

Awareness of abuse deterrence and impact on prescribing varies amongst prescribers (3/3)

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Key themes	Supporting evidence
Concerns remain that technology does not address oral abuse	<ul style="list-style-type: none"> ▪ “I don’t know how effective abuse deterrence is in practice...Just because you can’t crush something, doesn’t mean you can’t eat all your pills at once” –<i>Primary care physician specializing in internal medicine</i> ▪ “No formulation on the market that is overdose resistant” - <i>Pain Management and Physical Medicine and Rehabilitation</i> ▪ The only abuse deterrence I would put any stake in is when you add niacin (to prevent oral abuse)”- <i>Anesthesiologist and Pain Management Physician at major hospital</i>
Less informed prescribers ask for additional information and education around abuse deterrent formulations	<ul style="list-style-type: none"> ▪ “The FDA decision [on OxyContin] should carry weight...data would very valuable...should be incentive to use this medicine“- <i>Addiction specialist</i> ▪ “There are several studies on abuse deterrence out there...what we need is information from trustworthy sources” – <i>Anesthesiologist and Head/Neck surgeon</i> ▪ “(It would be good) if pharma companies made it more clear that this drug is now a preferred medicine”- <i>Private practitioner and assistant professor at large medical school</i> ▪ “I haven’t seen any data that shows effectiveness of abuse deterrence... not statistics” – <i>Family practitioner</i> ▪ “I want to see that (the drug) is not diverted and used on the street...I don’t find the (existing) data all that compelling”- <i>Anesthesiologist and Pain Specialist at large hospital</i> ▪ “If there is enough education, we may be using them more frequently, to mitigate abuse” – <i>Family doctor in family group practice</i>

OxyContin specific prescriber market research shows regulatory concerns and media/press weigh on prescribers, despite reformulation

Topic	Key take-aways	Study	Source	Timing/when
Market dynamics	<ul style="list-style-type: none"> Prescribers with increasing TRx stated increase in patients with pain, leading to increases in OxyContin prescriptions Prescribers with decreasing TRx stated regulatory concerns and media/press as key drivers 	OxyContin prescriber comparison	PJ Quinn	May, 2012
	<ul style="list-style-type: none"> Duragesic and MS Contin considered main competitors Key market drivers: safety, tolerability, efficacy, good patient satisfaction, and favourable dosing 	OxyContin Brand Health Tracker	Synovate Healthcare	July, 2011
Abuse awareness and prescribing behavior	<ul style="list-style-type: none"> Abuse and diversion are main deterrence factors; class wide issue, with higher salience for Oxy 	ONU/Oxy Copositioning	PJ Quinn	November, 2012
	<ul style="list-style-type: none"> Majority of prescribers stated that prescribing behavior is unlikely to change 	OxyContin new formulation awareness	Synovate healthcare	October, 2010
Awareness on abuse deterrence	<ul style="list-style-type: none"> Little awareness and perceived impact on crush-resistant formulation OxyContin seen as “fallen Hero”- powerful drug, dampened by concerns around diversion, abuse and regulatory restrictions 	ONU/Oxy Co-positioning	PJ Quinn	November, 2012
	<ul style="list-style-type: none"> 3 in 5 physicians aware of reformulated OxyContin 	OxyContin new formulation awareness	Synovate healthcare	October, 2010

No new market research on OxyContin (e.g. abuse deterrence awareness) has been conducted since the April 2013 FDA ruling

Last Modified 9/13/2013 11:49 AM Eastern Standard Time

Printed 9/13/2013 12:29 PM Eastern Standard Time

Contents

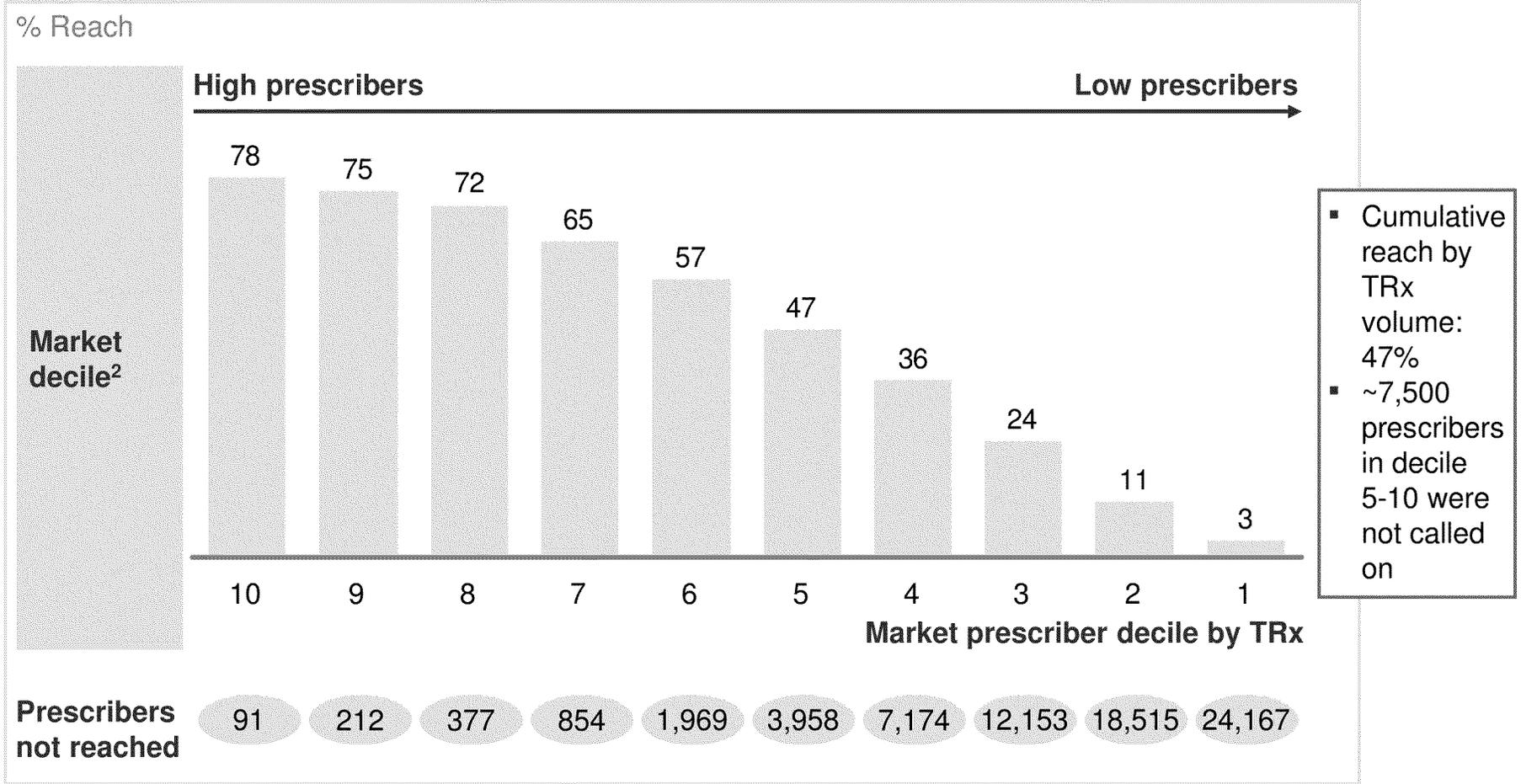
- Market landscape & demand forecast
- Messaging & positioning
- **Segmentation & targeting**
- Field focus & execution
- Access & availability
- Scientific support
- Commercial spend levels
- Patient funnel
- Appendix

Findings on segmentation and targeting

- Analysis of sales force reach suggests **calls are insufficiently focused on high deciles**
 - Cumulative reach is 47% by market basket volume and 53% by OxyContin volume
 - While reach is >70% for market decile 10, 9, and 8, it declines sharply for decile 7 (65% reach), decile 6 (57% reach), and decile 5 (47% reach)
 - ~7500 prescribers in market decile 5-10 were not called on in Q1 2013
- Sales force reach is also **insufficiently focused on NBRx**
 - Sales force reaches less than 40% of OxyContin NBRx by volume (44% if orthopedic surgeons are excluded)
 - ~9600 NBRx decile 5-10 prescribers were not called on in Q1 2013
- Initial analysis shows no difference in OxyContin market share among identified corporatized providers
- **Prescribers who do not receive calls account for 75% of the overall OxyContin decline**
- **OxyContin is still promotionally sensitive**
 - Vacancy and retrospective call responsiveness analyses show that OxyContin is promotionally sensitive across deciles
 - Promotional sensitivity is further evidenced by physician-level 'natural pilots'
- **At the territory level, OxyContin performance is largely driven by external market attractiveness factors including ERO growth, Gx penetration, household income, and managed care access**

There are ~ 7,500 Decile 5-10 prescribers that the sales force is not reaching

Sales force reach¹ by Market Decile² for Oxy TRx in Q1 2013



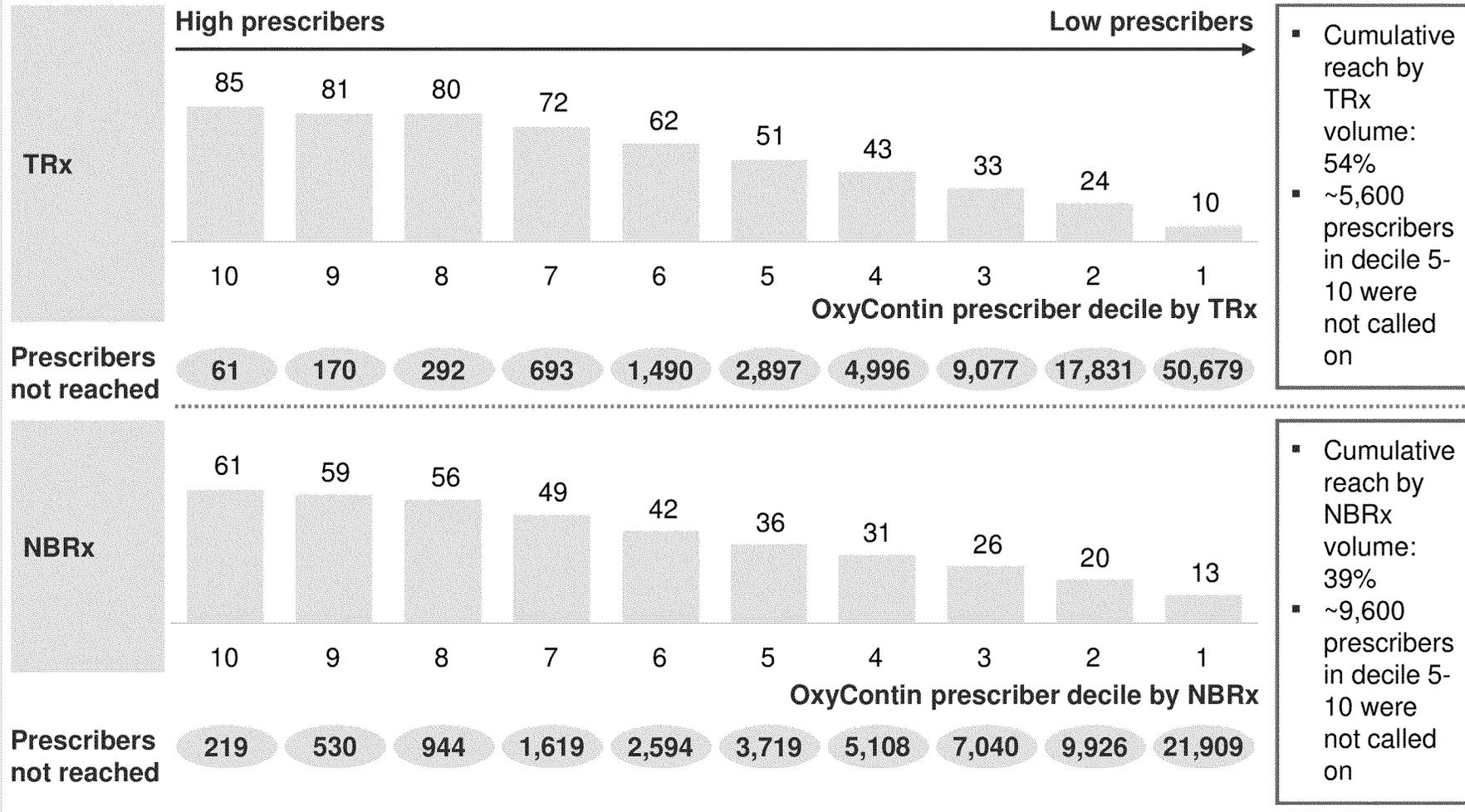
1 Reach defined as at least 1 P1 or P2 in Q1 2013

2 Market decile based on ER-IR market basket as defined by ZS Associates

Sales force reach is lower by NBRx decile compared to reach by Oxy decile

Sales force reach by Oxy Prescriber Decile for TRx and NBRx in Q1 2013

% Reach



1 Reach defined as at least 1 P1 or P2 in Q1 2013

SOURCE: IMS; Purdue Sales and Marketing; Team analysis

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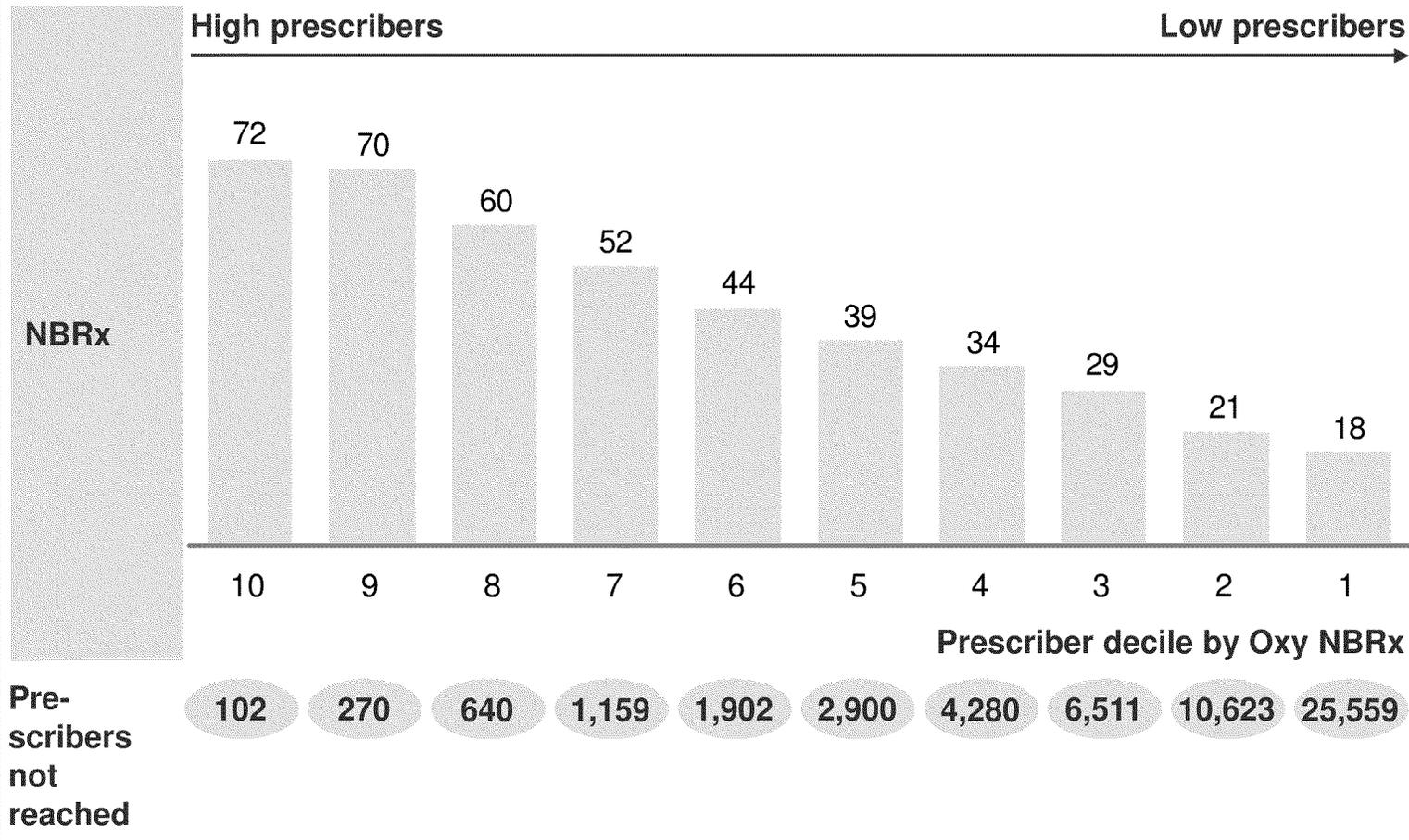
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Printed 9/13/2013 12:29 PM Eastern Standard Time

Reach by NBRx is higher when orthopedic surgeons are excluded from the sample, as they tend to be higher NBRx and reach is lower

Sales force reach¹ by Oxy Prescriber Decile for NBRx (excluding orthopedic surgeons²) in Q1 2013

% Reach



1 Reach defined as at least 1 P1 or P2 in Q1 2013

2 Many orthopedic surgeons are high NBRxwriters due to the acute nature of the pain they treat

SOURCE: IMS; Purdue Sales and Marketing; Team analysis

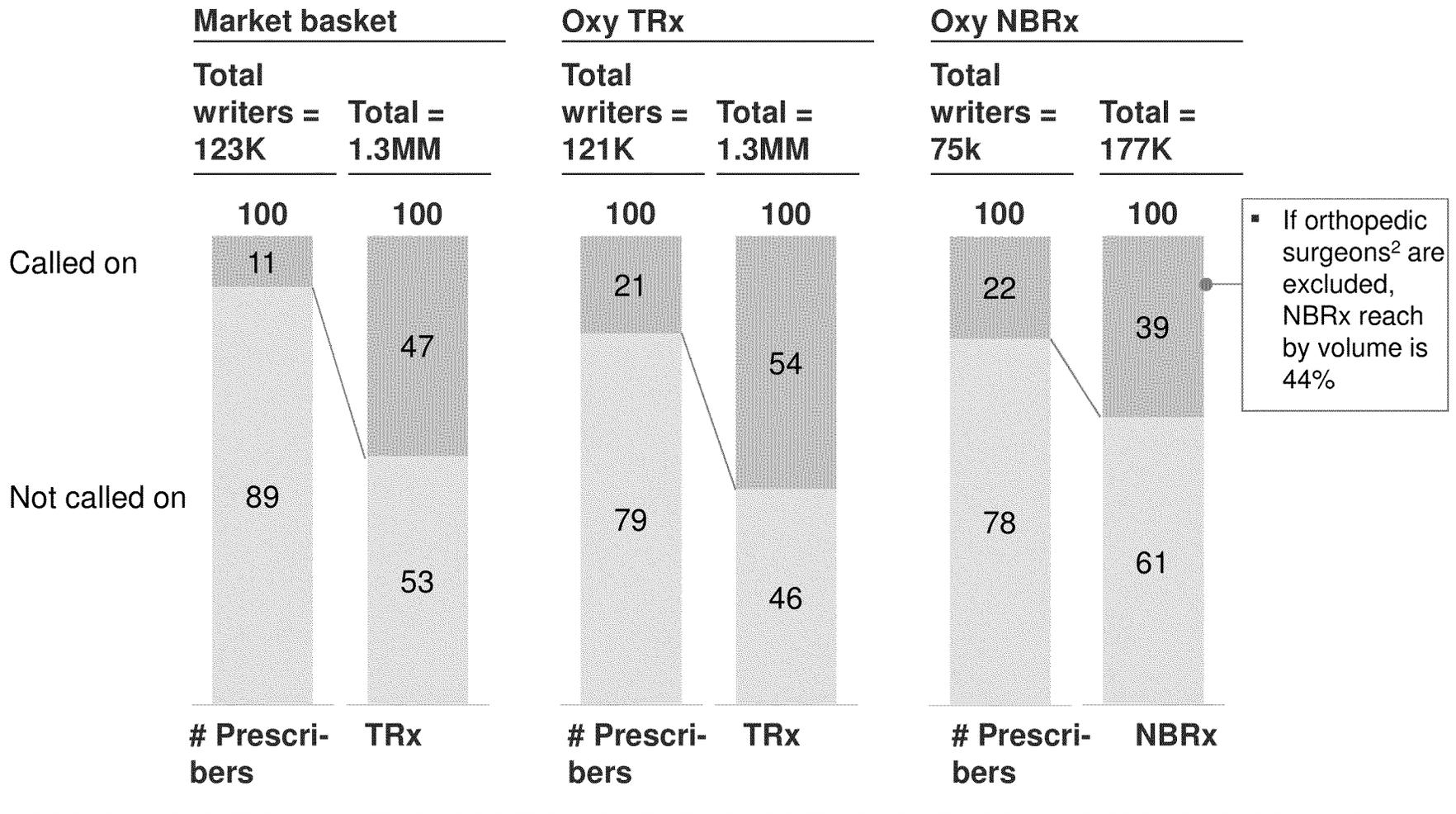
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Last Modified 9/13/2013 11:49 AM Eastern Standard Time

Printed 9/13/2013 12:29 PM Eastern Standard Time

The sales force reach of OxyContin NBRx is ~40% by volume

OxyContin sales force reach in Q1 2013 (including P1 or P2 calls)



1 For 3-month period ending in March 2013; Reach defined as any physician who received at least one call (P1 or P2) in the time period specified

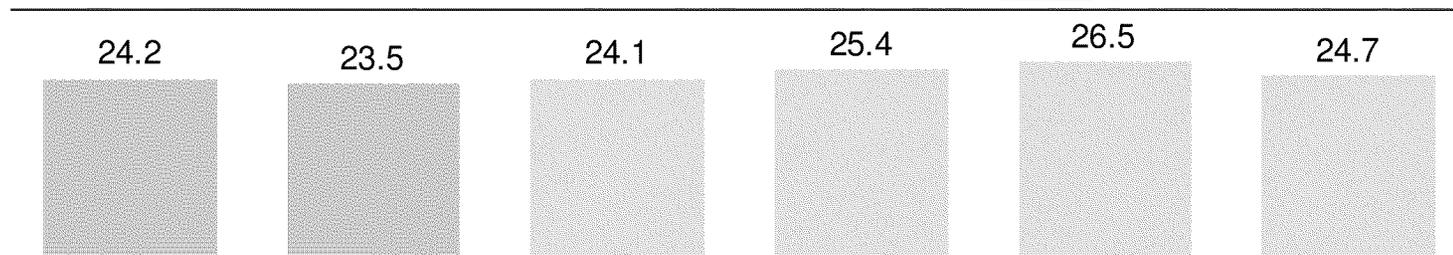
2 Many orthopedic surgeons are high NBRx writers, due to the acute nature of the pain they treat

Initial analysis shows no difference in OxyContin performance among identified corporatized providers

■ Baseline
 ■ Focused on corporatized providers

2012 OxyContin share of ERO scripts %

■ 18% of all OxyContin scripts written by prescribers identified as affiliated
 ■ 3% of all OxyContin scripts written by prescribers identified as Top 300 affiliate



Scope of prescribers considered	Total	On call list	Identified as affiliated	Identified as Top 300	Identified as Top 300 - expanded ¹	Zipcodes w/ heavy corp. provider presence ²
Total 2012 ERO script (mns)	22.2	12.6	3.6	0.73	0.98	4.6
Total OxyContin script (mns)	5.4	3.0	0.88	0.19	0.26	1.1
Total prescribers	332341	50041	14347	3906	12140	-

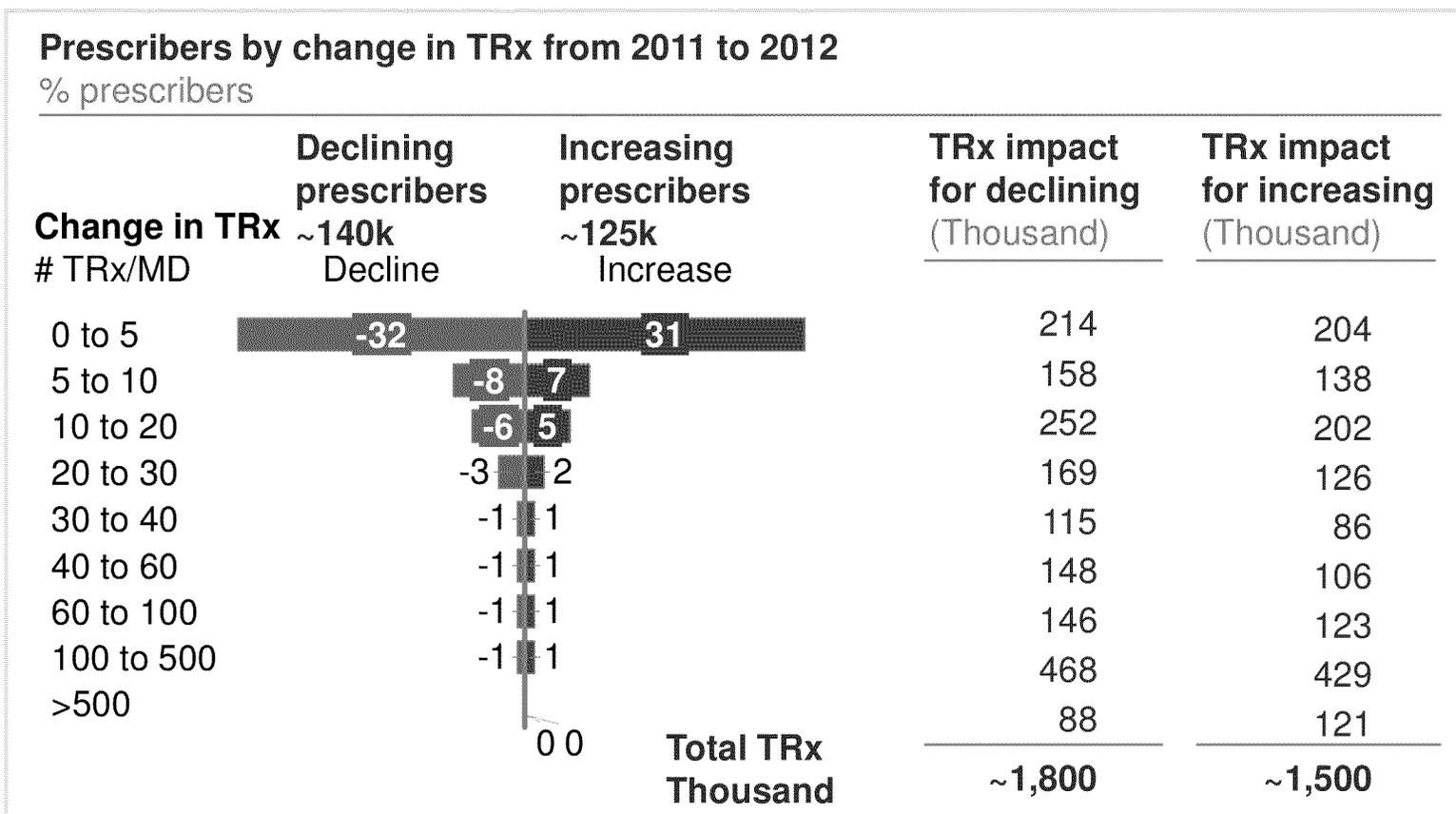
¹ Matching on addresses, we identified additional providers who may also be affiliated with Top 300 corporatized providers but who were not identified as such by the sales force.
² Using McKinsey database of largest corporatized providers, which focuses on Greater Boston, Greater Los Angeles, Greater Pittsburgh, Pacific Northwest, and Greater Dallas

SOURCE: Affiliation data collected by Purdue salesforce; McKinsey database of largest corporatized providers

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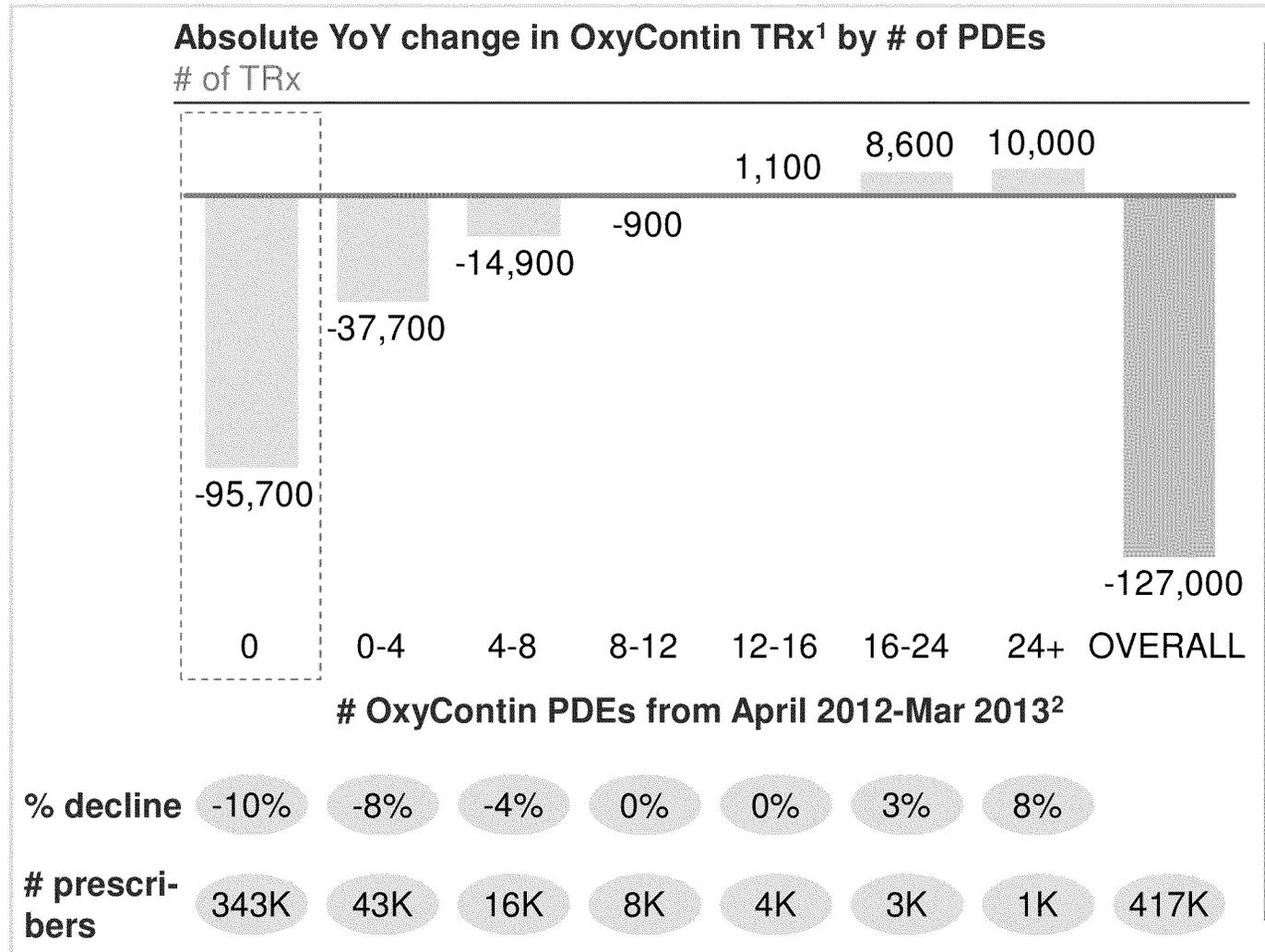
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 Printed 9/13/2013 12:29 PM Eastern Standard Time

Overall, TRx increased for 47% of prescribers



- 61% of declining prescribers fall into the 0 to -5 TRx decline category, and less than 5% fall into categories 40 to >500 decline
- 65% of prescribers with increasing TRx fall into the 0 to 5 TRx category
- TRx impact per prescriber is highest for highest Trx growth and decline categories

Prescribers who did not receive calls account for ~75% of OxyContin decline



- 75% of the decline of OxyContin is concentrated in prescribers that Purdue does not call
- The impact of calls is particularly strong in high-deciles; 2/3rds of 96K decline is in deciles 5-10
- Analysis also shows call sensitivity throughout range of PDEs
- This suggests that increased call activity may have a substantial impact on slowing the decline of OxyContin

¹ TRx change measured in absolute terms between 6 months ending in March 2012 and 6 months ending in March 2013
² PDE (primary detail equivalent) calculated using 1.0 weight for a P1 and 0.5 for a P2

Prescribers who do not receive calls account for 75% of the overall OxyContin decline

Absolute change in OxyContin TRx¹ by # of PDEs and market decile

of Rx

of PDEs April 2012 – March 2013

Market Decile	0	0.5 to 4	4 to 8	8 to 12	12 to 16	16 to 24	>24	Totals
10	-5,345	-6,794	-7,383	-1,565	-3,976	-3,974	5,139	-23,899
9	-5,531	-9,632	-2,496	-1,501	-1,181	644	1,345	-18,352
8	-11,513	-5,071	-5,948	-471	-637	2,698	1,486	-19,455
7	-9,427	-7,135	-3,647	-1,879	1,492	1,729	940	-17,926
6	-11,700	-6,273	-78	-911	286	1,396	796	-16,483
5	-19,647	-8,896	-4,929	-1,359	187	1,375	-49	-33,318
4	-23,657	-6,857	-2,389	-197	721	1,047	55	-31,278
3	-29,980	-5,098	-45	1,632	1,027	733	208	-31,523
2	-20,812	4,505	2,817	991	1,252	840	14	-10,394
1	35,986	11,080	6,877	2,776	972	1,475	335	59,501
All	-94,699	-36,674	-14,871	-890	1,141	8,567	10,397	-127,028

1 TRx change measured in absolute terms between 6 months ending in March 2012 and 6 months ending in March 2013

SOURCE: IMS; Purdue sales

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Last Modified 9/13/2013 11:49 AM Eastern Standard Time

Printed 9/13/2013 12:29 PM Eastern Standard Time

PDEs have a significant impact on TRx growth, controlling for decile

% Change in OxyContin TRx¹ by # of PDEs and market decile

Percent (# of prescribers)

of PDEs April 2012 – March 2013

Market Decile	0	0.5 to 4	4 to 8	8 to 12	12 to 16	16 to 24	>24	Totals
10	-30% (41)	-41 (49)	-22% (76)	-4% (81)	-9% (98)	-6% (134)	10% (92)	-9% (571)
9	-26% (110)	-37% (126)	-7% (172)	-4% (190)	-3% (178)	1% (245)	4% (129)	-7% (1150)
8	-37% (240)	-16% (268)	-14% (337)	-1% (406)	-1% (314)	6% (282)	6% (141)	-7% (1,988)
7	-22% (654)	-17% (639)	-7% (711)	-4% (667)	3% (489)	5% (372)	8% (122)	-6% (3,654)
6	-17% (1660)	-11% (1429)	0% (1302)	-2% (1067)	1% (646)	6% (383)	11% (128)	-6% (6,615)
5	-19% (3,954)	-13% (2,672)	-8% (2,137)	-3% (1,309)	1% (631)	9% (391)	-2% (76)	-11% (11,170)
4	-16% (8,677)	-9% (4,548)	-5% (2,797)	-1% (1,447)	5% (608)	16% (278)	4% (60)	-10% (18,415)
3	-16% (19,956)	-7% (7,177)	0% (3,161)	10% (1,338)	17% (472)	24% (229)	38% (33)	-10% (32,366)
2	-11% (53,222)	12% (9,903)	24% (2,815)	21% (903)	79% (313)	133% (107)	- (10)	-4% (67,273)
1	30% (244,773)	134% (15,226)	448% (2,275)	582% (576)	800% (159)	7504% (61)	- (11)	46% (263,081)
All	-10% (343,248)	-8% (42,883)	-4% (15,956)	0% (8,068)	0% (3,935)	3% (2,498)	8% (805)	- (406,283)

¹ TRx change measured in percent terms between 6 months ending in March 2013 and 6 months ending in March 2012

SOURCE: IMS; Purdue sales

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Last Modified 9/13/2013 11:49 AM Eastern Standard Time

Printed 9/13/2013 12:29 PM Eastern Standard Time

For all deciles, increased calls are associated with higher OxyContin TRx growth – a sign of promotional sensitivity

Absolute change in OxyContin TRx¹ per prescriber by # of PDEs and market decile

of Rx

Change in OxyContin TRx per prescriber

Market Decile	# of prescribers	0	0.5 to 4	4 to 8	8 to 12	12 to 16	16 to 24	>24	Totals
10	571	(130.4)	(138.7)	(97.1)	(19.3)	(40.6)	(29.7)	55.9	(41.9)
9	1,150	(50.3)	(76.4)	(14.5)	(7.9)	(6.6)	2.6	10.4	(16.0)
8	1,988	(48.0)	(18.9)	(17.6)	(1.2)	(2.0)	9.6	10.5	(9.8)
7	3,654	(14.4)	(11.2)	(5.1)	(2.8)	3.1	4.6	7.7	(4.9)
6	6,615	(7.0)	(4.4)	(0.1)	(0.9)	0.4	3.6	6.2	(2.5)
5	11,170	(5.0)	(3.3)	(2.3)	(1.0)	0.3	3.5	(0.6)	(3.0)
4	18,415	(2.7)	(1.5)	(0.9)	(0.1)	1.2	3.8	0.9	(1.7)
3	32,366	(1.5)	(0.7)	(0.0)	1.2	2.2	3.2	6.3	(1.0)
2	67,273	(0.4)	0.5	1.0	1.1	4.0	7.9	1.4	(0.2)
1	263,081	0.1	0.7	3.0	4.8	6.1	24.2	30.5	0.2
All	406,283	(0.3)	(0.9)	(0.9)	(0.1)	0.3	3.5	13.0	(0.3)

¹ TRx change measured in absolute terms between 6 months ending in March 2012 and 6 months ending in March 2013

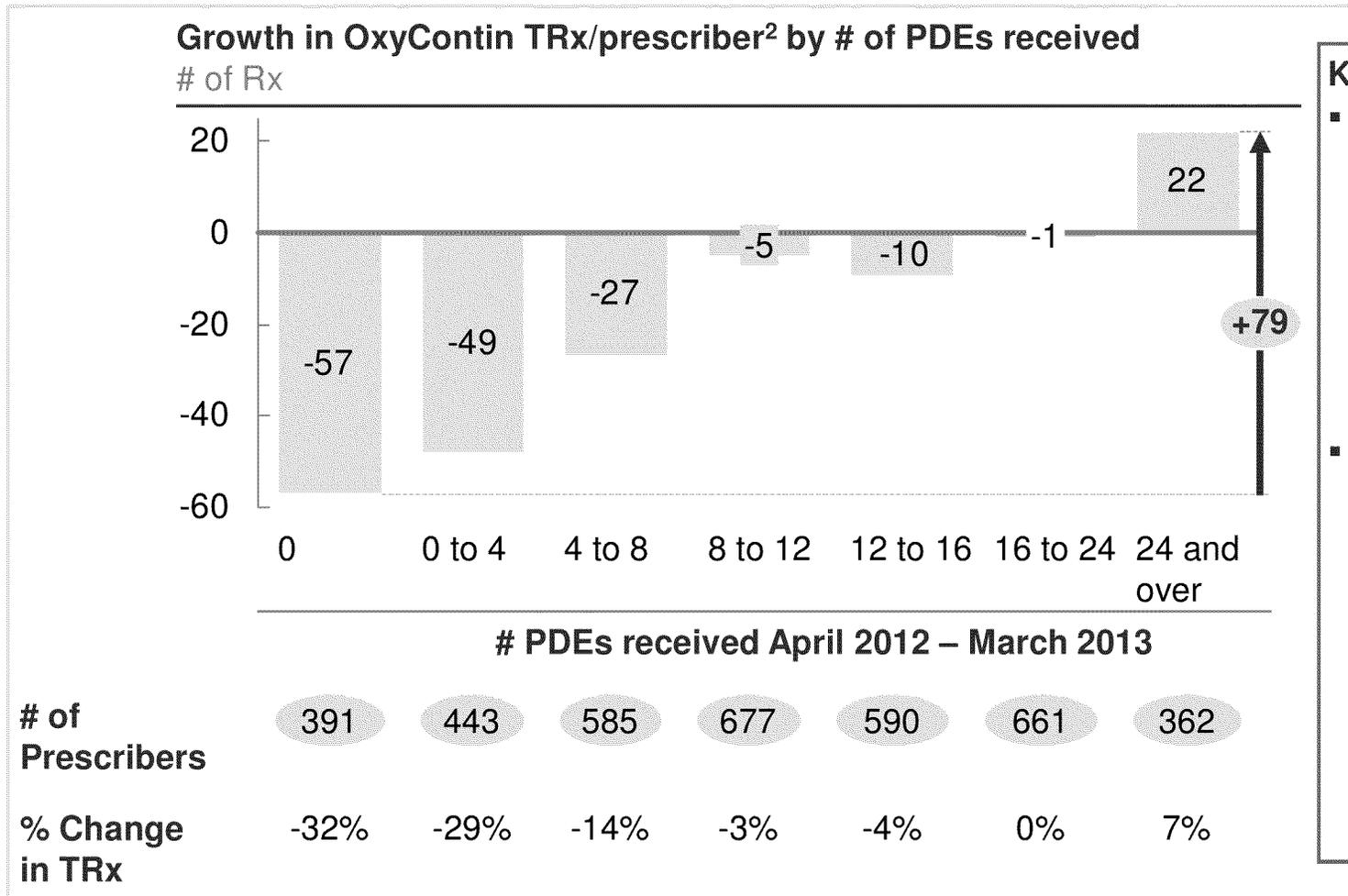
SOURCE: IMS; Purdue sales

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Last Modified 9/13/2013 11:49 AM Eastern Standard Time

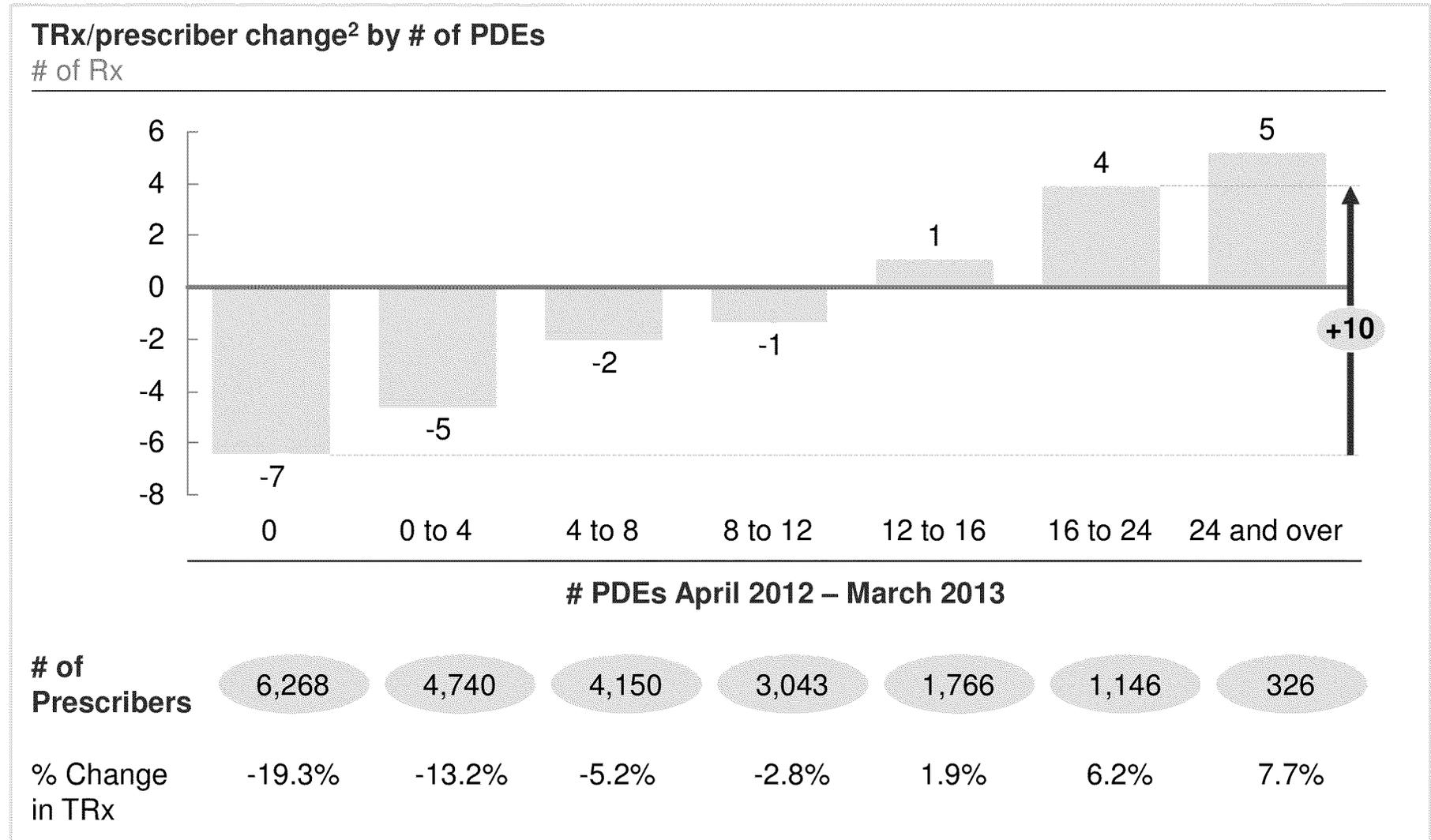
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Increased calls have a significant impact on OxyContin TRx – Market deciles 8 to 10



1 Market decile based on ER-IR market basket as defined by ZS Associates
 2 TRx change measured in percent terms between 6 months ending in March 2013 and 6 months ending in March 2012

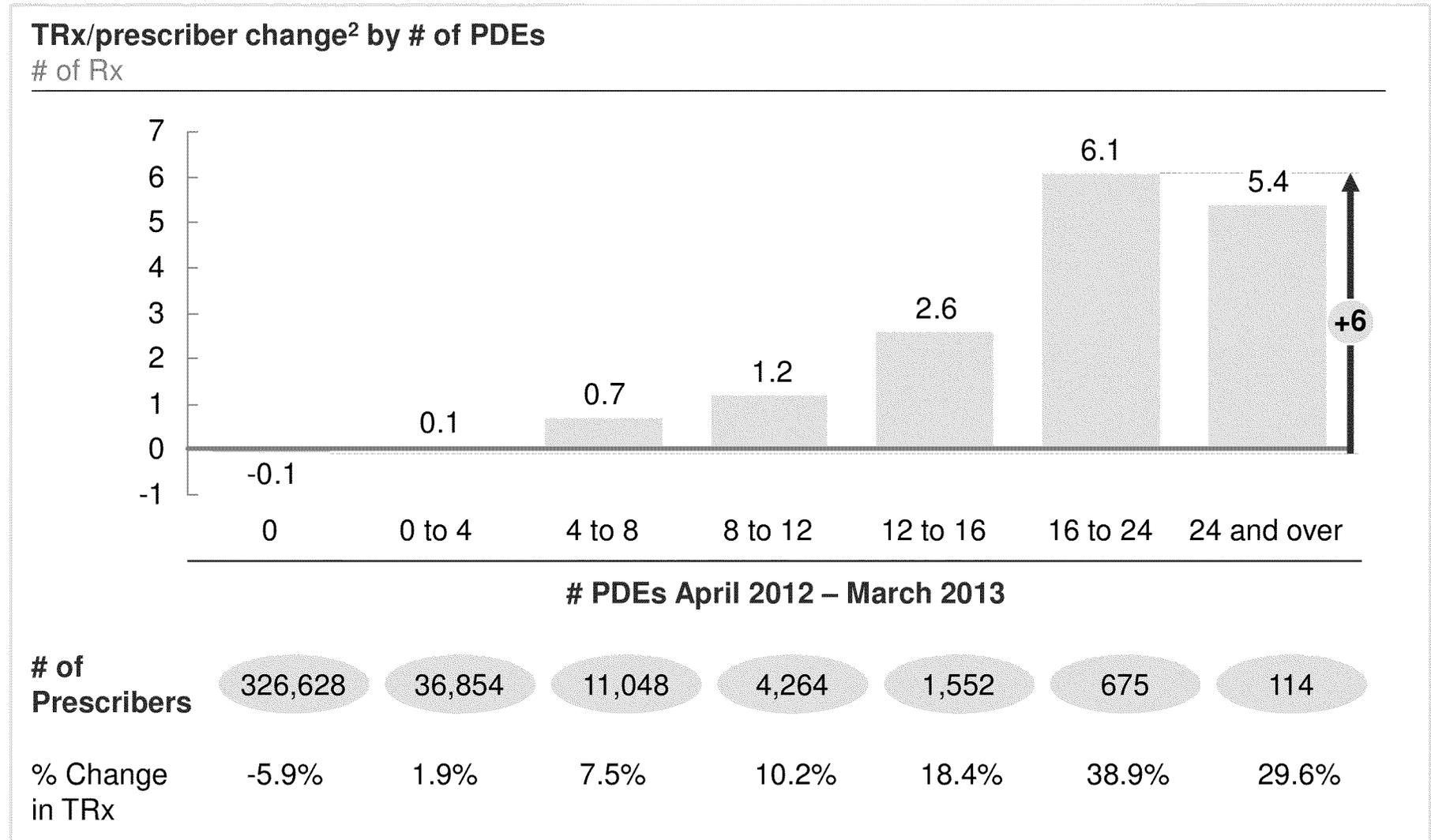
Increased calls have a significant impact on OxyContin TRx – Market deciles 5 to 7



1 Market decile based on ER-IR market basket as defined by ZS Associates

2 TRx change measured in percent terms between 6 months ending in March 2013 and 6 months ending in March 2012

Increased calls have a significant impact on OxyContin TRx – Market deciles 1 to 4



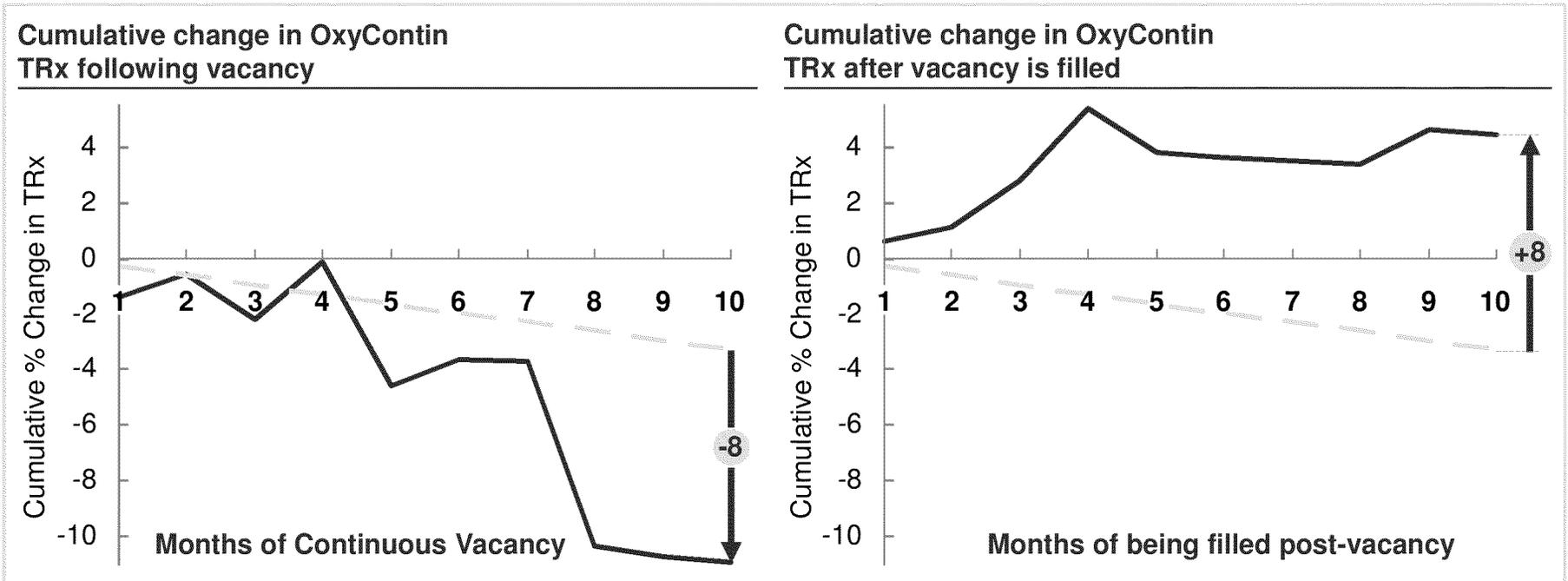
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1 Market decile based on ER-IR market basket as defined by ZS Associates
2 TRx/prescriber change measured between 6 months ending in March 2013 and 6 months ending in March 2012

Vacancy analysis suggests that OxyContin is still responsive to calls

%

--- Overall avg. monthly Oxy TRx trend
 — Avg. change in sample



- After 10 months of vacancy, Oxy TRx falls an average of 8% v. the overall trend; the effect is similar when zips are filled post- vacancy
- Given that the sales force calls on ~54% of OxyContin volume, this is **consistent with a ~15% impact on prescribers actually called**

1 % changes calculated using a weighted average of month TRx change for 8373 zip codes with >100 totalTRx in a 28 month period (Jan 2011 to April 2013)

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Calling on high decile physicians with appropriate frequency can have major impact on OxyContin TRx: physician “natural pilot”

True physician example

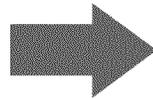


Specialty : **Anesthesiology**
 Location : **Wareham, Massachusetts**
 Market Decile : **8**

	12 months ending March 2012		12 months ending March 2013
Calls made on physician	0 P1 1 P2	➔	18 P1 1 P2
OxyContin scripts written during 2 nd half of year	177	➔	344
OxyContin share of ERO Market	26%	➔	43%

Calls made on physician

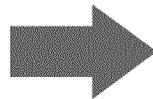
0 P1
1 P2



18 P1
1 P2

OxyContin scripts written during 2nd half of year

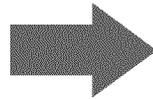
177



344

OxyContin share of ERO Market

26%



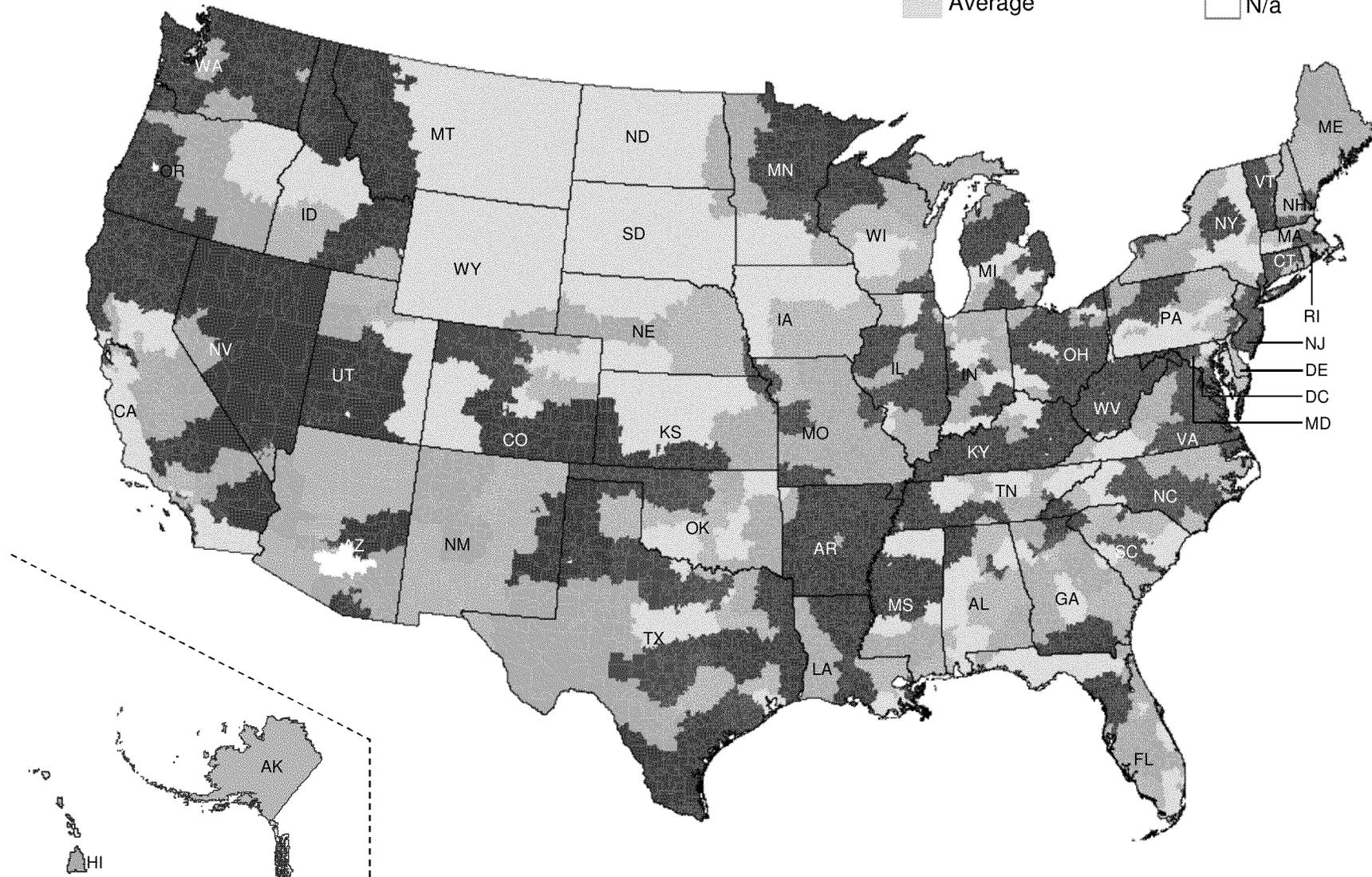
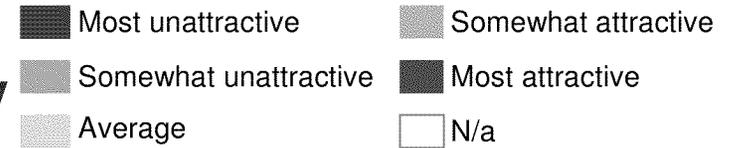
43%

- This physician went from receiving 0 P1s to 18 P1s – this resulted in a 94% increase in TRx
- This is not an isolated case
 - 84 physicians in deciles 7-10 went from receiving <4 PDEs to >14 PDEs
 - These physicians **increased** OxyContin TRx by **39%**, compared to a **17% decline** in physicians that continued to receive <4 PDEs

SOURCE: IMS; Purdue Sales Operations; team analysis

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A number of external factors contribute to patterns of market attractiveness by geography



1 Market attractiveness determined by equally weighting by quintile ranking Gxpenetration, ERO growth, HH income, and managed care access
 2 Analysis conducted on year ending in March 2012 v year ending in March 2013

SOURCE: IMS; I-gallery data; team analysis

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OxyContin performance is largely driven by external market attractiveness factors

Territories (examples)

		OxyContin TRx Growth 2011-2012 ²	
		Above Average	Below Average
Market Attractiveness¹	Most attractive	74 New Haven, CT East Suffolk, NY Virginia Beach, VA	31 Jersey City, NJ Lowell, MA North Chicago, IL
	Somewhat attractive	68 San Jose, CA Drexel Hill, PA Charleston, SC	37 North Atlanta, GA Appleton, WI Dallas South, TX
	Average	61 Boston South, MA Mankato, MN Westminster, CO	42 East Queens, NY Park City, UT Ann Arbor, MI
	Somewhat unattractive	36 Pittsburgh Central, PA Louisville East, KY Oklahoma City, OK	72 Milwaukee South, WI East Baltimore, MD Seattle, WA
	Most unattractive	22 Detroit, MI Bakersfield, CA Las Vegas East, NV	80 Tampa Metro, FL Dayton South, OH Bellingham, WA

¹ Market attractiveness determined by equally weighting by quintile ranking Gx penetration, ERO growth, household income, and managed care access

² Analysis conducted on year ending in March 2012 v year ending in March 2013

Contents

- Market landscape & demand forecast
- Messaging & positioning
- Segmentation & targeting
- **Field focus & execution**
- Access & availability
- Scientific support
- Commercial spend levels
- Patient funnel
- Appendix

Sales force focus and execution findings and implications

Key Findings

- 75% of total OxyContin decline is concentrated in prescribers than Purdue does not call on
 - 2/3 of these prescribers are in high market deciles (5-10)
- More than 50% of OxyContin primary calls are to low-decile (0-4) prescribers
- Decile 5-10 prescribers write on average 25 times more scripts per prescriber than decile 0-4, indicating that a call on decile 5-10 prescribers is likely higher-impact than a call on decile 0-4
- Analysis shows call sensitivity throughout range of PDEs
- Purdue sales force is making only 67% of OxyContin budget P1s (1H 2013)
- Purdue call volume is lower than industry benchmark
- P1 call attainment varies widely across territories
- 45% of OxyContin calls are off-list
- Incentive comp structure for reps is misaligned with Purdue's economics
- The revenue upside from sales re-targeting and adherence could be well over \$100M

Implications/Opportunities

- There is significant opportunity to slow the decline of OxyContin by **calling on more high-value physicians**
- Total OxyContin calls could be increased substantially if all reps **performed the budgeted # of OxyContin calls**
- Any change in targeting will need to be accompanied by a cultural change toward greater **adherence**
- Revision to incentive comp could better align reps to Purdue's economics
- A comprehensive change program for the sales force can capture significant incremental value for Purdue

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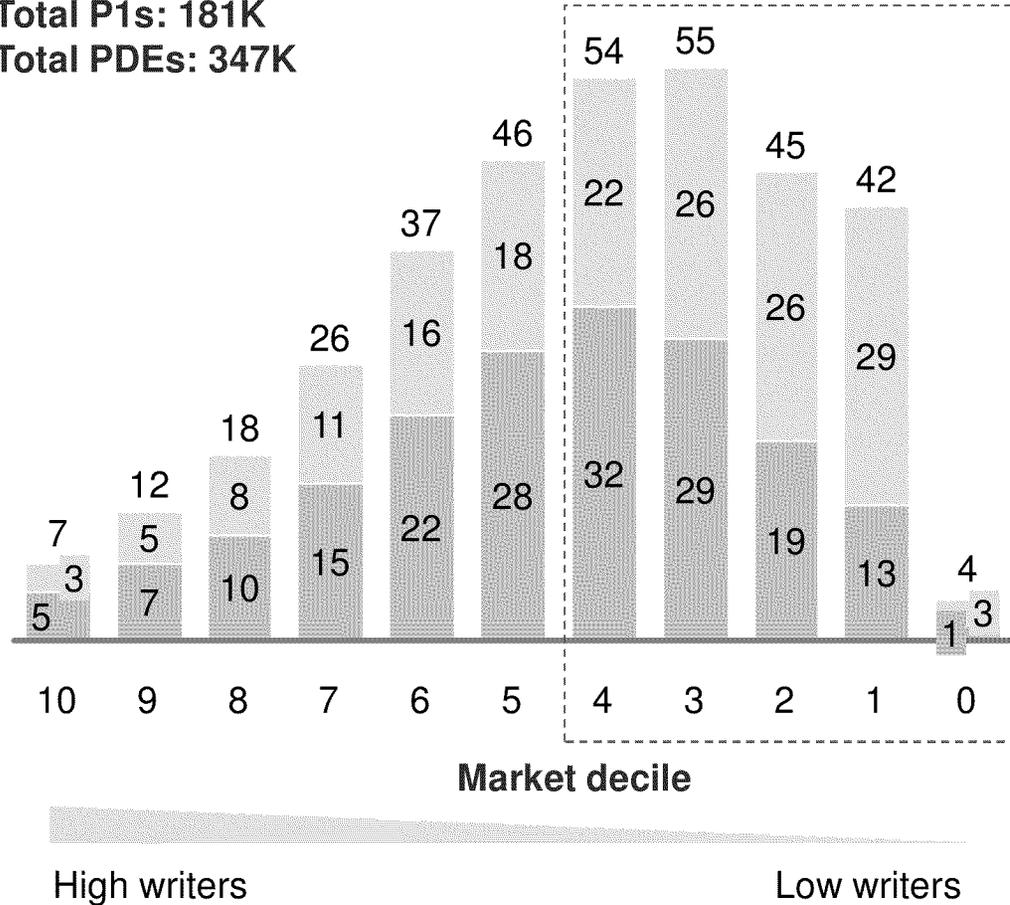
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Currently, over 50% calls are made to low decile prescribers

Secondary details (PDE equiv)¹
 Primary details

Number of OxyContin calls by market decile², annualized based on Q1 2013
 Number of Primary Detail Equivalents (PDEs); thousands

Total P1s: 181K
Total PDEs: 347K

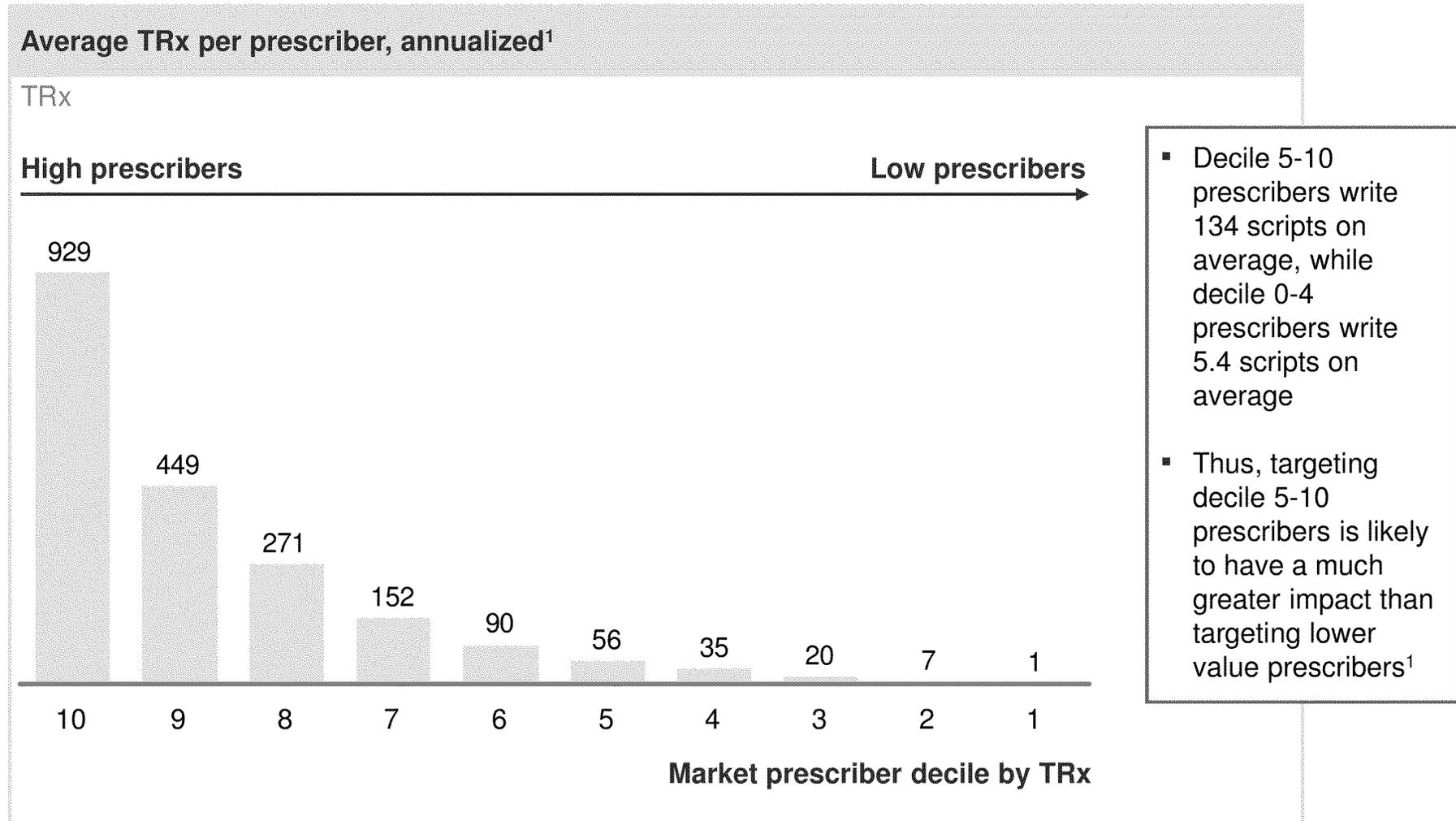


- 52% of OxyContin primary calls (95K) and 57% of primary detail equivalents are made to low-market decile prescribers (0-4)
- Given that there are ~14,000 uncalled physicians in deciles 5-10, there is significant opportunity to shift calls to higher potential prescribers
- Reasons for low-decile calls may include:
 - Lack of access to higher decile prescribers
 - Opportunism
 - KOLs
 - Geographic territory definition
 - Lack of rep call list adherence

¹ PDEs calculated as 1.0 x P1 calls + 0.5 x P2 calls
² Market decile based on ER-IR market basket as defined by ZS Associates

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Decile 5-10 prescribers write on average 25 times more scripts per prescriber than decile 0-4



¹ Based on H2 2012 data