT pts.

Chimerix is developing CMX001 for the prevention or treatment of a broad range of dsDNA viruses across various immunocompromised pt settings. Most data to date, which we find compelling, is in the first target indication - CMV prevention/treatment in HSCT. However, we expect a broader reach for this drug over time. Importantly, we view this drug in the lead indication as having the properties of successful drugs: a) best in disease potential, b) makes an important impact on high acuity pts, and c) fulfills a clear unmet need.

CMV in HSCT: We believe CMX001 has a good chance of Ph 3 success in the prevention of CMV reactivation in adult allograft pts (the lead indication, data expected mid-'15) based on a) strong precedent Ph 2 data, b) a core molecule (cidofovir) which is active, and c) an optimized Ph 3 design. We expect that a positive study here would translate to a) use across all HSCT pts (adult and peds, allo- and autografts) at elevated risk for CMV (or other dsDNA viruses) given the unmet need and high acuity, b) a strong competitive position, and c) 2022 WW sales of $750+mn. This sales est. also includes a small amt of treatment revenue (discussed further inside).

CMV in SOT: We expect that CMX001, if approved, would be used to a degree off label in 2nd line CMV treatment in SOT pts vs. more toxic agents. EIND and compassionate use data (being analyzed now) should justify the use of CMX001 in treating refractory CMV. We see the cause of immunocompromise (SOT vs. HSCT vs. other) as less relevant when approaching refractory CMV. We expect over time Chimerix will run dedicated SOT pt studies, formalizing and poss. broadening the opp'y in this pt pop (we est. ~26k SOT in US in 2013).

Other dsDNA viruses: We believe CMX001 has the potential to treat a wider variety of viruses in more than just the transplant setting. Ph 2 pediatric AdV data in 2H13 will be the first step down this path, with poss. future opp'ys in BK, JC, and herpes among others.

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Key Ratios and Statistics

Reuters: CMRX.O Bloomberg: CMRX US
Biotechnology / United States of America

Price target	**$26.00**
Shr price, close (May 3, 2013)	$20.95
Mkt cap, curr (mm)	$511
52-Week Range	$21.00-15.11

Fiscal Year ending	**12/12**	**12/13e**	**12/14e**	**12/15e**
ModelWare EPS ($)	**(2.89)**	**(1.73)**	**(1.63)**	**1.47**
P/E	**NM**	**NM**	**NM**	**14.2**
Consensus EPS ($)§	**-**	**-**	**-**	**-**
Div yld (%)	-	-	-	-

Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework (please see explanation later in this note).
§ = Consensus data is provided by Thomson Reuters Estimates.
e = Morgan Stanley Research estimates

dsDNA (double stranded DNA) Viruses	Heterogeneous family of viruses that many people are exposed to throughout childhood. Some viruses may be latent (present but inactive) within the body.
CMV (Cytomegalovirus)	dsDNA virus that can lead to pneumonia, hepatitis, GI disease, etc.
AdV (Adenovirus)	dsDNA virus that can lead to respiratory illness, etc.
BK Virus	dsDNA virus that can lead to cystitis, etc.
HSCT (Hematopoietic Stem Cell Transplant)	Bone marrow transplant; Either autologous (auto; self) or allogeneic (allo; other).
SOT (Solid Organ Transplant)	Kidney, liver, lung, heart, etc. transplant.
Pre-emption	Current standard of care in CMV; Treat at early sign of virus activation before the virus potentially develops into disease.
Prophylaxis / Prevention	Treat post-transplant without waiting for a sign of virus activation.

Source: Morgan Stanley Research

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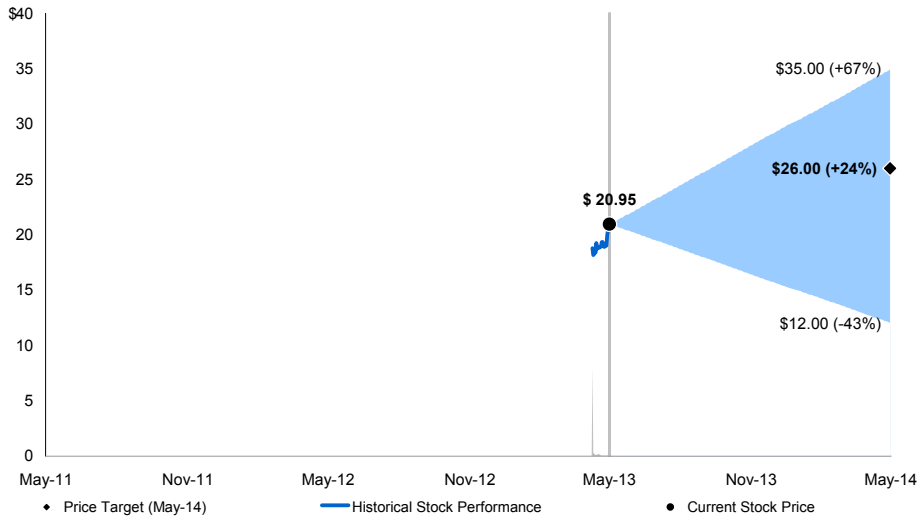
Risk-Reward Snapshot: Chimerix (CMRX, OW, PT $26)

CMX001 Drives Risk-Reward



Source: Morgan Stanley Research estimates, Thomson Reuters

Price Target $26	We derive our PT from a discounted cash flow analysis that uses a WACC of 15% and a 0% terminal growth rate. The main revenue driver in our model is the launch of CMX001 in the US in 2016 and in the ROW in 2017.	
Bull Case $35	**DCF** **WW 2022 Sales:** **HSCTs:** ~$770mn (~$540mn to Chimerix) **SOTs:** ~$210mn (~$170mn to Chimerix)	**CMX001 success in HSCTs and SOTs with dominant share of the prophylaxis and treatment HSCT mkt. We assume (2022):** 1) ~70% share of addressable US prophylaxis HSCT mkt, 2) ~60% share of addressable US 1st line treatment HSCT mkt, 3) ~95% share of addressable US 2nd line treatment HSCT mkt, 4) ~40% of prophylaxis patients receive prolonged prophylaxis, 5) HSCT prophylaxis competitor share is <20%, and 6) ~60% share of the addressable SOT mkt.
Base Case $26	**DCF** **WW 2022 Sales:** **HSCTs:** ~$610mn (~$430mn to Chimerix) **SOTs:** ~$140mn (~$110mn to Chimerix)	**CMX001 success in HSCTs and SOTs with solid share in the prophylaxis and treatment HSCT market. We assume (2022):** 1) ~60% share of addressable US prophylaxis HSCT mkt, 2) ~50% share of addressable US 1st line treatment HSCT mkt, 3) ~75% share of addressable US 2nd line treatment HSCT mkt, 4) ~30% of prophylaxis patients receive prolonged prophylaxis, 5) HSCT prophylaxis competitor share is <25%, and 6) ~40% share of the addressable SOT mkt.
Bear Case $12	**DCF** **WW 2022 Sales:** **HSCTs:** ~$310mn (~$220mn to Chimerix) **SOTs:** ~$40mn (~$30mn to Chimerix)	**CMX001 fails to gain sig. share in treatment or prophylaxis for HSCTs or SOTs. We assume (2022):** 1) ~30% share of addressable US prophylaxis HSCT mkt, 2) ~25% share of addressable US 1st line treatment HSCT mkt, 3) ~40% share of addressable US 2nd line treatment HSCT mkt, 4) ~15% of prophylaxis patients receive prolonged prophylaxis, 5) HSCT prophylaxis competitor share is <15%, and 6) ~10% share of the addressable SOT mkt. **Ultra-bear case:** If CMX001 fails in Ph 3, we see the stock trading down to the low single digits.

Investment Thesis

- We are OW Chimerix as we believe CMX001 has $750+mn sales potential in HSCT and SOT patients.
- CMX001 has shown solid early data in a Ph 2 CMV adult HSCT prophylaxis trial vs. pre-emptive standard of care.
- We do not view CMX001's safety profile (GI toxicities, GVHD, ALT increases) as limiting, and the drug is differentiated vs. standard of care given the absence of myelosuppression or nephrotoxicity
- Commercially, the opportunity in HSCT CMV infections is compelling as 1) current therapies for CMV have sig. limiting bone marrow or kidney tox., 2) docs prefer prophylaxis over pre-emption in some pts, 3) high risk transplants are growing, and 4) transplant centers are concentrated.
- CMX001 may have potential value for the prevention and/or treatment of other dsDNA viruses in a broad set of immunocompromised patients. This is upside to our base case model.
- CMX157 for HBV and HIV infections is too early for us to value.
- See **Ex. 4** for upcoming catalysts.

Risks to our price target
1) CMX001 fails in Ph 3 CMV adult trial, 2) Ph 3 program takes sig. longer to run than we expect leading to a financing gap, 3) toxicity (primarily GI) is a larger problem in Ph 3 than we anticipate.

Investment Case

Summary & Conclusions

We are initiating coverage of CMRX with an Overweight rating and a $26 price target. We believe Chimerix' lead asset, CMX001, has the potential over time to prevent or treat a broad range of dsDNA virus diseases in immunocompromised pts (Ex. 1). We expect approval for the first labeled indication, the prevention of CMV in high risk adult allogeneic hematopoietic stem cell transplants (HSCT) to occur by 2016, as Ph 3 is set to start mid-'13. While the sections inside discuss CMX001 data and commercial opportunities in detail, we provide a brief summary of our views below.

Importantly, as we have discussed before, we tend to favor companies that develop drugs with specific properties. These favorable properties include:
1) drugs that are ideally best, or at least first, in class or disease,
2) drugs that fulfill a clear unmet need, and
3) drugs that produce a meaningful impact on pts lives.
We believe CMX001 has these characteristics, including in the lead indication of CMV prevention in HSCT pts.

Exhibit 1

Potential Expansion Opportunities for CMX001

dsDNA Virus (double stranded DNA virus)	HSCT (hematopoietic stem cell transplants)	SOT (solid organ transplants)	Other Immunocompromised Patients
CMV (cytomegalovirus)	TARGET MARKET (MSe ~$610mn WW)	Additional Market (MSe ~$140mn WW)	Additional Market
AdV (adenovirus)	Additional Market (currently running Ph 2)	Additional Market	Additional Market
BKV (BK virus)	Additional Market (Ph 2 subset data)	Additional Market (Ph 2 subset data)	Additional Market
Other (EBV, JCV, etc.)	Additional Market (anecdotal Ph 2 data)	Additional Market	Additional Market

Source: Company Data, Morgan Stanley Research

Our bullish view of CMX001 is anchored by:
a) strong Ph 2 efficacy in CMV prevention which we believe portends Ph 3 success,
b) an increasingly well understood safety profile,
c) a solid commercial opportunity addressing the unmet need in CMV prevention (and treatment) in high risk HSCT, and
d) opportunities and incremental supportive data in 1) CMV treatment beyond HSCT and 2) prevention and/or treatment of other dsDNA viruses.

Strong Ph 2 Efficacy in Target HSCT Indication

In a medium sized Ph 2, CMX001 demonstrated a ~70% reduction in CMV events (Ex. 2), and a ~55% reduction using criteria very similar to the Ph 3 endpoint. **We see the drug benefit in both analyses as robust and clinically meaningful for this very high acuity, high risk pt group**.

Furthermore, we believe there are key changes to the Ph 3 trial (Ex. 13) which optimize the design and could allow for an even larger delta vs. the control arm of pre-emptive therapy (standard of care).

Exhibit 2

Ph 2 CMX001 HSCT Trial Showed Solid Efficacy

	CMX001 40 mg QW	CMX001 100 mg QW	CMX001 200 mg QW	CMX001 100 mg BIW	CMX001 200 mg BIW	Pooled Placebo
ITT Analysis						
n	25	27	39	**50**	30	59
CMV Events %*	52%	22%	31%	**10%**	23%	37%
CMV DNAemia %†	40%	22%	18%	**8%**	7%	42%
% Completed Treatment	36%	67%	46%	**60%**	23%	54%
Subgroup: CMV DNAemia negative at baseline						
n	18	23	29	**41**	22	48
CMV DNAemia %†	22%	9%	7%	**0%**	0%	31%
Subgroup: CMV DNAemia positive at baseline						
n	7	4	10	**9**	8	11
CMV DNAemia %†	86%	100%	50%	**44%**	25%	91%

*CMV Event = CMV disease, CMV DNA >200 copies/mL, or missing CMV PCR at end of treatment
†CMV DNAemia = >1000 copies/mL during treatment period

Source: Company Data, Morgan Stanley Research

In addition, we gain incremental confidence in the efficacy and good chance of Ph 3 success for CMX001 as a) CMX001 has a core molecule (it is a lipid-conjugated pro-drug of the long-used antiviral cidofivir) that is well understood and broadly active and b) anecdotal compassionate use/treatment IND feedback implies good CMV activity (we expect to see presented data through 2013/14).

Safety Well Understood; Positive Risk/Benefit Balance

Our primary safety focus for CMX001 has been around GI toxicity (primarily diarrhea) – a much more prominent issue for adults vs. kids who seem to have much less. The rates were >50% in the Ph 2 CMV prevention study, although most cases were mild/moderate and led to modest (4%) discontinuation rates at the target dose. We expect that Ph 3 diarrhea management protocols will help, as skipping doses (a key part of the protocol) has been shown to help resolve or minimize the diarrhea in some pts. We worry less about the implications of skipped doses given the long intracellular half life of CMX001. In Ph 2, 17/50 pts skipped a dose at 100mg BIW (the go forward dose) with none having CMV relapse.

In Ph 2, we also saw increased rates of graft vs. host disease (GVHD) and ALT elevations (a marker of liver function). We do not believe this drug leads to higher rates of GVHD, and

instead agree with the company's and physicians' assessment that the higher diarrhea rates confounded this reporting. While diarrhea can be a prominent component of GVHD, we see a) the lack of consistent involvement of other organs (e.g. skin, liver) b) the general lack of the typical response to steroid treatment of GVHD, and c) the lack of a GVHD signal with cidofovir as key reasons to be less concerned. The ALT elevations did not seem to correlate with liver damage on any other metrics (imaging, histopathology, other lab tests incl. bilirubin and AST), making us less concerned here. Also, the rates tended to decline within a month post dosing, implying a lower risk.

Unmet Need Drives Commercial Potential

We believe CMX001, based on this initial Ph 3 adult allograft trial and prior Ph 2/compassionate use/treatment IND data, will drive significant commercial sales in both HSCT and SOT. We currently model 2022 WW sales of ~$750mn, with the EU being addressed by a partner.

We expect the drug, if approved, to be adopted for a) CMV prevention in high risk adult and pediatric, allograft and autograft HSCT pts, b) CMV treatment in those high risk HSCT pts that do not receive prophylaxis with CMX001 and subsequently become viremic, and c) SOT pts who fail first line prevention/treatment.

While some (~30-40%) of this use would initially be off label, our evolving understanding of these high acuity pts is that poor outcomes can and do still occur, secondary to CMV infection, despite the availability of a few active CMV drugs. This ongoing concern, which was consistently (and relatively urgently) relayed to us from HSCT physicians, not only should substantiate the willingness among physicians to adopt a CMV prevention approach (a change from current practice and goal of the Ph 3 SUPPRESS trial) but also helps validate our expectation that physician use will be guided as much by clinical need as the presence of formal Ph 3 data for each HSCT/SOT sub-population. In the HSCT setting, the top 25 centers account for ~50% of US HSCT volume. We expect this concentrated mkt dynamic could drive quick penetration as center based adoption can lead to share step-ups.

In addition, the toxicity of the commercially available drugs (Ex. 15) can independently cause serious problems, making CMX001 an important option for CMV pts in many lines of therapy. We have detailed descriptions of mkt shares and pt build-outs on p. 12 and 16 and in our market models (Ex. 22, 30). While there are some competitors in development, we view CMX001's broad activity (discussed below) and soon to start Ph 3 as providing both a time advantage and a profile advantage as the competition are CMV specific.

For the EU opportunity, we assume Chimerix partners the drug post-Ph 3 and receives a ~22% royalty. We believe that with positive data, or even before, this should be an attractive asset to companies with hospital focused sales force.

Broad Anti-Viral Activity to Drive Long-Term Upside

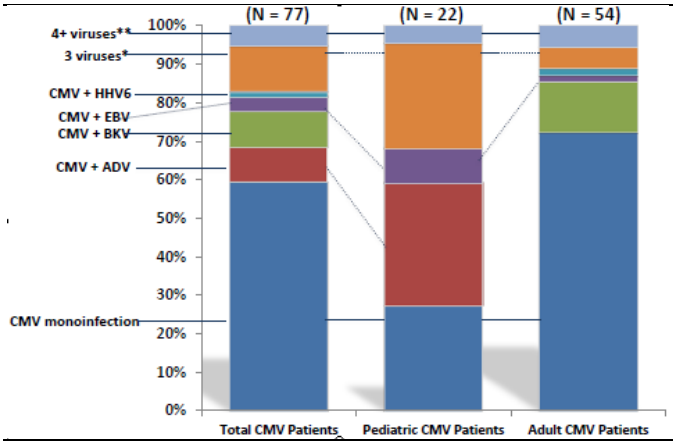
The initial focus for Chimerix is on CMV prevention in the high risk HSCT population. However, we believe the broad activity of CMX001 seen in vitro (Ex. 24) and in vivo in smaller Ph 2 data sets (Ex. 26-28) will ultimately drive use across multiple pt types and viruses (Ex. 1).

We have described some incremental off-label use in CMV treatment in our base case. We expect the company over time could work to get CMV prevention in pediatric HSCT pts and CMV treatment in SOT pts on label, and would have high confidence in successful Ph 3 trials in these pts.

However, we view CMV in the transplant setting as just a first step. Many immunocompromised pts, a representative group of which is in Ex. 3, harbor more than just CMV.

Exhibit 3

Other Viruses In Expanded Access Program



Source: Company Data, Morgan Stanley Research

The first important data set we will see for other viruses is the upcoming Ph 2 Adenovirus (AdV) data in 2H13. Positive data here, which we believe is likely, could drive additional commercial paths or even accelerated approval if very robust. The unmet need in AdV was urgently noted in pediatric pts.

In addition, data collected during the large compassionate use/treatment IND period (will be analyzed and presented

throughout 2013-4) and data to be collected during the Ph 3 CMV trial will help both validate the broad dsDNA virus approach and provide information on which paths to go down (there are likely to be more opportunities than capital in the near term). BK virus, where we have anecdotal evidence of benefit in SOT and HSCT pts, could serve as a third target virus, although the approach there could be trickier given a) the unclear mechanism of drug action, and b) the lack of consistent appreciation/understanding on physician's behalf.

Finally, we note that while much of the initial efforts have been in the transplant setting (HSCT > SOT), we do not believe a distinction needs to be made vs. other immunocompromised pts. While we do not have more than anecdotes of activity, we ultimately would expect equivalent efficacy to that seen in the transplant setting as we do not believe the source of the immunocompromise necessarily matters – the drug should have the same core anti-viral activity in all pts.

What's Changed Since IPO

● Ph 3 trial design has been formalized. We find the protocol incrementally more favorable and it likely increases the chances of Ph 3 success.

Exhibit 4

Catalyst Calendar

Drug	Type	Event	Expected Timing
CMX001	Product Advancement	Initiate Ph 3 SUPPRESS study in CMV	Mid-13
CMX001	Clinical Data	Study 350 data in dsDNA viruses	2H13
CMX001	Clinical Data	Ph 2 Halt study in AdV Data	2H13
CMX001	Clinical Data	Ph 3 SUPPRESS study in CMV	Mid-15

Source: Company Data, Morgan Stanley Research

Valuation

Exhibit 5
DCF Drives Valuation

($ in mn)	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Free Cash Flow	**(2)**	**(38)**	**(39)**	**31**	**(24)**	**45**	**120**	**139**	**182**	**226**	**274**	**288**	**292**	**293**	**293**	**29**
YoY growth	*-92.5%*	1811%	0.9%	-181%	-175%	-290%	167%	15.7%	31.0%	24.2%	21.1%	5.3%	1.3%	0.3%	0.1%	-90.0%
Net Cash Proxy for Dilution	$0.0	-$0.4	-$0.4	-$0.5	-$0.5	-$0.6	-$0.6	-$0.7	-$0.7	-$0.8	-$0.9	-$0.9	-$0.9	-$0.9	-$0.9	-$0.9
Free Cash Flow for DCF	**-$2.0**	**-$38.7**	**-$39.0**	**$31.0**	**-$24.2**	**$44.3**	**$119.4**	**$138.2**	**$181.2**	**$225.2**	**$272.8**	**$287.2**	**$291.0**	**$292.0**	**$292.2**	**$28.4**
PV of Free Cash Flow		-40	-35	24	-16	26	61	62	71	76	80	74	65	57	49	4

Source: Company data, Morgan Stanley Research estimates

Exhibit 6
DCF Valuation Suggests ~25% Upside

Valuation Date	**2013.25**
Discount Rate	*15%*
Terminal Growth Rate	0%
Terminal Value Year	2027
Sum of Discounted FCF	**$557.4**
Discounted Terminal Value	**$27.7**
Net Cash	**$43.7**
Equity Value	**$629**
Equity Value/Sh	**$26**
Shares Outstanding (Basic)	24.4

Source: Company Data, Morgan Stanley Research estimates

$26 PT includes CMX001 in HSCT patients and some use in SOTs.
We derive our PT from a discounted cash flow (DCF) analysis that uses a WACC of 15% and a terminal growth rate of 0% post 2027. We incorporate the cash cost of stock options.

Valuation Methodology: We use a DCF to value Chimerix as well as most other companies under coverage. We believe a DCF best captures the longer term nature of drug development and commercialization. We do not feel that a multiples analysis accomplishes the same goal, as it only evaluates a company during a snapshot in time.
Discount Rate: We typically apply a discount rate of 15% to development stage companies that still have a fair amount of risk.
Terminal Growth Rate: Our modeled cash flows extend to 2022. Beyond this, we grow free cash flow from 2023-2025 at 25% of the prior year's growth rate. We decline cash flows by 90% in 2027 due to the Dec. 2020 composition of matter patent expiry (we assume 5 yrs of Hatch Waxman). Beyond 2027, we use a terminal growth rate of 0%. The company has applied for patents (manufacturing, polymorph, etc.) which could extend the IP for CMX001 through 2031/2032.

Revenue: The revenue driver in our model is CMX001 in HSCT and SOT patients.

Economics: Chimerix currently has full rights to CMX001, but we model Chimerix partnering CMX001 ex-US with a 22.5% royalty. Chimerix pays a small royalty (we est. 2.5% of WW sales) to UCSD for patent rights for CMX001 and CMX157. CMX157 is partnered with Merck.

COGS: We model COGS of 6% of US and Canada sales. The UCSD royalty is accounted for through COGS as well.

Operating Expenses:
R&D: We model R&D decreasing through 2022 as trial expenses for CMX001 decrease.
SG&A: We model SG&A increasing significantly in 2016 as Chimerix begins building out a US and Canadian sales force. Post 2016, SG&A increases modestly.

Financings: We model a $75mn raise in 2015.

Key Risks To Our Price Target Include: 1) CMX001 fails in Ph 3 CMV adult trial, 2) Ph 3 program takes sig. longer to run than we expect leading to a financing gap, 3) toxicity (primarily GI) is a larger problem in Ph 3 than we anticipate.

CMX001 – Good Potential in CMV Prevention and Treatment in HSCT

Chimerix is initiating a Ph 3 trial in mid-13 for the prevention of cytomegalovirus (CMV) in high risk, adult allograft hematopoietic stem cell transplants (HSCTs). As noted below, we believe CMX001 has a good chance of Ph 3 success (data mid-'15). If approved, we expect CMX001 could shift the care of CMV in HSCT from preemption to prevention across the broad high risk HSCT pt mkt.

This report addresses in more detail factors that we believe contribute to CMX001's opportunity in CMV prevention and treatment, including:
1) solid efficacy data in Ph 2,
2) a good safety profile in Ph 2,
3) a Ph 3 trial that we believe is well set up to succeed and show clinically meaningful efficacy, and
4) key market dynamics which support CMX001 use.

CMX001 Ph 2 Efficacy Data Looks Solid

CMX001 has shown robust data in:
1) the prevention setting, with treatment starting ~1 mo. post transplant at the time of engraftment,
2) the pre-emption setting, with treatment starting after a CMV is identified in the blood (PCR for CMV DNA), and
3) the refractory treatment setting, when prior CMV agents have failed to treat CMV persistent viremia/disease.

1) Prevention of CMV: Ph 2 data showed solid efficacy vs. the standard of care – placebo followed by response guided preemption (Ex. 7). In the ITT population, the rate of CMV events (defined in Ex. 7) was 10% for CMX001 vs. 37% for standard of care. This benefit, using a slightly different metric (CMV DNA >1k), was even more pronounced in the true target pts (and the Ph 3 population) – those that were CMV DNAemia negative at baseline.

Exhibit 7
Ph 2 CMX001 Trial Showed Solid Efficacy

	CMX001 40 mg QW	CMX001 100 mg QW	CMX001 200 mg QW	CMX001 100 mg BIW	CMX001 200 mg BIW	Pooled Placebo
ITT Analysis						
n	25	27	39	**50**	30	59
CMV Events %*	52%	22%	31%	**10%**	23%	37%
CMV DNAemia %†	40%	22%	18%	**8%**	7%	42%
% Completed Treatment	36%	67%	46%	**60%**	23%	54%
Subgroup: CMV DNAemia negative at baseline						
n	18	23	29	**41**	22	48
CMV DNAemia %†	22%	9%	7%	**0%**	0%	31%
Subgroup: CMV DNAemia positive at baseline						
n	7	4	10	**9**	8	11
CMV DNAemia %†	86%	100%	50%	**44%**	25%	91%

*CMV Event = CMV disease, CMV DNA >200 copies/mL, or missing CMV PCR at end of treatment
†CMV DNAemia = >1000 copies/mL during treatment period

Source: Company Data, Morgan Stanley Research

Given the incrementally different primary endpoint in Ph 3 (discussed later), it is useful to analyze the Ph 2 data using the criteria very similar to those for Ph 3. We expect that the treatment effect of ~22% vs. ~46% seen at the go-forward dose using this post-hoc analysis will be clinically meaningful to physicians (Ex. 8). In addition, we believe this represents a relatively conservative analysis. These data replicated in Ph 3 should yield a positive study.

Exhibit 8
Analysis of Ph 2 Data with Ph 3 Criteria

	CMX001 40 mg QW	CMX001 100 mg QW	CMX001 200 mg QW	CMX001 100 mg BIW	CMX001 200 mg BIW	Pooled Placebo
Failures ("Worst Case") of Ph 2 data based on Ph 3 criteria*	40.0%	37.5%	34.4%	**22.2%**	33.3%	46.2%

*Failures = (i) CMV disease, (ii) CMV PCR > 1,000 copies/mL at local or central lab, (iii) CMV PCR > 100 copies/mL and "high risk" as defined in the SUPPRESS protocol, or (iv) initiation of anti-CMV preemptive therapy, independent of CMV PCR. Note that the final SUPPRESS protocol is slightly different from above. High risk failures are defined as CMV PCR >150 copies/mL.

Source: Company Data, Morgan Stanley Research

2+3) Pre-emption and Treatment of CMV: Ph 2 patients with CMV positive DNAemia at baseline were, in essence, pre-emption (or even early treatment) patients. CMV DNAemia rates of 44% at the CMX001 go-forward dose vs. 91% for response guided therapy seems clinically significant to us (Ex. 9). CMX001 also showed activity in the EIND program in patients who failed or could not tolerate other therapies (Ex. 9).

Exhibit 9
Efficacy in Pre-Emption and Refractory Treatment

	CMX001 40 mg QW	CMX001 100 mg QW	CMX001 200 mg QW	CMX001 100 mg BIW	CMX001 200 mg BIW	Pooled Placebo
Subgroup: CMV DNAemia positive at baseline†						
n	7	4	10	**9**	8	11
CMV DNAemia %†	86%	100%	50%	**44%**	25%	91%

†CMV DNAemia = >1000 copies/mL during treatment period

	Total	CMX001 ≤200 mg/wk	CMX001 >200 mg/wk
n	20	3	17
% of CMX001 Responders (>1 log drop) at Wk 2	65%	67%	65%
% of Pts with CMV Viremia <LLOQ	60%	67%	59%
Mean Viral Load Drop (log c/mL)	1	1.1	0.9
Median Viral Load Drop (log c/mL)	1	1	1

Source: Company Data, Morgan Stanley Research

Safety Issues Should Be Manageable

We are focused on three main safety issues that emerged during Ph 2:
1) GI toxicity (mainly diarrhea),
2) GVHD, and
3) ALT increases.

Our view is that these issues are either manageable (diarrhea), not really a true issue (GVHD), or monitorable (ALT increases). Importantly, we believe the CMX001 safety profile is a sharp

divergence from marketed CMV drugs which either have significant myelosuppression or nephrotoxicity – difficult in the immunocompromised/transplant settings.

Exhibit 10
GI Tox Biggest Safety Concern for CMX001

	CMX001 40 mg QW	CMX001 100 mg QW	CMX001 200 mg QW	CMX001 100 mg BIW	CMX001 200 mg BIW	Pooled Placebo
Any AE	100%	93%	100%	100%	100%	98%
SAE	48%	37%	49%	60%	70%	46%
AE leading to d/c	60%	33%	38%	36%	60%	46%
AE leading to death	8%	0%	8%	10%	13%	8%
Most Frequent AEs						
Diarrhea	12%	30%	33%	52%	70%	27%
Acute GVHD	32%	37%	51%	64%	80%	31%
Nausea	24%	19%	28%	34%	37%	10%
Vomiting	8%	22%	15%	44%	27%	19%
Abdominal Pain	16%	7%	13%	26%	37%	7%
Disease Relapse	20%	4%	8%	10%	3%	14%
Most Frequent SAEs						
Acute GVHD	8%	7%	18%	30%	40%	8%
Diarrhea	0%	0%	3%	10%	33%	2%
Fever	0%	0%	8%	4%	3%	12%
Pneumonia	0%	7%	0%	8%	3%	0%

Source: Company Data, Morgan Stanley Research

1) GI Tox: Diarrhea, the predominant GI side effect, is likely to remain a tolerability and safety issue for CMX001 as the drug's initial distribution upon dosing is in the gut where it inhibits cell growth and division. For reasons that are not totally clear, this GI toxicity is primarily in adults as kids have much less or none – a key positive as we expect some period of off label use here. Also, it is worth noting that diarrhea is very common in the HSCT setting, and physician concern was limited.

We expect that increased familiarity with the drug (for doctors that have used the drug already) and Ph 3 diarrhea management protocols will help moderate any negative trial impact from the diarrhea. In the Ph 2, while the majority of pts had some diarrhea recorded, the minority had severe diarrhea and only 4% of pts discontinued from it. The Ph 3 trial protocol instructs physicians to hold a dose with significant diarrhea while investigating the cause. We expect that holding a dose may improve some cases as it gives gut cells time to regenerate. From a PK/PD perspective, this strategy is not too risky given the long half life. Of the 17/50 patients who skipped a dose in Ph 2, none had CMV breakthrough.

2) GVHD: Acute GVHD rates were notably high in some CMX001 arms. We believe this is likely overreporting as a result of the diarrhea – a confounding variable as diarrhea is a common part of GVHD. In the Ph 2, 50% of GVHD pts required systemic steroids, but only ~15% responded vs. the expected ~80% response rates. These cases also tended to lack the usual skin and liver involvement. Finally, a GVHD specialist who looked at all GVHD cases in the Ph 2 trial determined that the rates of GVHD at the 100mg BIW dose were similar to placebo. We expect the increased diarrhea awareness will lower GVHD rates to placebo.

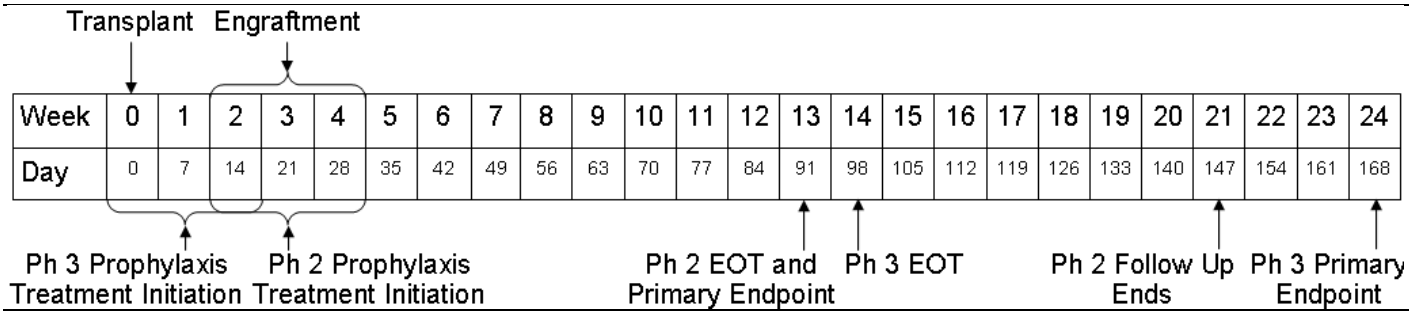
3) ALT Increases: 3-5x ULN ALT increases were the primary liver tox side effect (Ex. 11). We do not think this is a significant issue as 1) it appears to be primarily a lab finding with no liver damage seen in animal models (histopathology) or in humans (clinical), 2) bilirubin levels did not correlate with ALT increases, 3) there was no difference in the percent of patients with 5-10x ULN and >10x ULD, and 4) the ALT increase was predictable (ALTs increased 2-4 wks after starting drug, stabilized, and then decreased after 4 wks of follow up).

Exhibit 11
ALT Increases in Ph 2 Not A Cause for Concern

	CMX001 100 mg BIW	Pooled Placebo
ALT 3-5x ULN	20%	7%
ALT 5-10x ULN	8%	7%
ALT >10x ULN	2%	2%

Source: Company Data, Morgan Stanley Research

Exhibit 12
Ph 3 and Ph 2 CMX001 Trial Designs



Source: Company Data, Morgan Stanley Research

Ph 3 SUPPRESS Trial – Optimized Design

The Ph 3 adult allograft trial protocol has been finalized. The company is considering running a Ph 3 pediatric CMV prevention study as well. The plan in peds is likely contingent

on the upcoming Ph 2 pediatric AdV data, the plan in SOT, discussions with regulators, and available capital. Importantly, we believe EIND/compassionate use data, the strong Ph 2 and (expected) 3 adult data, and the unmet need will allow for off label use.

Adult trial design: The trial is expected to enroll ~450 pts, start in mid-13, and yield data likely by mid-15. The trial is similar to the Ph 2 design (Ex. 12 and 13). However, there are a few key changes that we believe help both make the trial more "real world" and importantly increase the chances of success.

One specific change we call out is the recent determination that CMX001 dosing can begin once a pt can tolerate oral meds - ~50% by wk 1 and ~90% by wk 2 (the rest between wk 2-4). Given that in the Ph 2, most of the events in the CMX001 100mg BIW arm and many of the events across the trial occurred in the first few wks, we see this change as ideally being able to capture more placebo events while reducing the number of drug events. In addition, from a commercial perspective this change would add 1-3 wks of treatment per pt.

Exhibit 13

Ph 2 and Ph 3 Trial Changes and Readthroughs

	Ph 2	Ph 3	Analysis	Expected Impact on Ph 3 Outcome
1° EP	CMV disease, CMV DNA >200 copies/mL, or missing CMV PCR at end of treatment	Composite of either developing CMV disease or requiring pre-emption therapy with standard of care	Stricter criteria makes it less likely that patients will qualify for pre-emption that should not have.	+
1° EP Timeframe	Day 91 (13 wks post-transplant); patients followed for CMV through day 147	Day 168 (24 wks post-transplant)	It is rare for CMV to primarily reactivate post day 100. Longer dosing period in Ph 3 helps offset longer follow up window.	Neutral
Preemption Start	Investigator decided	Centrally controlled based on strict criteria	Stricter criteria makes it less likely that patients will qualify for pre-emption that should not have.	+
CMV Seropositivity	Recipient +	Recipient +	n/a	Neutral
CMV Viremia	Wide window between screening and drug start (screened pre-transplant)	Narrower window between screening and drug start (screened 1-5 days before first dose and not included in study if CMV positive at baseline).	Shorter window should reduce number of CMV+ patients at baseline.	+
Beginning of Dosing	At engraftment	Early pre-transplant period (when patient can take orals - likely within 2 weeks of transplant)	There has been no evidence of toxocity that would restrict early dosing. As patients tend to reactivate CMV early in treatment, it follows that dosing earlier may allow for fewer CMV reactivations.	+
End of Dosing	Day 91 (13 wks post-transplant)	Day 98 (14 wks post-transplant)	Longer dosing may modestly help efficacy.	+
Doses	40 mg QW vs. 100 mg QW vs. 200 mg QW vs. 100 mg BIW vs. 200mg BIW vs. placebo	100 mg BIW vs. placebo	100mg BIW appeared to have best balance of safety and efficacy.	Neutral
Treatment Effect	22% CMX001 failures vs. 46% placebo failures using Ph 3 criteria	Assuming <15% CMX001 failures vs. >30% placebo failures	Treatment difference looks achievable.	+
Discontinuations / lost to follow up / non-CMV death	40% of ITT population did not complete treatment	Assuming ~16%	The lack of unnecessary preemption and improved diarrhea management should improve discontinuations.	+

Source: Company Data, Morgan Stanley Research

Commercial Market Should be Favorable

We see $600mn+ WW potential for CMX001 in HSCT assuming a) use in CMV prevention in high risk adult and peds allografts and autografts, b) use in first and second line CMV treatment in HSCT pts (a small sales amt.), and c) use in second line CMV treatment in SOT (discussed in next section). Below we discuss the current SoC for HSCTs re: CMV care, key mkt dynamics which we believe favor CMX001, and the competitive landscape.

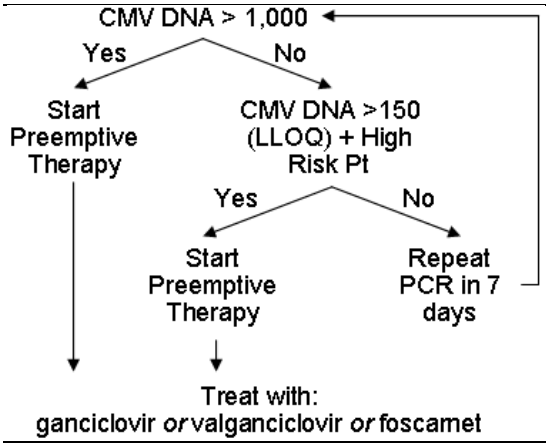
Our addressable market is composed of patients at risk for reactivation of CMV, among other viruses. HSCT recipients are at risk if they have latent CMV virus – called R+ (recipient CMV seropositive). These rates depend on age and are ~40% in peds and >80% in adults >60. In addition, a pt's risk profile is also impacted by the type of HSCT regimen they receive, co-morbidities, and viral infection history.

Current HSCT Standard of Care for CMV – Pre-emption
Current CMV therapy in HSCTs is preemptive treatment with antiviral agents for ~4-6 wks when CMV DNA reaches critical levels (often ~100-200 in high risk transplants incl. cord blood pts, ~1000 in other R+ pts). A treatment paradigm example is shown in Ex. 14.

Physicians tend to use either ganciclovir or valganciclovir as first-line therapy and switch to foscarnet with toxicity emergence. Foscarnet may be used first-line when CMV reactives prior to engraftment. Cidofovir is not used often first or second line as renal toxicities are significantly limiting.

Exhibit 15 below, highlights some key characteristics of these standard of care drugs with a focus on how CMX001 differentiates on the major safety axes of myelosuppression and nephrotoxicity. Physicians we spoke with noted that up to ~1/3rd of pts can have enough of one of these toxicities to require switching therapy (+/- any additional care to offset these toxicities).

Exhibit 14
Current Preemptive Treatment Paradigm For CMV



Source: Company Data, Morgan Stanley Research

Exhibit 15
CMX001 vs. Standard of Care – Kidney/Bone Marrow Safety Is Major Differentiator

Drug Name	Brand Name	Labeled Indications	Formulation	Use in HSCTs	Myelo-suppression	Nephro-toxicity
CMX001	n/a	n/a	Oral	n/a	No	No
Valganciclovir	Valcyte	1) CMV retinitis in AIDS patients (adults) 2) Prevention of CMV disease in kidney, heart, or kidney-pancreas transplant patients at high risk (adult) 3) Prevention of CMV disease in kidney or heart transplants (pediatric)	Oral	Preemption and treatment	**Yes**	No
Ganciclovir	Cytovene	1) CMV retinitis in immunocompromised patients, including AIDS patients 2) Prevention of CMV disease in transplant patients at risk for CMV disease	IV	Preemption and treatment	**Yes**	No
Foscarnet	Foscavir	1) CMV retinitis in AIDS patients 2) Acyclovir resistant HSV infections in immunocompromised patients	IV	Mostly treatment	No	**Yes**
Cidofovir	Vistide	1) CMV retinitis in AIDS patients	IV	Mostly treatment	No	**Yes**

Source: Company Data, Morgan Stanley Research

We Expect CMX001 To Succeed Commercially
Our diligence suggests that CMX001 may be able to fill a key unmet need in the HSCT market. In addition, a) positive physician attitudes towards prophylaxis, b) an increasing trend in the number of high risk HSCTs, and c) high volume, protocol driven transplant centers may contribute to a successful CMX001 launch.

a) Physicians Seem to Prefer Prophylaxis
Physicians expressed a strong interest in using prophylaxis in high-risk patients as they prefer preventing a problem from trying to deal with it after the fact. While most physicians noted that pre-emption usually works fine, they nearly all also noted that pts do still die from CMV, making prevention preferred.

There had been attempts in the past to use other drugs for CMV prevention, suggesting physicians are not averse to the concept. Ganciclovir had been tested in the past, but a late relapse issue and ganciclovir toxicity limited enthusiasm.

b) High Risk HSCTs Are Increasing. As noted above, a pt's risk stratification varies by serostatus and type of transplant among other factors. While we do not expect the CMV trends to change on a pop. level, we do see the increasing rates of both cord blood transplants and unrelated donor transplants

as encouraging for enriching the high risk pool. Chimerix estimates that ~8-12% of the Ph 2 trial patients were cord transplants. While we do not expect a much different rate in Ph 3 vs. Ph 2 as the changes in transplant rates are incremental, Ex. 16 highlights that over the past 5+ yrs, we have seen a ~30% increase in the two noted high risk parameters. In addition, we believe the presence of a successful prevention strategy could over time stimulate growth in these higher risk transplants.

Exhibit 16
High Risk Transplants are Growing

	'03	'04	'05	'06	'07	'08	'09	'10
Unrelated Cord Blood Transplants*	500	530	640	740	760	800	880	n/a
YoY Growth	9%	6%	21%	16%	3%	5%	10%	n/a
Unrelated US HSCT Donors†	2,600	2,900	3,200	3,400	3,600	3,800	3,900	4,000
YoY Growth	13%	12%	10%	6%	6%	6%	3%	3%

*Data is estimated from all centers from the CIBMTR "Current Uses and Outcomes of Hematopoietic Stem Cell Transplantation 2011" Summary Slides Worldwide
†Data is estimated from US centers from the CIBMTR "Current Uses and Outcomes of Hematopoietic Stem Cell Transplantation 2011" Summary Slides

Source: Company Data, Morgan Stanley Research Exhibit 5

c) HSCTs are Protocol Driven and Clustered

HSCT treatment algorithms tend to drive therapeutic choices for transplant pts. In addition, the majority of HSCTs are done at a minority of centers (Ex. 17). Thus, we expect that CMX001, if approved, could potentially have large step ups in share at a faster rate than seen with outpt drugs as it is adopted by HSCT centers onto their protocol. For instance, the top 25 US centers, many of which already have had experience with CMX001, account for >50% of all transplants. Given our 2022 prevention share of ~60%, we see the above discussed dynamic as key to efficiently gaining that high share.

Exhibit 17
Transplants are Concentrated in a Few Top Centers

	Allo Transplants/Yr	% of Total
Top 10 centers	2,198	31%
Top 15 centers	2,829	40%
Top 20 centers	3,325	47%
Top 25 centers	3,746	53%
Top 30 centers	4,143	58%
Top 35 centers	4,502	63%
Top 40 centers	4,808	67%
Top 45 centers	5,078	71%
Top 50 centers	5,320	75%

Source: Company Data, Morgan Stanley Research

CMX001 Likely Has Better Profile Than Competitors

Letermovir, maribavir, and TransVax are currently being studied in CMV infections. Based on what we know, we see letermovir as the most likely main competitor. That being said, we believe the broad anti-viral activity of CMX001, as discussed in the next section, will provide a key competitive edge – the other drugs are CMV specific. Our physician discussions suggested a growing understanding of the problems other dsDNA viruses can cause in immunocompromised pts. This appreciation makes the broad activity of CMX001 paramount in their mind as they aim to use one drug for multiple purposes in these already heavily medicated pts.

Letermovir (AIC246; Merck/AiCuris)

Letermovir is being studied in HSCT CMV pts as a prophylactic therapy. We see this drug as active in CMV infections (Ex. 18), though safety is a key question for us given the lack of available data. We expect letermovir to launch in 2017, a year after Chimerix, given little clarity around Ph 3 initiation timing or design.

Exhibit 18
Letermovir Efficacy and Safety Data

	Letermovir 60mg QD	Letermovir 120mg QD	Letermovir 240mg QD	Placebo
n	33	31	34	33
Overall Failure	48.5%	**32.3%**	**29.4%**	63.6%
Failure Due to "True" CMV Prophylaxis†	21.2%	19.4%	5.9%	36.4%
Failure Due to Other D/C	27.3%	12.9%	23.5%	27.3%
Subgroup Overall Failure*	21%	19%	6%	36%
Subgroup Failure Due to "True" CMV Prophylaxis*†	6%	13%	6%	11%
Subgroup Failure Due to Other D/C*	15%	6%	0%	9%
TEAE	94%	94%	100%	100%
TEAE leading to d/c	27.3%	29.0%	20.6%	57.6%
Severe TEAE	24.2%	29.0%	17.6%	30.3%

Numbers in **bold** are stat. sig. vs. placebo
†Failure = CMV viremia or antigenemia
*Subgroup analysis excl. pts with central lab positive CMV DNA count on day 1

Source: Company Data, Morgan Stanley Research

Maribavir (ViroPharma)

We do not believe maribavir will be a major competitor to CMX001 as 1) its activity against CMV is unclear to us at this point (Ex. 19, 20), 2) we see its use primarily in treatment pts given the failed prophylaxis trial (Ex. 20), and 3) a '15 patent expiry may limit aggressive development of this drug. Updates over the course of '13 (ViroPharma is planning to look at the database every 40 pts before moving forward with enrollment) may help elucidate the clinical profile and the path forward.

Exhibit 19

Maribavir Ph 2 Dose Ranging Data

	Maribavir 100mg BID	Maribavir 400mg QD	Maribavir 400mg BID	Placebo
n	28	28	27	28
CMV infection or disease based on				
pp65 antigenemia	14.8%	18.5%	15.4%	39.3%
DNA PCR	7.4%	11.1%	19.2%	46.4%
CMV Disease	0.0%	0.0%	0.0%	10.7%

*3 pts were excl from analysis because they received <7d of study drug due to withdrawal from study due to death and had no virology data after the start of study drug.

	Maribavir 100mg BID	Maribavir 400mg QD	Maribavir 400mg BID	Placebo
AEs				
Taste Disturbance	21%	18%	31%	18%
Nausea	7%	14%	15%	0%
Vomiting	11%	11%	4%	0%
D/C Drug Due to AE	14%	11%	35%	0%

*1 pt randomized to maribavir 400mg BID did not receive study drug and was excluded from the analysis.

Source: Company Data, Morgan Stanley Research

Exhibit 20

Failed Maribavir Ph 3 Trial

	Maribavir 100mg BID	Placebo	p-value
n	454	227	
CMV disease within 6 mo post-transplant	4.4%	4.8%	0.79
CMV infection or disease within 6 mo based on			
pp65 antigenemia	31.5%	38.8%	0.06
DNA PCR	33.5%	33.9%	0.90
Either pp65 antigenemia or DNA PCR	40.3%	44.5%	0.29
Initiation of treatment against CMV	37.9%	40.5%	0.49
D/C due to AEs	17%	19%	
Acute GVHD AEs	36.4%	33.2%	
Acute GVHD SAEs	12.4%	11.2%	
Diarrhea AEs	20.6%	18.8%	
Diarrhea SAEs	1.6%	<1%	
Taste Disturbance	14.6%	5.8%	

Source: Company Data, Morgan Stanley Research

Development of maribavir stalled after '08 when the Ph 3 HSCT prophylaxis trial failed to show a difference vs. placebo in reducing the rate of CMV disease. Viropharma is now running two Ph 2 trials: The US trial is testing maribavir as second line treatment in 120 HSCT or SOT pts resistant/refractory to other agents. The EU trial is testing maribavir vs. valganciclovir as preemptive first line therapy in 160 HSCT or SOT pts with CMV viremia but not CMV disease. Both trials are testing doses of 400mg, 800mg and 1200 mg BID, higher than in the previous Ph 3 trial.

TransVax (Vical/Astellas)

In 1H13, Astellas is planning to initiate two Ph 3 trials, one in HSCT and the other in SOTs, for Transvax, a CMV vaccine for latent CMV. We have little data so far, but Ph 2 data do not suggest to us that the vaccine mitigates the need for weekly viremia tests, allows many less patients to begin preemptive therapy, or results in much less CMV associated disease (though the CMV viremia treatment difference was significant).

Exhibit 21

TransVax Efficacy Advantage Appears Modest

	Vaccine	Placebo	p-value
n	40	34	
CMV viraemia (≥500 copies per mL)	32.5%	61.8%	0.008
Initiation of pre-emptive CMV-specific antiviral therapy	47.5%	61.8%	0.145
CMV associated disease	7.5%	8.8%	1.000

Source: Company Data, Morgan Stanley Research

HSCT Market Model

Our ~$350mn 2022 US sales assumes:

1) A 2016 launch,
2) ~7k allo HSCT and ~10k auto pts in '10 growing at 3%/year, per literature,
3) 85% of adult allo transplants, 60% of pediatric allo transplants, and 10% of autos are addressable,
4) A peak end of year market penetration of ~60% in prophylaxis, 50% in first-line treatment, and 75% in second-line treatment,
5) Prolonged prophylaxis (18+ wks of treatment) is ~30% of prophylaxis use at peak and prophylaxis (12+ wks of treatment) is the remainder,
6) An net adult price per dose of ~$1.8k at launch and an average # of doses per wk of 1.6, both growing at 3%/year, and
7) A competitor share (including any/all competitors) of 40% that of CMX001's prior year share.

Our ~$430mn 2022 WW revenue to Chimerix assumes:

1) EU sales are 80% of prior year US sales,
2) Chimerix gets a 22.5% royalty in the EU, and
3) Canada sales are 10% of prior year US sales.

Exhibit 22

CMX001 HSCT Market Model

US HSCT Mkt	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRANSPLANTS											
Allogeneic Transplants	7,532	7,758	7,991	8,231	8,478	8,732	8,994	9,264	9,542	9,828	10,123
Growth	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Allogeneic Transplants - Adults	6,026	6,207	6,393	6,585	6,782	6,986	7,195	7,411	7,633	7,862	8,098
% of Total Allos	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
Allogeneic Transplants - Peds	1,506	1,552	1,598	1,646	1,696	1,746	1,799	1,853	1,908	1,966	2,025
% of Total Allos	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Autologous Transplants	10,609	10,927	11,255	11,593	11,941	12,299	12,668	13,048	13,439	13,842	14,258
Growth	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
PROPHYLAXIS MARKET	**7,087**	**7,299**	**7,518**	**7,744**	**7,976**	**8,216**	**8,462**	**8,716**	**8,977**	**9,247**	**9,524**
Allogeneic	6,026	6,207	6,393	6,585	6,782	6,986	7,195	7,411	7,633	7,862	8,098
Adults	5,122	5,276	5,434	5,597	5,765	5,938	6,116	6,299	6,488	6,683	6,884
% At Risk for CMV/BKV/AdV	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
Peds	904	931	959	988	1,017	1,048	1,079	1,112	1,145	1,179	1,215
% At Risk for CMV/BKV/AdV	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Autologous	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305	1,344	1,384	1,426
% At Risk for CMV/BKV/AdV	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
TREATMENT MARKET											
Allogeneic											
Adults - First Line	2,305	2,374	2,445	2,519	2,335	1,842	1,426	1,281	1,231	1,185	1,150
% With Viremia	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
% Failing Competitor Prophylaxis						33%	33%	33%	33%	33%	33%
Adults - Second Line	761	783	807	831	693	456	329	275	244	215	190
% Failing First Line Treatment	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Peds - First Line	407	419	432	444	412	325	252	226	217	209	203
% With Viremia	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
% Failing Competitor Prophylaxis						33%	33%	33%	33%	33%	33%
Peds - Second Line	134	138	142	147	122	80	58	49	43	38	33
% Failing First Line Treatment	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Autologous											
First Line	477	492	506	522	484	382	295	265	255	245	238
% With Viremia	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
% Failing Competitor Prophylaxis						33%	33%	33%	33%	33%	33%
Second Line	158	162	167	172	144	94	68	57	50	45	39
% Failing First Line Rx	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
PROPHYLAXIS - CMX001											
Allogeneic Pts on CMX-001					**678**	**2,096**	**3,238**	**3,706**	**4,008**	**4,324**	**4,616**
Adults					576	1,781	2,752	3,150	3,406	3,676	3,924
Peds					102	314	486	556	601	649	692
Share of Allogeneic Addressable Mkt					10%	30%	45%	50%	53%	55%	57%
Competitor Patients						279	863	1,334	1,527	1,651	1,782
Adults						238	734	1,134	1,298	1,403	1,514
Peds						42	130	200	229	248	267
Competitor Share of Allogeneic Addressable Mkt						4%	12%	18%	20%	21%	22%
Total % of Allogeneic Addressable Mkt on Prophylaxis					10%	34%	57%	68%	73%	76%	79%
Autologous Pts on CMX-001					**119**	**369**	**570**	**652**	**706**	**761**	**813**
Share of Autologous Addressable Mkt					10%	30%	45%	50%	53%	55%	57%
Competitor Pts						49	152	235	269	291	314
Competitor Share						4%	12%	18%	20%	21%	22%
Total % of Autologous Addressable Mkt on Prophylaxis					10%	34%	57%	68%	73%	76%	79%

TREATMENT - CMX001							
Allogeneic Pts on CMX-001	**397**	**743**	**678**	**697**	**751**	**798**	**844**
Adults	337	631	576	593	639	678	717
Adults - First Line	233	460	428	448	492	533	575
Adults - Second Line	104	171	148	144	146	145	142
Peds	60	111	102	105	113	120	127
Peds - First Line	41	81	75	79	87	94	101
Peds - Second Line	18	30	26	25	26	26	25
Front Line Share	10%	25%	30%	35%	40%	45%	50%
Second Line Share	15%	38%	45%	53%	60%	68%	75%
Autologous Pts on CMX-001	**70**	**131**	**119**	**123**	**132**	**141**	**149**
Front Line Patients	48	95	89	93	102	110	119
Front Line Share	10%	25%	30%	35%	40%	45%	50%
Second Line Patients	22	35	31	30	30	30	29
Second Line Share	15%	38%	45%	53%	60%	68%	75%
DURATION							
Prophylaxis (wks)	12.0	12.4	12.7	13.1	13.5	13.9	14.3
Growth in Wks on Drug		*3%*	*3%*	*3%*	*3%*	*3%*	*3%*
% of Pts Receiving Standard Prophylaxis	95%	80%	78%	75%	73%	70%	68%
Prolonged Prophylaxis (wks)	18.0	18.5	19.1	19.7	20.3	20.9	21.5
Growth in Wks on Drug		*3%*	*3%*	*3%*	*3%*	*3%*	*3%*
% of Pts Receiving Prolonged Prophylaxis	5%	20%	23%	25%	28%	30%	32%
Treatment (wks)	6	6	6	6	6	6	6
PRICE							
Doses/Wk	**1.60**	**1.65**	**1.70**	**1.75**	**1.80**	**1.85**	**1.91**
Growth in doses per wk		3%	3%	3%	3%	3%	3%
Adult Gross Price	1,950	2,009	2,069	2,131	2,195	2,261	2,328
YoY Growth		3%	3%	3%	3%	3%	3%
Discount	10%	13%	15%	15%	15%	15%	15%
Adult Net Price/Dose	**1,755**	**1,757**	**1,758**	**1,811**	**1,866**	**1,921**	**1,979**
Ped % of Adult Price	80%	80%	80%	80%	80%	80%	80%
Ped Net Price/Dose	**1,404**	**1,406**	**1,407**	**1,449**	**1,492**	**1,537**	**1,583**
Allogeneic Transplant Revenue - Prophylaxis Only	21	58	92	112	128	146	165
Adults	18	51	81	98	112	128	145
Peds	3	7	11	14	16	18	20
Allogeneic Transplant Revenue - Prolonged Prophylaxis	2	22	40	56	73	94	116
Adults	1	19	35	49	64	82	102
Peds	0	3	5	7	9	12	14
Allogeneic Transplant Revenue - Treatment	6	13	12	13	15	17	19
Adults	6	11	10	11	13	15	16
Peds	1	2	1	2	2	2	2
Allogeneic Transplant Revenue	**29**	**93**	**145**	**181**	**215**	**256**	**300**
Autologous Transplant Revenue - Prophylaxis Only	4	13	22	27	32	38	44
Autologous Transplant Revenue - Treatment	1	2	2	2	3	3	3
Autologous Transplant Revenue	**5**	**15**	**24**	**29**	**35**	**41**	**47**
US HSCT Revenue	**$34**	**$108**	**$168**	**$210**	**$250**	**$296**	**$347**
HSCT Canada Revenue		**$3**	**$11**	**$17**	**$21**	**$25**	**$30**
% of US		10%	10%	10%	10%	10%	10%
HSCT EU Sales		**$28**	**$86**	**$135**	**$168**	**$200**	**$237**
% of US		80%	80%	80%	80%	80%	80%
% Royalty to Chimerix		22.5%	22.5%	22.5%	22.5%	22.5%	22.5%
HSCT EU Royalty Revenue to Chimerix		**$6**	**$19**	**$30**	**$38**	**$45**	**$53**
HSCT WW Sales	**$34**	**$139**	**$266**	**$362**	**$439**	**$521**	**$614**
HSCT WW Revenue to Chimerix	**$34**	**$118**	**$199**	**$257**	**$309**	**$366**	**$430**

Source: Company Data, Morgan Stanley Research estimates

CMX001 Opportunities in Other Infections and Patients

Chimerix would like to expand CMX001's use into other groups of immunocompromised pts and for use in preventing/treating other dsDNA viruses (Ex. 23). Given encouraging in vitro data (Ex. 24) and small Ph 2 data sets in other viruses (which we expect to be bolstered in 2013/14 with EIND data), we see success in some other viruses as likely. In addition, given that we tend not to differentiate between the sources of immunocompromise in pts, we would expect that success in HSCT (and the Ph 2 data in SOT) implies this drug could be adopted more broadly than just in the transplant setting.

Exhibit 23

Potential Expansion Opportunities for CMX001

dsDNA Virus (double stranded DNA virus)	HSCT (hematopoietic stem cell transplants)	SOT (solid organ transplants)	Other Immunocompromised Patients
CMV (cytomegalovirus)	TARGET MARKET (MSe ~$610mn WW)	Additional Market (MSe ~$140mn WW)	Additional Market
AdV (adenovirus)	Additional Market (currently running Ph 2)	Additional Market	Additional Market
BKV (BK virus)	Additional Market (Ph 2 subset data)	Additional Market (Ph 2 subset data)	Additional Market
Other (EBV, JCV, etc.)	Additional Market (anecdotal Ph 2 data)	Additional Market	Additional Market

Source: Company Data, Morgan Stanley Research

Exhibit 24

CMX001 Has Broad Activity vs. Viruses In Vitro

Viral Family	Virus	CMX001	Cidofovir	Danciclovir	Foscarnet	Maribavir	Letermovir
Herpes	CMV	0.001	0.4	3.8	50-800	0.31	0.0051
	EBV	0.03	65.6	0.9	<500	0.63	>10
	HHV-6A	0.003	2.7	5.8	16	Inactive	>10
	HSV-1	0.01	3	0.7	92-95	Inactive	No data
	HSV-2	0.02	6.5	2.5	91-96	Inactive	>10
	VZV	0.0004	0.5	1.3	39.8	Inactive	>10
Adenovirus	AdV 7	0.02	1.3	4.5-33	Inactive (AdV2)	No data	>10 (AdV2)
Polyoma	BKV	0.13	115	>200	Inactive	No data	No data
	JCV	0.045	>0.1	No data	Inactive	No data	No data
Papilloma	HPV-11	17	716	Inactive	No data	No data	No data
Pox	Variola	0.1	27	No data	No data	No data	No data
	Vaccinia	0.8	46	>392	Inactive	No data	No data

EC50 = concentration in μM required to reduce viral replication by 50% in vitro

Source: Company Data, Morgan Stanley Research

We currently focus primarily on 1) CMV infections in solid organ transplants (SOTs), 2) adenovirus (AdV) infections in HSCTs, 3) BK virus (BKV) in HSCTs, and 4) other viruses such as HSV, VZV, EBV, JCV, and HHV-6.

We Expect Off-Label Use in SOTs

The current CMV standard of care in higher risk SOTs (we model kidney, liver, lung, and heart transplants) is often prevention therapy with valganciclovir.

Exhibit 25

Annual SOTs by Organ Type in the US

Type of SOT	Transplants/Year
Kidney	16,750
Liver	6,000
Lung / Heart / Other	3,700
TOTAL	**26,450**

Source: Company Data, Morgan Stanley Research

However, as noted above, valganciclovir can lead to failure or toxicity in up to 33% of pts. Given solid efficacy in HSCT treatment (Ex. 7) and proof of concept in renal transplant treatment (Ex. 28), we expect that CMX001 will gain some off-label use as "second line" therapy in a portion of these pts (we model 2022 share of 40%). We believe this outcome as likely given a) pts that fail Valcyte are less like to try ganciclovir, 2) CMX001 at its core is a known drug, and c) SOT pts are at higher risk for renal complications making the other CMV drugs (cidofovir and foscarnet) as less attractive.

The path to a labeled indication in SOT is less clear to us. We believe it will likely depend on a) desired drug position/price, b) capital constraints, and c) any information from the EIND data. We see a path forward in CMV treatment or multi-virus prevention/treatment rather than a large head to head study vs. valganciclovir for prevention.

Established AdV Market is Compelling

CMX001's opportunity in AdV seems promising to us given 1) cidofovir is currently first-line therapy for AdV, despite its many safety drawbacks, 2) CMX001 has shown solid data, albeit in a small pt cohort, in refractory AdV (Ex. 26), and 3) our diligence suggests high awareness among HSCT physicians of this unmet need, especially in pediatric patients.

Exhibit 26

CMX001 Showed Solid Data in Refractory AdV Pts

	Total	Adults	Peds
n	31	7	24
% of CMX001 Responders (>1 log drop) at Wk 2	84%	100%	79%
% of Pts with AdV Viremia <LLOQ	29%	29%	29%
Mean Viral Load Drop (log c/mL)	2	2.4	1.8
Median Viral Load Drop (log c/mL)	2	2.3	1.6

Source: Company Data, Morgan Stanley Research

Chimerix is currently running a placebo controlled Ph 2 pre-emption trial in 48 adult and pediatric AdV HSCT pts that should produce topline data in 2H13. It is possible, but less likely in our view, that Chimerix will be able to file for CMX001 accelerated approval with positive Ph 2 AdV data. This would be upside to our base case, which assumes AdV only contributes to the overall higher share in the CMV prevention mkt vs. CMV-specific competitors. Regardless, we do expect some use upon approval for CMV prevention as the unmet need here is too high to not. Finally, we note that AdV outcome will also be studied as a secondary endpoint in the Ph 3 study.

BKV Is Trickier As Market Is Not Yet Developed

The commercial opportunity in BKV is less straightforward to us as 1) it is unclear how the polymerase inhibitor CMX001 works vs. BKV, which does not have polymerase, and 2) some physicians do not routinely screen for BKV and overall

expressed less unmet need in BKV. However, CMX001 data look good so far in a Ph 2 HSCT CMV + BKV subset (Ex. 27) and a small, QW low-dose controlled study in HSCT and renal transplant patients (Ex. 28). Key steps are further BKV data from the Ph 3 trial and clarification on a path forward.

Exhibit 27

Ph 2 CMV Trial Subset Data in BKV Seems Good

	Pooled CMX001	Pooled Placebo
n	171	59
Positive urine at baseline	45.0%	40.7%
Subgroup: BKU+ During Treatment		
n	94	32
Developed Heme+	6.4%	25.0%
Creatinine Increase	14.9%	34.4%
Worsening Renal Function	7.4%	18.8%
Subgroup: BKU- During Treatment		
n	77	27
Developed Heme+	7.8%	3.7%
Creatinine Increase	13.0%	11.1%
Worsening Renal Function	7.8%	7.4%

Source: Company Data, Morgan Stanley Research

Exhibit 28

Low Dose CMX001 Looks Efficacious in BKV

	Renal Transplant		HSCT	
	CMX001 40mg QW	Placebo	CMX001 40mg QW	Placebo
n	8	4	7	4
Baseline Mean BKV Viruria (log copies/mL)	6.51	7.39	6.56	9
2 log drop in BKV viruria (%)	25%	0%	43%	25%
Cleared BKV viruria (%)	13%	0%	14%	0%
Cleared baseline BKV viremia	67%	n/a	n/a	50%
Emergence of or a 2-log increase in BKV viremia	0%	0%	0%	25%

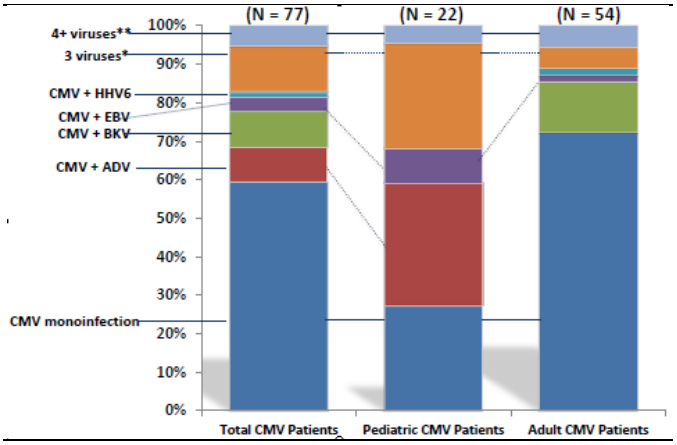
Source: Company Data, Morgan Stanley Research

Other Viruses May Be Long-Term Drivers

Other opportunities (HSV, VZV, EBV, JCV, HHV-6, etc.) are quite heterogeneous with varying market sizes and unmet needs. We await further details around 1) data for each of these viruses and 2) Chimerix's path forward in selected markets. We expect that Chimerix will be able to collect data in other viruses from other programs (i.e. Ph 3 trial) given that many patients were co-infected with multiple viruses in earlier studies (Ex. 29). This should help Chimerix frugally narrow down focus viruses.

Exhibit 29

Other Viruses in Expanded Access Program



Source: Company Data, Morgan Stanley Research

SOT Market Model

Our ~$90mn 2022 US sales assumes:

1) A 2016 launch,
2) ~26k SOTs growing at 0%/year, per literature,
3) 85% of SOTs receive prophylaxis and 1/3rd fail first-line prophylaxis,
4) A peak end of year market penetration of 40% in second-line treatment, and
6) Same pricing as in HSCTs.

Our ~$110mn 2022 WW revenue to Chimerix assumes:

1) EU sales are 50% of prior year US sales,
2) Chimerix gets a 22.5% royalty in the EU, and
3) Canada sales are 10% of prior year US sales.

Exhibit 30

CMX001 SOTs Market Model

US SOT Mkt	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRANSPLANTS	26,450	26,450	26,450	26,450	26,450	26,450	26,450	26,450	26,450	26,450	26,450
Kidney	16,750	16,750	16,750	16,750	16,750	16,750	16,750	16,750	16,750	16,750	16,750
Liver	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Lung / Heart / Other	3,700	3,700	3,700	3,700	3,700	3,700	3,700	3,700	3,700	3,700	3,700
Growth	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
ADDRESSABLE SECOND LINE TREATMENT MARKET	**7,419**	**7,419**	**7,419**	**7,419**	**7,419**	**7,419**	**7,419**	**7,419**	**7,419**	**7,419**	**7,419**
Addressable Kidney Pts (Second-Line Treatment)	4,698	4,698	4,698	4,698	4,698	4,698	4,698	4,698	4,698	4,698	4,698
% Receiving Prophylaxis (% At Risk for CMV/BKV/AdV)	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
% Failing First Line Prophylaxis	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Addressable Liver Pts (Second-Line Treatment)	1,683	1,683	1,683	1,683	1,683	1,683	1,683	1,683	1,683	1,683	1,683
% At Risk for CMV/BKV/AdV	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
% Failing First Line Prophylaxis	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Addressable Lung / Heart / Other Pts (Second-Line Treatment)	1,038	1,038	1,038	1,038	1,038	1,038	1,038	1,038	1,038	1,038	1,038
% At Risk for CMV/BKV/AdV	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
% Failing First Line Prophylaxis	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
SECOND LINE TREATMENT - CMX001					74	371	1,113	1,855	2,226	2,597	2,968
Kidney Transplants Pts on CMX-001					47	235	705	1,175	1,410	1,644	1,879
Share of Kidney Transplant Addressable Mkt (Second-Line Treatment Market)					1%	5%	15%	25%	30%	35%	40%
Liver Transplants Pts on CMX-001					17	84	252	421	505	589	673
Share of Kidney Transplant Addressable Mkt (Second-Line Treatment Market)					1%	5%	15%	25%	30%	35%	40%
Lung / Heart / Other Pts Transplants on CMX-001					10	52	156	259	311	363	415
Share of Kidney Transplant Addressable Mkt (Second-Line Treatment Market)					1%	5%	15%	25%	30%	35%	40%
PRICE											
Duration of Therapy - Treatment (Wks)					8	8	8	8	8	8	8
Doses/Wk					2	2	2	2	2	2	2
Net Price/Dose					1,755	1,757	1,758	1,811	1,866	1,921	1,979
Kidney Transplant Revenue					1	7	20	34	42	51	60
Liver Transplant Revenue					0	2	7	12	15	18	21
Lung / Heart / Other Transplant Revenue					0	1	4	8	9	11	13
SOT US Sales					**$2**	**$10**	**$31**	**$54**	**$66**	**$80**	**$94**
SOT Canada Sales						**$0**	**$1**	**$3**	**$5**	**$7**	**$8**
% of US						10%	10%	10%	10%	10%	10%
SOT EU Sales						**$1**	**$5**	**$16**	**$27**	**$33**	**$40**
						50%	50%	50%	50%	50%	50%
						22.5%	22.5%	22.5%	22.5%	22.5%	22.5%
SOT EU Royalty to Chimerix						**$0**	**$1**	**$4**	**$6**	**$7**	**$9**
SOT WW Sales					**$2**	**$12**	**$38**	**$73**	**$99**	**$120**	**$142**
SOT WW Revenue to Chimerix					**$2**	**$11**	**$34**	**$60**	**$78**	**$94**	**$111**

CMX-001 Revenue Summary	2016	2017	2018	2019	2020	2021	2022
CMX-001 US Sales	$36	$118	$200	$264	$316	$376	$441
CMX-001 Canada Sales	$0	$4	$12	$20	$26	$32	$38
CMX-001 EU Sales	$0	$29	$92	$150	$195	$233	$277
CMX-001 EU Royalty to Chimerix		$6	$21	$34	$44	$52	$62
CMX-001 WW Sales	$36	$151	$303	$434	$538	$641	$756
CMX-001 WW Revenue to Chimerix	$36	$129	$232	$318	$387	$460	$541

Source: Company Data, Morgan Stanley Research estimates

Exhibit 31

Quarterly Income Statement

($ in millions except per-share data)	1Q13E	2Q13E	3Q13E	4Q13E	2013E
Collaboration and Licensing Revenue					
Contract and Grant Revenue					
Total Revenues	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
QoQ Revenue Growth		n/a	n/a	n/a	
Costs & Expenses:					
COGS	0	0	0	0	0
QoQ Growth		n/a	n/a	n/a	
% of Sales	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
R&D	8	8	8	8	32
QoQ Growth		0.0%	0.0%	0.0%	
% of Sales	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
SG&A	2	2	2	2	8
QoQ Growth		0.0%	0.0%	0.0%	
% of Sales	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*
Total Operating Expenses	**10.0**	**10.0**	**10.0**	**10.0**	**40.0**
Operating Income (Loss)	**(10)**	**(10)**	**(10)**	**(10)**	**(40)**
Operating Margin					
Other Income	0.0	0.0	0.0	0.0	0.0
Interest (Expense) Income	(0.2)	(0.2)	(0.2)	(0.2)	(0.70)
Pretax Income (Loss)					
Provision For Income Taxes	0	0	0	0	0
Effective Tax Rate					
Non-GAAP Net Income (Loss)	**($10)**	**($10)**	**($10)**	**($10)**	**(40.7)**
Stock Compensation Expense	$0.4	$0.4	$0.4	$0.4	$2
% of Operating Expenses	4.23%	4.23%	4.23%	4.23%	4.23%
Non-GAAP Net Income (incl. ESO)	**($10.6)**	**($10.6)**	**($10.6)**	**($10.6)**	**($42.4)**
GAAP Net Income (Loss)	**($10.6)**	**($10.6)**	**($10.6)**	**($10.6)**	**($42.4)**
EPS, Basic (Non-GAAP, Pre-ESO)	($6.64)	($0.42)	($0.41)	($0.41)	($1.66)
EPS, Diluted (Non-GAAP, Pre-ESO)	($6.64)	($0.42)	($0.41)	($0.41)	($1.66)
EPS - Diluted (GAAP, Post- ESO)	**($6.91)**	**($0.43)**	**($0.43)**	**($0.43)**	**($1.73)**
Shares Outstanding - Basic	1.53	24.41	24.53	24.65	24.53
Shares Outstanding - Diluted	1.53	24.41	24.53	24.65	24.53

Source: Company Data, Morgan Stanley Research estimates

Exhibit 32

Annual Income Statement

($ in millions except per-share data)	2011A	2012A	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Sales												
US CMX-001 Sales				0	0	36	118	200	264	316	376	441
Canada CMX-001 Sales				0	0	0	4	12	20	26	32	38
EU CMX-001 Sales				0	0	0	29	92	150	195	233	277
WW CMX-001 Sales				0	0	36	151	303	434	538	641	756
Revenue to Chimerix												
US CMX-001 Revenue				0	0	36	118	200	264	316	376	441
Canada CMX-001 Revenue				0	0	0	4	12	20	26	32	38
EU CMX-001 Royalty				0	0	0	6	21	34	44	52	62
WW CMX-001 Revenue to Chimerix				0	0	36	129	232	318	387	460	541
Collaboration and Licensing Revenue	0	17			80							
Contract and Grant Revenue	12	16										
Total Revenues	**12.1**	**33.7**	**0.0**	**0.0**	**80.0**	**36.5**	**128.6**	**232.1**	**317.7**	**386.7**	**460.4**	**541.3**
YoY Revenue Growth							252%	81%	37%	22%	19%	18%
Costs & Expenses:												
COGS	0	0	0	0	0	3	11	20	28	34	41	48
YoY Growth	-	-	-	-	-	-	257.7%	82.7%	37.6%	22.0%	19.1%	17.6%
% of Sales	-	-	-	-	-	*8.5%*	*9.1%*	*9.6%*	*9.8%*	*9.9%*	*9.9%*	*9.9%*
R&D	27	27	32	30	28	25	23	23	23	23	23	23
YoY Growth	43.2%	0.1%	16.8%	-6.3%	-6.7%	-10.7%	-8.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% of Sales	-	-	-	-	-	*68.5%*	*18.8%*	*10.9%*	*8.1%*	*6.7%*	*5.6%*	*4.8%*
SG&A	9	8	8	8	12	40	41	41	42	43	43	44
YoY Growth	22.3%	-11.9%	3.9%	3.0%	48.5%	226.8%	1.5%	1.5%	1.5%	1.6%	1.6%	1.6%
% of Sales	-	-	-	-	-	*109.6%*	*33.2%*	*19.5%*	*14.7%*	*12.4%*	*10.6%*	*9.2%*
Total Operating Expenses	**36.1**	**35.1**	**40.0**	**38.2**	**40.2**	**68.1**	**74.7**	**84.5**	**92.7**	**99.5**	**106.7**	**114.5**
Operating Income (Loss)	**(24.026)**	**(1)**	**(40)**	**(38)**	**40**	**(32)**	**54**	**148**	**225**	**287**	**354**	**427**
Operating Margin	*(198.5%)*	*(4.1%)*	-	-	*49.7%*	*(86.6%)*	*41.9%*	*63.6%*	*70.8%*	*74.3%*	*76.8%*	*78.8%*
Other Income	0.0	0.0	0.0	0.6	0.9	1.3	1.4	2.2	3.5	5.1	7.2	9.7
Interest Expense, Net	(0.60)	(1.62)	(0.70)	(0.78)	(0.29)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pretax Income (Loss)	**($25)**	**($3)**	**($41)**	**($38)**	**$40**	**($30)**	**$55**	**$150**	**$228**	**$292**	**$361**	**$436**
Provision For Income Taxes	0	0	0	0	0	0	0	18	80	102	126	153
Effective Tax Rate	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*12.3%*	*35.0%*	*35.0%*	*35.0%*	*35.0%*
Non-GAAP Net Income (Loss)	**($25)**	**($3)**	**($41)**	**($38)**	**$40**	**($30)**	**$55**	**$131**	**$149**	**$190**	**$235**	**$284**
Stock Compensation Expense	$1	$1	$2	$2	$2	$5	$6	$7	$7	$8	$9	$9
% of Operating Expenses	2.67%	3.98%	4.23%	4.48%	4.73%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Non-GAAP Net Income (incl. ESO)	**($26)**	**($4)**	**($42)**	**($40)**	**$38**	**($36)**	**$49**	**$125**	**$141**	**$182**	**$226**	**$275**
GAAP Net Income (Loss)	**($26)**	**($4)**	**($42)**	**($40)**	**$38**	**($36)**	**$49**	**$125**	**$141**	**$182**	**$226**	**$275**
EPS, Basic (Non-GAAP, Pre-ESO)	($16.46)	($1.97)	($1.66)	($1.56)	$1.64	($1.23)	$2.24	$5.32	$6.00	$7.67	$9.47	$11.45
EPS, Diluted (Non-GAAP, Pre-ESO)	($16.46)	($1.97)	($1.66)	($1.56)	$1.55	($1.23)	$2.12	$5.03	$5.69	$7.27	$8.98	$10.86
EPS - Diluted (GAAP, Post- ESO)	**($17.10)**	**($2.89)**	**($1.73)**	**($1.63)**	**$1.47**	**($1.45)**	**$1.89**	**$4.77**	**$5.40**	**$6.97**	**$8.65**	**$10.50**
Shares Outstanding - Basic	1.50	1.53	24.53	24.66	24.68	24.69	24.71	24.73	24.74	24.76	24.77	24.79
Shares Outstanding - Diluted	1.50	1.53	24.53	24.66	26.11	24.69	26.12	26.12	26.12	26.12	26.13	26.14

Source: Company Data, Morgan Stanley Research estimates

Exhibit 33

Balance Sheet

($ in millions)	2010A	2011A	2012A	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Assets													
Cash and Cash Equivalents	3.3	13.6	19.906	71.9	27.3	130.3	106.7	151.6	271.6	410.5	592.5	818.5	1,092.2
Short-term Investments, Available-For-Sale	-	5.9	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
Grant Receivable	-	-	-	-	-	-	-	-	-	-	-	-	-
Contract Receivable	-	4.2	0.8	-	-	-	-	-	-	-	-	-	-
Prepaid Expenses and Other Current Assets	0.6	1.0	1.0	-	-	2.3	1.1	3.7	6.8	9.3	11.3	13.4	15.8
Loan Receivable From Officer	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Deferred Financing Costs, Current Portion	0.1	0.1	0.0	-	-	-	-	-	-	-	-	-	-
Inventory	-	-	-	-	-	6.4	2.9	10.3	18.6	25.4	30.9	36.8	43.3
Total current assets	**4.1**	**24.8**	**31.6**	**81.8**	**37.2**	**148.9**	**120.5**	**175.5**	**306.8**	**455.0**	**644.5**	**878.6**	**1,161.1**
Property and Equipment, Net	0.5	0.6	0.4	0.4	0.4	0.7	1.5	2.4	3.4	4.4	5.5	6.7	8.6
Patents and Licenses	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Deposits	0.0	0.0	0.0	-	-	0.1	0.0	0.1	0.2	0.2	0.3	0.3	0.4
Deferred Financing Costs, Less Current Portion	0.1	0.0	0.0	-	-	-	-	-	-	-	-	-	-
Total assets	**5.0**	**25.4**	**32.0**	**82.1**	**37.6**	**149.6**	**122.0**	**177.9**	**310.3**	**459.6**	**650.3**	**885.6**	**1,170.1**
Liabilities													
Accounts Payable	1.6	4.1	2.0	2.4	2.3	2.4	4.1	4.5	5.1	5.6	6.0	6.4	6.9
Accrued Liabilities	3.0	2.5	0.9	1.0	1.0	1.0	1.8	1.9	2.2	2.4	2.6	2.8	3.0
Loan Payable, Current Portion	2.0	0.2	4.8	-	-	-	-	-	-	-	-	-	-
Total current liabilities	**6.6**	**6.8**	**7.6**	**3.4**	**3.3**	**3.5**	**5.8**	**6.4**	**7.2**	**8.0**	**8.5**	**9.2**	**9.8**
Deferred Rent	0.0	-	-	-	-	-	-	-	-	-	-	-	-
Other Long-Term Liabilities	-	-	0.3	0.4	0.4	0.4	0.7	0.7	0.8	0.9	1.0	1.0	1.1
Loan Payable, Less Current Portion	2.6	2.4	9.9	9.5	3.5	-	-	-	-	-	-	-	-
Redeemable Preferred Stock Warrant Liability	-	6.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Total Liabilities	**9.2**	**15.7**	**25.3**	**20.8**	**14.7**	**11.4**	**14.0**	**14.6**	**15.6**	**16.4**	**17.0**	**17.7**	**18.4**
Redeemable convertible preferred stock	55.1	103.4	107.7	-	-	-	-	-	-	-	-	-	-
Shareholder's Equity													
Preferred Stock	0.0	-	-	-	-	-	-	-	-	-	-	-	-
Common Stock (Plus APIC)	1.9	0.0	0.0	204.7	206.5	283.4	288.8	294.8	301.6	309.1	317.1	325.6	334.8
Accumulated Other Comprehensive Income	-	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Accumulated Deficit	(61.2)	(93.7)	(101.0)	(143.4)	(183.6)	(145.1)	(180.9)	(131.6)	(6.9)	134.2	316.2	542.3	816.8
Total Shareholder's Equity	**(59.2)**	**(93.7)**	**(101.0)**	**61.3**	**22.9**	**138.3**	**108.0**	**163.3**	**294.7**	**443.3**	**633.3**	**867.9**	**1,151.6**
Total Liabilities and Shareholder's Equity	**5.0**	**25.4**	**32.0**	**82.1**	**37.6**	**149.6**	**122.0**	**177.9**	**310.3**	**459.6**	**650.3**	**885.6**	**1,170.1**

Source: Company Data, Morgan Stanley Research estimates

Exhibit 34

Cash Flow Statement

($ in millions)	2010A	2011A	2012A	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
CASH FLOWS FROM OPERATING ACTIVITIES													
Net Income (Loss)	(25.457)	(25.589)	(4.406)	(42.4)	(40.1)	38.5	(35.8)	49.3	124.7	141.1	182.0	226.0	274.5
Depreciation	0.2	0.3	0.3	0.4	0.5	0.4	0.8	1.3	1.8	2.5	3.2	4.0	4.2
Amortization/accretion of premium/discount on investments	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Cash Interest Expense	0.0	0.05	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Share-Based Compensation Costs	0.8	1.1	1.4	1.7	1.7	1.9	5.4	6.0	6.8	7.4	8.0	8.5	9.2
Deferred Lease Obligations	(0.0)	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fair Value Measurement of Redeemable Preferred Stock W	0.0	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in assets and liabilities:													
Accounts Receivable	0.9	(4.2)	3.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Inventories	0.0	0.0	0.0	0.0	0.0	(6.4)	3.5	(7.4)	(8.3)	(6.8)	(5.5)	(5.9)	(6.5)
Prepaid and Other Current Assets and Deposits	0.2	(0.4)	0.1	1.0	0.0	(2.4)	1.3	(2.7)	(3.1)	(2.6)	(2.1)	(2.2)	(2.4)
Accounts Payable and Accrued Liabilities	1.6	2.1	(3.8)	0.6	(0.2)	0.2	2.7	0.6	0.9	0.8	0.6	0.7	0.7
Net cash provided by (used in) operating activities	**(21.7)**	**(26.3)**	**(1.9)**	**(37.9)**	**(38.1)**	**32.2**	**(22.1)**	**47.0**	**122.8**	**142.4**	**186.3**	**231.2**	**279.8**
CASH FLOWS FROM INVESTING ACTIVITIES													
Purchases of Property and Equipment	(0.1)	(0.3)	(0)	(0)	(1)	(1)	(2)	(2)	(3)	(4)	(4)	(5)	(6)
Purchases of Short-Term Investments	(12.1)	(13.6)	(9.9)	0	0	0	0	0	0	0	0	0	0
Sales of Short-Term Investments	2.9	0.5	0.0	0	0	0	0	0	0	0	0	0	0
Maturities of Short-Term Investments	9.1	7.1	5.9	0	0	0	0	0	0	0	0	0	0
Repayment of Loan to Officer	0.0	0.1	0	0	0	0	0	0	0	0	0	0	0
Net cash used in investing activities	**(0.2)**	**(6.2)**	**(4.1)**	**(0.3)**	**(0.5)**	**(0.7)**	**(1.6)**	**(2.1)**	**(2.8)**	**(3.6)**	**(4.3)**	**(5.2)**	**(6.1)**
CASH FLOWS FROM FINANCING ACTIVITIES													
Proceeds from Issuance of Redeemable Preferred Stock and '	0.0	45.0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Issuance of Stock	0.0	0.0	0	95	0	75	0	0	0	0	0	0	0
Proceeds from Exercise of Stock Options	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0
Proceeds from Loan Payable	6.0	0.0	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Debt discount	0.0	0.0	(0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Repayment of Loan Payable	(1.4)	(2.0)	(2.6)	(5.1)	(6.0)	(3.5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stock Offering and Deferred Financing Costs	0.0	(0.2)	(0.0)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net cash provided by financing activities	**4.6**	**42.8**	**12.3**	**90.3**	**(6.0)**	**71.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Change in Cash and Cash Equivalents	(17.314)	10.301	6.299	52.0	(44.6)	103.0	(23.7)	44.9	120.0	138.9	182.0	226.0	273.7
Cash and Cash Equivalents at Beginning of Year	20.6	3.3	13.607	19.9	71.9	27.3	130.3	106.7	151.6	271.6	410.5	592.5	818.5

Source: Company Data, Morgan Stanley Research estimates

Company Description

Chimerix is a biopharmaceutical company primarily focused on the development of antiviral drugs. Chimerix's lead drug is CMX001, with the lead development indication being the prevention of cytomegalovirus infections in stem cell transplants. CMX001 may have potential value for the prevention and/or treatment of other dsDNA viruses in a broad set of immunocompromised patients. Chimerix's product pipeline also includes CMX157, which is partnered with Merck, for HIV and HBV infections.

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Not-Rated/Hold	**105**	**4%**	**27**	**3%**	**26%**
Underweight/Sell	**473**	**17%**	**123**	**12%**	**26%**
Total	**2,862**		**1028**		

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Industry Coverage:Biotechnology

Company (Ticker)	Rating (as of)	Price* (05/03/2013)
David Friedman, M.D.		
Chimerix Inc (CMRX.O)	O (05/06/2013)	$20.95
AMAG Pharmaceuticals, Inc. (AMAG.O)	E (11/21/2011)	$23.37
Alexion Pharmaceuticals (ALXN.O)	O (09/07/2010)	$98.17
Auxilium Pharmaceuticals (AUXL.O)	E (05/03/2013)	$14.98
Cubist Pharmaceuticals Inc. (CBST.O)	O (10/03/2012)	$47.17
Idenix Pharmaceuticals, Inc. (IDIX.O)	E (03/18/2011)	$3.42
Incyte Corporation (INCY.O)	U (01/23/2013)	$22.24
InterMune (ITMN.O)	E (09/07/2010)	$9.27
Ironwood Pharmaceuticals, Inc. (IRWD.O)	E (04/24/2013)	$14.61
Lexicon Pharmaceuticals, Inc. (LXRX.O)	E (09/07/2010)	$2
NPS Pharmaceuticals (NPSP.O)	O (10/03/2012)	$13.25
Synageva Biopharma Corp (GEVA.O)	O (04/20/2012)	$47.58
Theravance Inc (THRX.O)	U (01/31/2012)	$33.87
Vertex Pharmaceuticals (VRTX.O)	E (05/08/2012)	$75.99
XenoPort Inc (XNPT.O)	E (08/26/2011)	$6.09
Sara Slifka		
Neurocrine Biosciences Inc (NBIX.O)	O (10/03/2012)	$11.25
Optimer Pharmaceuticals (OPTR.O)	U (10/03/2012)	$15.1
Marshall Urist, M.D., Ph.D.		
Amgen Inc. (AMGN.O)	E (02/09/2012)	$106.48
Aveo Pharmaceuticals (AVEO.O)	E (02/09/2012)	$2.52
Biogen Idec Inc. (BIIB.O)	O (02/09/2012)	$218.85
Celgene Corp (CELG.O)	O (02/09/2012)	$121.64
Elan Corporation PLC (ELN.N)	++	$11.58
Gilead Sciences Inc. (GILD.O)	O (02/09/2012)	$55.15
Immunogen Inc. (IMGN.O)	E (11/13/2012)	$15.45
Infinity Pharmaceuticals Inc (INFI.O)	O (02/19/2013)	$38
Onyx Pharmaceuticals Inc. (ONXX.O)	E (06/21/2012)	$90.46
Pharmacyclics Inc. (PCYC.O)	E (03/19/2013)	$76.49
Tesaro Inc. (TSRO.O)	O (07/23/2012)	$29.39

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* Historical prices are not split adjusted.

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