

# TXMD Overview

October 2017



TherapeuticsMD<sup>®</sup>

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TherapeuticsMD.com

# Forward-Looking Statements

This presentation by TherapeuticsMD, Inc. (referred to as “we” and “our”) may contain forward-looking statements. Forward-looking statements may include, but are not limited to, statements relating to our objectives, plans and strategies, as well as statements, other than historical facts, that address activities, events or developments that we intend, expect, project, believe or anticipate will or may occur in the future. These statements are often characterized by terminology such as “believe,” “hope,” “may,” “anticipate,” “should,” “intend,” “plan,” “will,” “expect,” “estimate,” “project,” “positioned,” “strategy” and similar expressions and are based on assumptions and assessments made in light of our managerial experience and perception of historical trends, current conditions, expected future developments and other factors we believe to be appropriate.

Forward-looking statements in this presentation are made as of the date of this presentation, and we undertake no duty to update or revise any such statements, whether as a result of new information, future events or otherwise. Forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties, many of which are outside of our control. Important factors that could cause actual results, developments and business decisions to differ materially from forward-looking statements are described in the sections titled “Risk Factors” in our filings with the Securities and Exchange Commission, including our most recent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, as well as Current Reports on Form 8-K, and include the following: our ability to resolve the deficiencies identified by the FDA in our new drug application for our TX-004HR product candidate and the time frame associated with such resolution; whether the FDA will agree with our proposal to resubmit an amended NDA for our TX-004HR product candidate; whether we will be able to prepare an amended NDA for our TX-004HR product candidate and, if prepared, whether the FDA will accept and approve the NDA; our ability to maintain or increase sales of our products; our ability to develop, protect and defend our intellectual property; our ability to develop and commercialize our hormone therapy drug candidates and obtain additional financing necessary therefor; whether we will be able to prepare an NDA for our TX-001HR product candidate and, if prepared, whether the FDA will accept and approve the NDA; the length, cost and uncertain results of our clinical trials; the potential of adverse side effects or other safety risks that could preclude the approval of our hormone therapy drug candidates; our reliance on third parties to conduct our clinical trials, research and development and manufacturing; the availability of reimbursement from government authorities and health insurance companies for our products; the impact of product liability and other lawsuits; the influence of extensive and costly government regulation; the volatility of the trading price of our common stock and the concentration of power in our stock ownership.

TX-004HR, TX-001HR, TX-005HR, and TX-006HR are investigational drugs and are not approved by the FDA. This non-promotional presentation is intended for investor audiences only.

*PDF copies of press releases and financial tables can be viewed and downloaded at our website:  
[www.therapeuticsmd.com/pressreleases.aspx](http://www.therapeuticsmd.com/pressreleases.aspx).*

# TherapeuticsMD<sup>®</sup> (TXMD)

**Innovative women's health company** exclusively focused on developing and commercializing products for women throughout their life cycles





Drug candidate portfolio is built on **SYMBODA™** technology for the solubilization of bio-identical female hormones

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# Two Late Stage Women's Health Assets With Large Total Addressable Market Opportunities

	TX-004HR	TX-001HR
		
<b>Proposed Indication</b>	Moderate to severe dyspareunia, a symptom of VVA, due to menopause	Moderate to severe hot flashes due to menopause
<b>Condition Description</b>	VVA due to Menopause	Menopause
<b>Active Ingredients</b>	Bio-Identical 17 $\beta$ -Estradiol	Bio-Identical 17 $\beta$ -Estradiol + Bio-Identical Progesterone
<b>Form</b>	Vaginal softgel capsule	Oral softgel capsule
<b>Key Value Proposition</b>	Easy to use, negligible systemic exposure, designed to support long-term use	Potential first and only bio-identical FDA-approved combination product
<b>Affected US Population</b>	32 million women <sup>1,2</sup>	36 million women <sup>3</sup>
<b>US TAM Opportunity</b>	>\$20B <sup>5</sup>	>\$25B <sup>4,5</sup>
<b>Status</b>	Complete Response Letter: May 5, 2017 Ongoing Review Meeting: Nov. 3, 2017	Positive Phase 3 topline data NDA submission expected 4Q17

1) The North American Menopause Society. Management of symptomatic vulvovaginal atrophy: 2013 position statement of The North American Menopause Society.

*Menopause.* 2013;20(9):888–902.

2) Gass ML, Cochrane BB, Larson JC, et al. Patterns and predictors of sexual activity among women in the hormone therapy trials of the Women's Health Initiative.

*Menopause.* 2011;18(11):1160–1171.

3) Derived from U.S. Census data

4) Based on pre-WHI annual scripts of FDA-approved HT products

5) Based on market pricing of current FDA-approved HT products

# Significant Catalysts Within Next 12 Months

**November 3, 2017**

Face to face meeting with the FDA to discuss regulatory path forward for TX-004HR



**TX-004HR**



**November 2017**

Potential resubmission of the NDA for TX-004HR

**January 2018**

Potential approval of the NDA for TX-004HR\*

**2Q2018**

Potential launch of TX-004HR

**December 2017**

Planned NDA submission for TX-001HR

**February/March 2018**

Receipt of 74 Day Letter acknowledging acceptance of the NDA for TX-001HR\*\*

**October 2018**

Potential approval of the NDA for TX-001HR\*\*



**TX-001HR**



\*Assumes November resubmission and Class 1 resubmission designation by the FDA

\*\*Assumes December 2017 NDA submission and 10-month 505(b)(2) review timeline

# Complete Financing Strategy In Place

## Phase 1

### Equity Financing

- \$68.5M equity offering, closed on September 28<sup>th</sup>
- Secures near term financing needs for TX-004HR launch, if approved
- Strengthens Phase 2 debt financing negotiating position

## Phase 2

### Term Loan Debt Financing

- Targeting commitments of \$150-200M in debt financing in 4Q17
- Anticipate first draw of debt financing following approval of TX-004HR or TX-001HR
- Secures medium term financing needs for TX-004HR and TX-001HR launches, if approved

## Phase 3

### Partnership Opportunities

- Potential for upfront payments and royalty revenue streams to further support additional product opportunities

**Phase 1 and Phase 2 provide potential access to >\$300M of capital to support commercialization of TX-004HR and TX-001HR\***

\*Includes cash and cash equivalents on hand

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# Seasoned Management Team with a Proven Track Record of Commercial Execution

Tommy Thompson

Chairman of the Board



- Former U.S. Secretary of Health and Human Services (2001-2005)
- Holds multiple board memberships, including Centene and United Therapeutics
- 40-year public health career

Angus Russell

Board Member



- Former Chief Executive Officer and Chief Financial Officer of Shire PLC
- Former Vice President of Corporate Finance at AstraZeneca
- Holds multiple board memberships, including Chairman of Revance Therapeutics

J. Martin Carroll

Board Member



- Former President and Chief Executive Officer of Boehringer Ingelheim (U.S.)
- Former EVP of Customer Marketing and Sales of U.S. Human Health at Merck
- Holds multiple board memberships, including Catalent

Robert Finizio  
CEO,  
Co-Founder,  
and Director



- Co-founded vitaMedMD in 2008
- Co-founded CareFusion (Sold to Cardinal Health in 2006)
- 22 years of experience in early stage healthcare company development

Brian Bernick, MD  
Chief Clinical  
Officer,  
Co-Founder



- Co-founded vitaMedMD in 2008
- 25 years of experience in healthcare/women's health
- Past OBGYN Department Chair - Boca Raton Regional Hospital
- Past ACOG Committee Member
- OBGYN - trained University of Pennsylvania

Sebastian Mirkin, M.D.  
Chief Medical  
Officer



- Former Clinical Lead of Women's Health at Pfizer
- 15+ years of experience developing women's health products
- Reproductive endocrinologist & infertility specialist

John Milligan

President



- Co-founded CareFusion
- Held executive sales and operation management positions at McKesson, Cardinal and Omnicell
- 20+ years of operations experience

Dan Cartwright

Chief Financial  
Officer



- Former CFO of American Wireless, Telegeography, and WEB Corp
- Participated in American Wireless/Arush Entertainment merger
- Former KPMG and PricewaterhouseCoopers accountant

Dawn Halkuff  
Chief  
Commercial  
Officer



- 20+ years of commercial and marketing experience
- SVP of the Pfizer Consumer Healthcare Wellness Organization
- Commercial lead for sales and marketing of the Pfizer Women's Health Division
- Head of Global Innovation at Weight Watchers International

Jason Spitz  
VP,  
Marketing



- 25+ years of pharmaceutical marketing, sales, and operations experience
- Led commercialization of anti-estrogens/estradiol, breast cancer, and ovarian cancer drugs

Julia Amadio

Chief Product  
Officer



- 25+ years of women's health pharmaceutical experience
- Product development leader for J&J, Wyeth, Aventis, and others
- Worked on development of Prempro®, Premphase®, and Estalis®

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**TX-004HR**  
Vulvar and  
Vaginal Atrophy (VVA)  
Program



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# Vulvar and Vaginal Atrophy (VVA)

- **Chronic** and **progressive** condition characterized by thinning of vaginal tissue from decreased estrogen levels
- Diagnosed in approximately 50% of postmenopausal women<sup>1</sup>
- Primary symptom = dyspareunia (painful intercourse)
- Secondary symptoms include: vaginal dryness, itching, irritation, bleeding with sexual activity, dysuria, urgency, frequency, recurrent UTIs, and incontinence
- Current treatments include: prescription creams, tablets, and rings in addition to over-the-counter lubricants

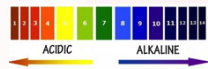
## Healthy Vaginal Tissue

Superficial cells: >15%

Intermediate cells: 80%

Parabasal cells: < 5%

pH: < 5



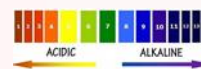
## Atrophic Vaginal Tissue

<5%

60%

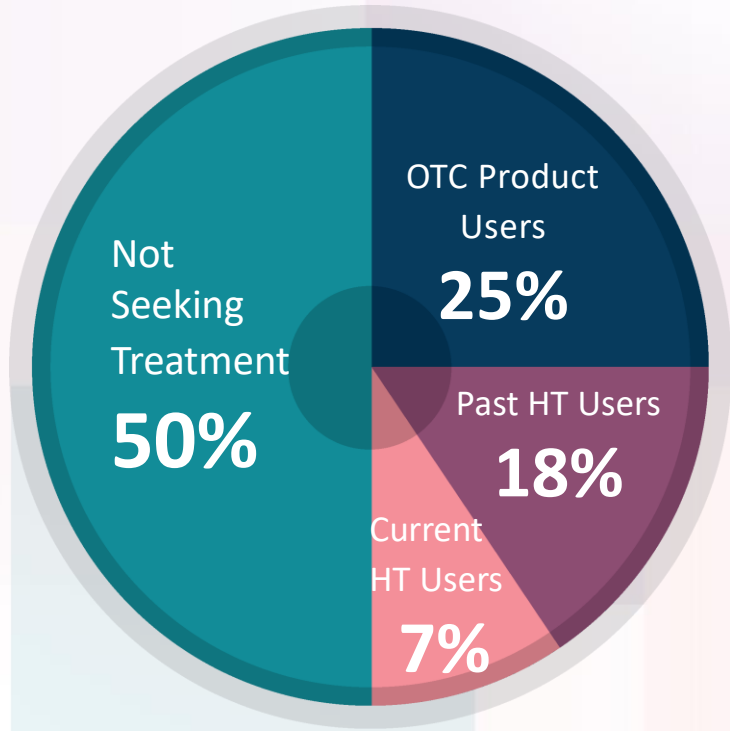
>30%

> 5



1) Kingsberg, Sheryl A., et al. "Vulvar and Vaginal Atrophy in Postmenopausal Women: Findings from the REVIVE (REal Women's Views of Treatment Options for Menopausal Vaginal ChangEs) Survey." International Society for Sexual Medicine 2013, no. 10, 1790-1799.

# Current US VVA Market Overview



**>\$20B Branded Total US Market Opportunity<sup>5</sup>**

## 32M Women with VVA Symptoms<sup>1,2</sup>

*~50%, or ~16M seek treatment for VVA<sup>4</sup>*

- **Only 7%, or ~2.3M women**, are currently being treated today with Rx hormone therapy (HT)<sup>3</sup>
  - Long-term safety concerns<sup>6</sup>
  - Efficacy<sup>6</sup>
  - Messiness<sup>6</sup>
  - Need for applicator<sup>6</sup>
- **18%, or ~5.7M women**, are **past HT users** and were unsatisfied/unsuccessful with past treatments<sup>4</sup>
- **25%, or ~8M women**, are **users of OTC products\*** such as lubricants that do not treat the underlying pathological cause of VVA nor halt or reverse symptoms<sup>4</sup>

*~50%, or ~16M women do not seek treatment for VVA<sup>4</sup>*

- Lack of awareness that VVA is a treatable condition
- Estrogen exposure concerns

1) The North American Menopause Society. Management of symptomatic vulvovaginal atrophy: 2013 position statement of The North American Menopause Society. *Menopause*. 2013;20(9):888–902.

2) Gass ML, Cochrane BB, Larson JC, et al. Patterns and predictors of sexual activity among women in the hormone therapy trials of the Women's Health Initiative. *Menopause*. 2011;18(11):1160–1171.

3) IMS Health Plan Claims (April 2008-Mar 2011).

4) TherapeuticsMD "EMPOWER" Survey, 2016

5) Based on current FDA-approved market pricing













6) Wysocki, S et al, Management of Vaginal Atrophy: Implications from the REVIVE Survey. *Clinical Medicine Insights: Reproductive Health* 2014;8 23-30 doi:10.4137/CMRH.S1449

\* Not treated with an FDA approved Rx product. OTC products do not effectively treat the underlying pathological causes of VVA and therefore do not halt or reverse the progression of this condition.

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# Current FDA-Approved VVA Products

Products	Estrace Cream®	Premarin Cream®	Vagifem®	Estring®	Osphena®	Intrarosa®
						
						
FDA Approval	1984	1978	1999	1996	2013	2016
TRx Dollars 2016 <sup>1</sup>	\$511,035,880	\$505,351,340	\$502,715,665 <sup>a</sup>	\$105,040,703	\$72,755,311	Approved 11/2016
Method of Admin	Vaginal Cream	Vaginal Cream	Vaginal Tablet	Ring	Oral Tablet	Vaginal Insert
Application	Reusable Vaginal Applicator	Reusable Vaginal Applicator	Vaginal Applicator	90-day Ring	Oral Daily SERM	Vaginal Applicator
Active Ingredient	100 mcg Estradiol	625 mcg/g Conjugated Equine Estrogens	10 mcg Estradiol	2,000 mcg Estradiol	60,000 mcg Ospemifene	6,500 mcg Prasterone
Average Maintenance Dose	100 mcg 2x/week	312.5 mcg 2x/week	10 mcg 2x/week	7.5 mcg daily	60,000 mcg daily	6,500 mcg daily
Onset of Action* Dyspareunia	Approval Without Dyspareunia and Dryness Data	Week 4+	Week 8	Approval Without Dyspareunia and Dryness Data	Week 12	Week 6
Onset of Action* Dryness		Not Demonstrated			Approval Without Dryness Data	Week 12

Based on Product Prescribing Information  
Not Head-to-Head Comparative Studies

\*Onset of Action = First efficacy observation

1. Symphony Health Solutions PHAST Data powered by IDV; Annual 2016

a. 2016 Vagifem and Yuvaferm (authorized generic of Vagifem)

Vagifem [package label] <http://www.novo-pi.com/vagifem.pdf>

Premarin Vaginal Cream [package label] <http://labeling.pfizer.com/showlabeling.aspx?id=132>

Estrace Vaginal Cream [package label] [http://pi.actavis.com/data\\_stream.asp?product\\_group=1880&p=pi&language=E](http://pi.actavis.com/data_stream.asp?product_group=1880&p=pi&language=E)

Osphena [package label] [http://www.accessdata.fda.gov/drugsatfda\\_docs/label/2013/203505s000lbl.pdf](http://www.accessdata.fda.gov/drugsatfda_docs/label/2013/203505s000lbl.pdf)

Intrarosa [package label] [http://www.accessdata.fda.gov/drugsatfda\\_docs/label/2016/208470s000lbl.pdf](http://www.accessdata.fda.gov/drugsatfda_docs/label/2016/208470s000lbl.pdf)

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# Compliance and Fills Per Year Drives Top-Line Revenue

## Current VVA Market

### Vaginal Creams:

**Average:  
1.5 Fills Per Year<sup>2</sup>**



Estrace



Premarin

### Reasons Women Stop

Messiness<sup>1</sup>

Reusable Applicator<sup>1</sup>

Long-term Safety<sup>1</sup>

Dose Preparation by User Required<sup>3</sup>

### Vaginal Tablets:

**Average:  
3.5 Fills Per Year<sup>2</sup>**



Vagifem

### Reasons Women Stop

Efficacy<sup>1</sup>

Applicator<sup>1</sup>

Long-term Safety<sup>1</sup>

Systemic Absorption<sup>1</sup>

Product	TRx Dollars <sup>4</sup>	Patient Count <sup>5</sup>	Patient Share <sup>5</sup>
Estrace	\$511,035,880	868,052	39%
Premarin	\$505,351,340	750,185	34%
Vagifem/Yuvafem	\$502,715,665	433,187	20%

- Higher average fills per year enable Vagifem/Yuvafem to generate equal revenue as Premarin and Estrace with significantly less patients on therapy

1) Wysocki, S et al, Management of Vaginal Atrophy: Implications from the REVIVE Survey. *Clinical Medicine Insights: Reproductive Health* 2014;8 23-30 doi:10.4137/CMRH.S14498

2) Total Rx/Patient Count

3) The North American Menopause Society. Management of symptomatic vulvovaginal atrophy: 2013 position statement of The North American Menopause Society. *Menopause*. 2013;20(9):888-902.

4) Symphony Health Solutions PHAST Data powered by IDV; Annual 2016

5) IMS SDI's Total Patient Tracker; Annual 2016

# TX-004HR: Product Candidate Profile



- First vaginal estrogen (4 mcg and 10 mcg) with negligible systemic exposure
- Strong efficacy data on both dyspareunia and vaginal dryness with a 2-week onset of action
- Small, digitally inserted, rapidly dissolving softgel capsule without the need for an applicator
- Fraction of the dose (4 mcg, 10 mcg and 25 mcg) of many existing products (Premarin and Estrace)
- No patient education required for dose preparation or applicators
- Mechanism of action and dosing that is familiar and comfortable
- Proposed dose packaging to optimize compliance and convenience
- Strong patent estate with patent expirations starting 2032

# Co-Primary and Key Secondary Efficacy Endpoints

	4 mcg	10 mcg	25 mcg
Superficial Cells	<0.0001	<0.0001	<0.0001
Parabasal Cells	<0.0001	<0.0001	<0.0001
Vaginal pH	<0.0001	<0.0001	<0.0001
Severity of Dyspareunia	0.0149	<0.0001	<0.0001
Severity of Vaginal Dryness	0.0014	<0.0001	<0.0001

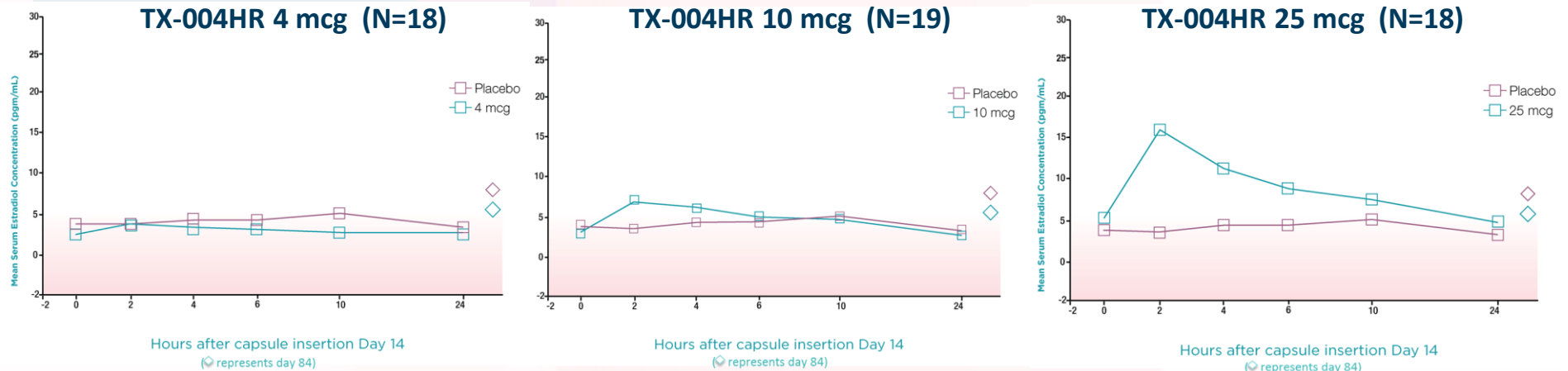
MMRM P-value vs placebo LS = Least Squares

## Arithmetic Mean Estradiol Serum Concentrations – Unadjusted

TX-004HR 4 mcg (N=18)

TX-004HR 10 mcg (N=19)

TX-004HR 25 mcg (N=18)



	AUC <sub>0-24</sub> (pg.h/mL)	C <sub>avg(0-24)</sub> (pg/mL)		AUC <sub>0-24</sub> (pg.h/mL)	C <sub>avg(0-24)</sub> (pg/mL)		AUC <sub>0-24</sub> (pg.h/mL)	C <sub>avg(0-24)</sub> (pg/mL)
<b>4 mcg</b>	87.22 (42.77)	3.634 (1.78)	<b>10 mcg</b>	110.14 (54.57)	4.58 (2.27)	<b>25 mcg</b>	171.56 (80.13)	7.14 (3.33)
<b>Placebo (pl)</b>	104.16 (66.38)	4.34 (2.76)	<b>Placebo (PI)</b>	104.16 (66.38)	4.34 (2.76)	<b>Placebo (PI)</b>	104.16 (66.38)	4.34 (2.76)
<b>P-value vs PI</b>	0.3829	0.3829	<b>P-value vs PI</b>	0.7724	0.7724	<b>P-value vs. PI</b>	0.0108	0.0108

# TX-004HR New Drug Application (NDA) Background

- **Type of Filing**
  - 505(b)(2)
  - Ability to reference non-clinical and clinical safety data for estrogen available in medical literature
- **FDA Guidance**
  - 12-week study required for estrogen alone products
    - “We recommend that studies be randomized, double-blinded and of 12-week duration”<sup>1</sup>
  - Lowest effective doses and exposures are prioritized
    - “Sponsors are encouraged to investigate dosing schedules and drug delivery systems that can achieve efficacy with lowest possible exposures”<sup>1</sup>
- **Established Precedent – Recent Estrogen Alone FDA Approvals**
  - Numerous estrogen alone products have been approved with 12-week endometrial safety data
    - Divigel, Evamist, Elestrin

**TX-004HR has the lowest estrogen dose ever tested in an FDA-approved clinical trial**

1. 2003 FDA Draft Guidance for Industry Estrogen and Estrogen/Progestin Drug Products to Treat Vasomotor Symptoms and Vulvar and Vaginal Atrophy Symptoms – Recommendations for Clinical Evaluation  
<http://www.fda.gov/ucm/groups/fdagov-public/@fdagov-drugs-gen/documents/document/ucm071643.pdf>

# TX-004HR Complete Response Letter (CRL)

- NDA for TX-004HR received a CRL on May 5, 2017
- There was **one approvability issue** identified by the FDA:
  - Lack of long-term endometrial safety data beyond the 12 weeks studied in the Rejoice Trial
    - *No cases of endometrial hyperplasia were observed in the Rejoice Trial at the end of week 12 for all doses studied and included in the NDA*
- There were **no approvability issues** identified by the FDA related to:
  - Clinical efficacy studied in the Rejoice Trial
  - Chemistry, Manufacturing, and Controls (CMC)



# TX-004HR Regulatory Update

- Type A Meeting with the FDA – directors of the Division of Bone, Reproductive, and Urologic Products (DBURP) and the Office of Drug Evaluation III (ODE III) - **June 14, 2017**
- Submitted additional endometrial safety information to the FDA - **July 5, 2017**
  - Information on the “First Uterine Pass Effect”
    - Currently marketed estrogen products, when placed in the upper third of the vagina, can pass to the endometrium
    - TX-004HR was specifically designed to be placed in the lower third of the vagina, decreasing the likelihood of stimulating the endometrial tissue
  - Safety data from the Women’s Health Initiative (WHI) Observational Study of long-term, real-world users of vaginal estrogens
- Received formal General Advice Letter – **August 3, 2017**
  - Initial review of the additional endometrial safety information submitted completed by the FDA
    - The FDA requested that TXMD submit the additional endometrial safety information to the NDA for TX-004HR, including the WHI Observational Study, to aid in its comprehensive review of the medical literature regarding the use of vaginal estrogen products and the risk of endometrial hyperplasia or cancer
    - The FDA requested a November meeting with TXMD to discuss the outcome of its comprehensive review and the next steps for the NDA for TX-004HR

# Potential CRL Resolution Pathways

- Submit the additional endometrial safety information to the NDA for TX-004HR on or before September 18, 2017 → **Submitted on September 14, 2017**
  - The safety data from the WHI Observational Study was published in the peer-reviewed medical journal, *Menopause*, on August 16, 2017
- Meeting set with the FDA – **November 3, 2017**
  - The company expects to learn if the additional endometrial safety data submitted to the NDA for TX-004HR addresses the lack of long-term safety identified in the CRL

## Resubmission Pathway

- Resubmit amended NDA
    - Establish new target action date
  - If Class 1 Resubmission, approval decision within 60 days of resubmission
  - If Class 2 Resubmission, approval decision within 180 days of resubmission
  - 1Q18/2Q18 approval (if successful)
- Reserve the right to pursue the FDA's formal dispute resolution process if a reasonable resubmission timeline cannot be established

# Women's Health Initiative Observational Study

- First ever study to evaluate the long-term safety of women using only U.S. FDA-approved vaginal estrogen products
  - 2,953 users of vaginal estrogen without progestin with an intact uterus
  - Median duration of use of 2-3 years and median duration of follow-up of 7.2 years, representing over 21,000 patient years of data
  - Risks of breast cancer, endometrial cancer, colorectal cancer, stroke, and pulmonary embolism/deep vein thrombosis were not statistically significant between vaginal estrogen users and nonusers
    - *11 total cases of endometrial cancer*

## Breast cancer, endometrial cancer, and cardiovascular events in participants who used vaginal estrogen in the Women's Health Initiative Observational Study

*Carolyn J. Crandall, MD, MS,<sup>1</sup> Kathleen M. Hovey, MS,<sup>2</sup> Christopher A. Andrews, PhD,<sup>3</sup> Rowan T. Chlebowski, MD, PhD,<sup>4</sup> Marcia L. Stefanick, PhD,<sup>5</sup> Dorothy S. Lane, MD, MPH,<sup>6</sup> Jan Shifren, MD,<sup>7</sup> Chu Chen, PhD,<sup>8</sup> Andrew M. Kaunitz, MD,<sup>9</sup> Jane A. Cauley, DrPH,<sup>10</sup> and JoAnn E. Manson, MD, DrPH<sup>11</sup>*

# Focus on Three Main Fundamental Levers to Drive TX-004HR Launch, If Approved

## Drive Market Share

Differentiate TX-004HR as new treatment option that redefines relief



## Targeted Market Expansion

Elevate importance of VVA by demonstrating true impact of disease



## Market Growth Through Compliance



Build a differentiated national care model for successful diagnosis, treatment, and management of symptoms of VVA caused by menopause

## Commercial Execution

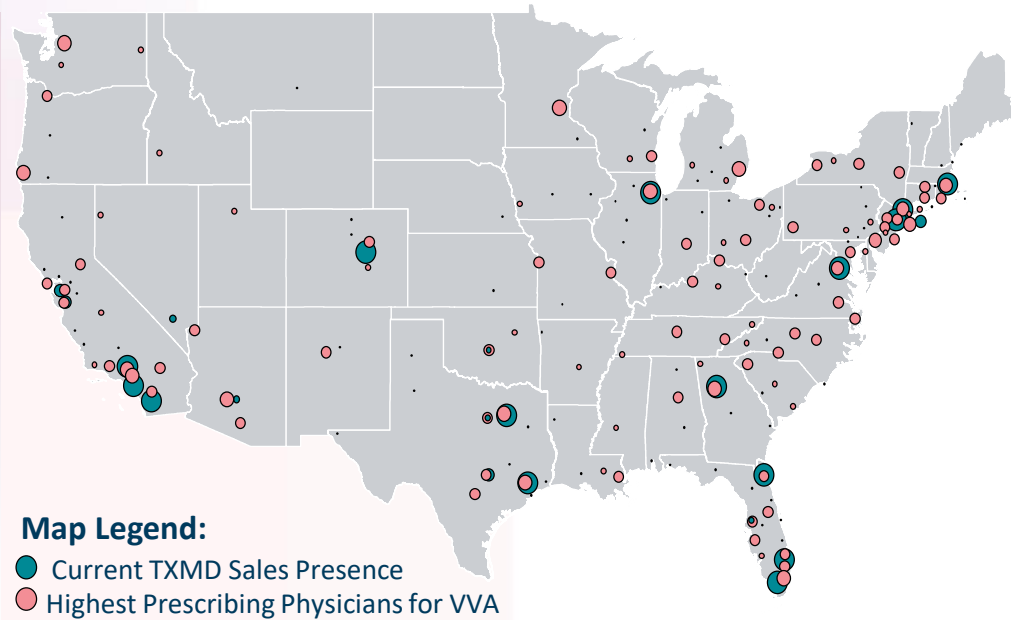
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# Foundation Already Built for a Strong Launch

## TXMD Sales Force Currently in OB/GYN Offices

- 40% overlap with current prenatal vitamins business
- Currently calling on VVA targets with disease awareness campaign
- Planned sales force of 100 in place prior to launch
- Partnership with inVentiv, leading contract sales organization
- Operational and analytic systems

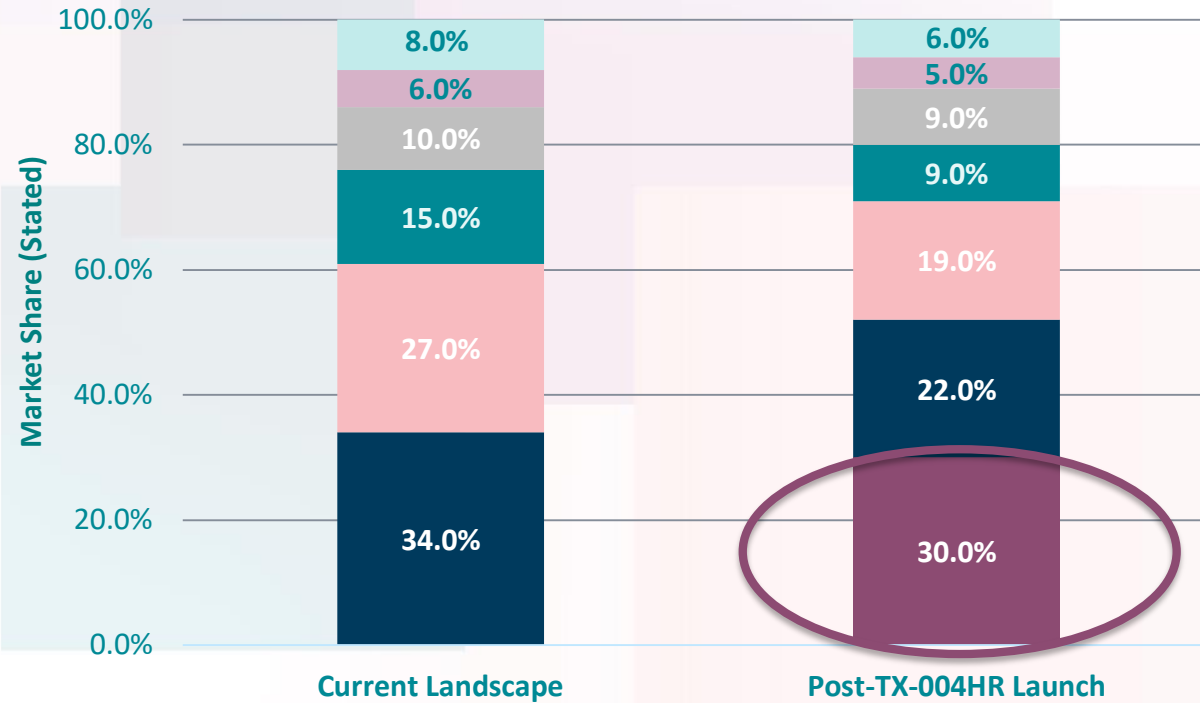


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# HCPs Estimate Giving TX-004HR 30% Market Share

*HCP Stated Preference Share*  
(Adjusted Percent of Prescriptions, n = 400 HCPs)



- Large share gains from 3 largest competitors
- Set attainable 3-5 year company launch goals

■ TX-004HR 
 ■ Premarin Cream 
 ■ Estrace Cream 
 ■ Vagifem 
 ■ Osphena 
 ■ Estring 
 ■ Other

# Increasing Compliance Through National Care Model Represents TXMD Core Competency

## Prenatal Vitamins Market

- Market Dynamics:
  - No Drug Claims
  - 9 month condition
- Industry Average Patient Compliance:
  - 2.5 fills per pregnancy
- TXMD Compliance with National Care Model:
  - 8 fills per pregnancy

## VVA Market

- Market Dynamics:
  - Clinical and physical product differentiation
  - Chronic, progressive condition
- Industry Average Patient Compliance:
  - Vaginal Creams: 1.5 fills per year
  - Vaginal Tablets: 3.5 fills per year
- Potential Compliance with National Care Model:
  - Greater than 4 fills per year



# Compliance and Fills Per Year Drives TX-004HR Net Revenue at Year 5 of Launch

Year 5 Assumptions	
Total VVA Patients on HT <sup>1</sup>	2,218,252
TX-004HR Market Share	30%
TX-004HR Patients	665,000
WAC of Loading Dose	\$ 382.86
WAC of Maintenance Dose	\$ 170.16
Average Rebate per Rx	30%

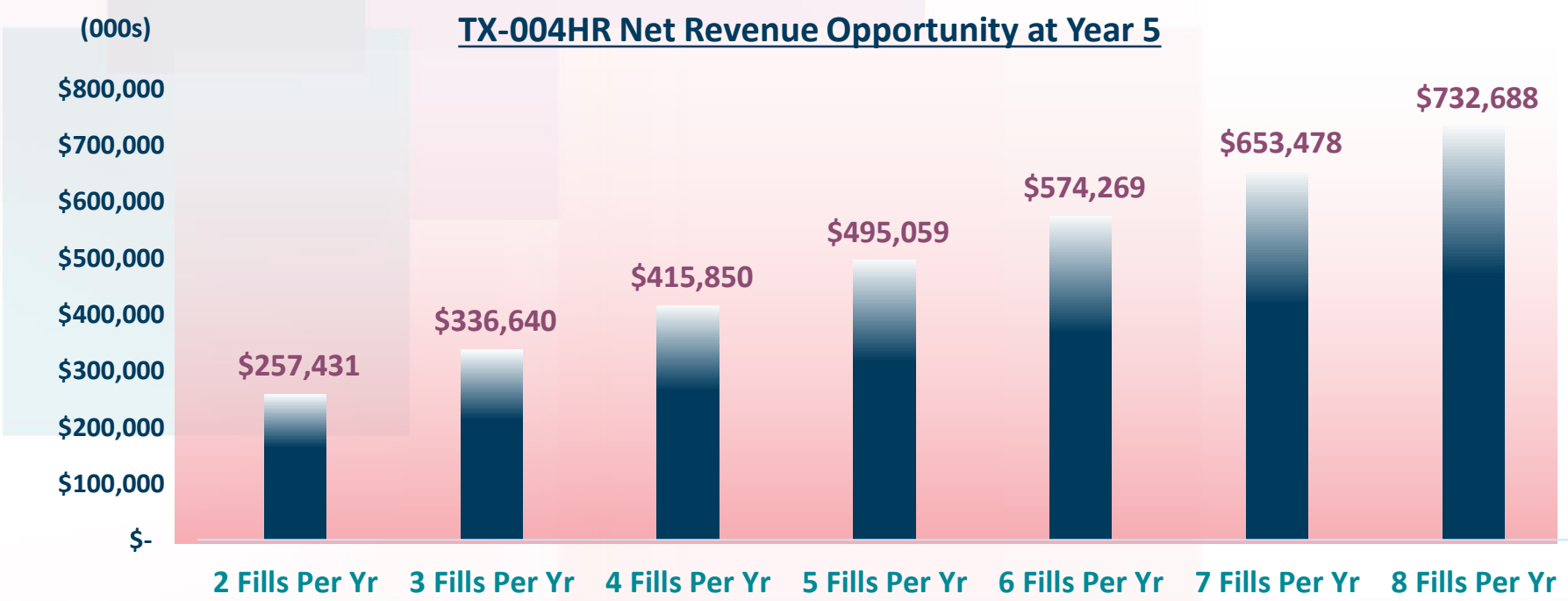


Zero market growth



Parity pricing - Vagifem  
Zero price increases

TX-004HR Net Revenue Opportunity at Year 5



1) IMS SDI's Total Patient Tracker; Annual 2016



# Payers are Continuing to Provide Choice

## 80% of Payers Prefer 2+ Products

VVA Category		Estrace Cream	Estring	Osphena	Premarin Cream	Vagifem
Payers	Lives	Univ. Status	Univ. Status	Univ. Status	Univ. Status	Univ. Status
Express Scripts PBM	28,411,137	Preferred	Covered	Covered	Preferred	Preferred
CVS Caremark RX	25,490,409	Preferred	Covered	Preferred	Preferred	Preferred
UnitedHealth Group, Inc.	15,606,808	Covered	Preferred	Covered	Covered	Preferred
Anthem, Inc.	14,307,637	Preferred	Preferred	Covered	Preferred	Covered
OptumRx	9,508,973	Covered	Covered	Covered	Preferred	Covered
Aetna, Inc.	9,265,194	Covered	Covered	Covered	Preferred	Covered
Department of Defense - TRICARE	7,004,961	Preferred	Preferred	Preferred	Preferred	Preferred
Kaiser Foundation Health Plans, Inc.	6,610,331	Preferred	Preferred	Not Covered	Preferred	Not Covered
CIGNA Health Plans, Inc.	6,375,734	Covered	Preferred	Covered	Preferred	Covered
Blue Cross Blue Shield Association Corporatic	5,442,846	Preferred	Covered	Covered	Preferred	Preferred
Health Care Service Corporation	5,135,711	Preferred	Covered	Covered	Covered	Preferred
Department of Veterans Affairs (VHA)	4,803,818	Covered	Covered	Covered	Preferred	Covered
Humana, Inc.	2,325,564	Covered	Covered	Not Covered	Covered	Covered
Blue Cross Blue Shield of Michigan	2,317,410	Covered	Preferred	Covered	Preferred	Preferred
Indian Health Service (IHS)	2,201,809	Covered	Covered	Covered	Preferred	Covered
Blue Shield of California	1,894,377	Preferred	Preferred	Covered	Preferred	Preferred
Prime Therapeutics	1,885,924	Preferred	Covered	Covered	Covered	Preferred
Blue Cross and Blue Shield of Florida, Inc.	1,861,938	Covered	Covered	Covered	Preferred	Preferred
Highmark, Inc.	1,781,021	Covered	Preferred	Covered	Preferred	Covered
CareFirst, Inc.	1,530,652	Preferred	Covered	Preferred	Preferred	Preferred



# TX-001HR

Combination

Estrogen + Progesterone

(E+P) Program

TherapeuticsMD®

*For Her. For Life.*

# Menopause Overview

- **Menopause represents the natural life-stage transition when women stop having periods as the production of Estrogen (E) and Progesterone (P) decreases**
  - Average age of menopause 51 years<sup>1</sup>
  - Women may spend, on average, more than one-third of their lives in a hypoestrogenic state
- **May result in physical and emotional symptoms<sup>1</sup>**
  - Symptoms include vasomotor symptoms (hot flashes, night sweats), mood changes and vaginal dryness
  - Prolonged lack of estrogen can affect the bones, cardiovascular system, and increases risks for osteoporosis
- **Long history of Estrogen (E) and Progesterone (P) use**
  - Estrogen and progesterone have been used for over 50 years as treatment
  - Estrogen to reduce symptoms and other long-term conditions
  - Progesterone to prevent thickening of the uterine wall<sup>2</sup>
    - Increased risk for endometrial hyperplasia/endometrial cancer if estrogen unopposed<sup>2</sup>

1) National Institutes of Health, National Institute on Aging, <https://www.nia.nih.gov/health/publication/menopause>, last accessed November 3, 2015.

2) International Journal on Women's Health, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3897322/>

# TX-001HR Product Development Rationale

- **2002 Women's Health Initiative (WHI) study showed that *synthetic* hormones increased the risk of breast cancer, stroke, heart attack and blood clots** (all FDA-approved combination hormonal products contain a synthetic Progestin and not a bio-identical Progesterone)
- **Post WHI, women and healthcare providers shifted to Bio-Identical Hormone Therapy (BHRT) containing bio-identical estradiol and bio-identical progesterone as an alternative despite being *unapproved* drugs that are *not covered by insurance***
  - 90M+ scripts of synthetic hormone therapy prescribed annually before 2002, declining to ~10M in 2015<sup>1</sup>
    - Today, patients have the choice between three second best therapies:
      - FDA-approved, **synthetic** combination hormones
      - FDA-approved, **separate** bio-identical hormone products
      - Unapproved, **compounded** bio-identical hormones that have not been proven safe and effective, or covered by insurance
- **Compounding filled the need for BHRT**
  - 30M scripts (3M women) of Compounded Bio-identical Hormone Therapy (CBHRT) prescribed annually in the U.S. currently<sup>2,3</sup>
- **No FDA-approved BHRT combination product of estradiol + bio-identical progesterone**
- **TX-001HR would become the first and only FDA-approved bio-identical combination product to fill this unmet need**



1) Symphony Health Solutions PHAST Data powered by IDV; Annual 2015  
2) The reported number of annual custom compounded hormone therapy prescription of oral and transdermal estradiol and progesterones taken combined and in combination (26MM to 33MM)  
3) Pinkerton, J.V. 2015. Menopause, Vol.22, No.9, pp 0-11.

# Medical Societies Discourage Prescribing of Compounded Bio-Identical Hormones

- ACOG and ASRM Committee Opinion states compounded hormones may pose additional risks compared to FDA-approved products<sup>1</sup>
  - Lack of efficacy and safety data
  - Lack of Good Manufacturing Practices (GMP)
  - Variable purity
  - Variable content uniformity
  - Variable potency (under/over dose)
  - Lack of stability
  - Unopposed E / Ineffective P leads to increased risk of endometrial hyperplasia / cancer

**Compounded Bioidentical Hormones in Endocrinology Practice: An Endocrine Society Scientific Statement**

**COMMITTEE OPINION**  
November 2007 and August 2012 (Reaffirmed 2014) Replaces No. 387, November 2007 and No. 322, November 2005

**Committee on Gynecologic Practice and the American Society for Reproductive Medicine Practice Committee**

**Compounded Bioidentical Menopausal Hormone Therapy**

**ABSTRACT:** Although improvement in bone density, hot flashes, vasomotor symptoms, and mood have been reported in some women using compounded bioidentical hormone therapy (BT), the overall evidence is limited. The use of compounded BT is not supported by the available data.


**NAMS Survey**  
Use of compounded hormone therapy in the United States: report of The North American Menopause Society

**Abstract:** A national survey was conducted to determine the extent of use of compounded hormone therapy (CHT) in the United States. The survey included 48 to 64 years who were postmenopausal in the United States. The survey included 1,252 women aged 48 to 64 years who were postmenopausal in the United States. The survey included 1,252 women aged 48 to 64 years who were postmenopausal in the United States. The survey included 1,252 women aged 48 to 64 years who were postmenopausal in the United States.



1) Committee on Gynecologic Practice and the American Society for Reproductive Medicine Practice Committee, Number 532, August 2012 (Reaffirmed 2014, Replaces No. 387, November 2007 and No. 322, November 2005).

# TX-001HR – Potential Best in Class Therapy

	<b>TX-001HR</b> (If Approved) 
Bio-Identical	✓
Single Dose Combination	✓
VMS Efficacy Data	✓
Endometrial Cancer Safety Data	✓
FDA-Approved	✓ <sup>1</sup>
Third-Party Reimbursement	✓ <sup>2</sup>

## Potential first and only:

- 1) Bio-identical combination estradiol & progesterone
- 2) FDA-approved

## Dosing and Delivery

- Once-a-day single oral softgel capsule

## Addresses Unmet Medical Need

- First and only combination of bio-identical estradiol and bio-identical progesterone product candidate
- Single combination dose option
- Positive Phase 3 Replenish Trial safety and efficacy results
- Potential FDA-approval with insurance coverage

**Benefits to women, healthcare providers, and pharmacies**

1) NDA to be submitted  
 2) Reimbursement anticipated if FDA-approved

# Replenish Trial Co-Primary Endpoints

Primary Efficacy Endpoints: Mean Change in Frequency and Severity of Hot Flashes Per Week Versus Placebo at Weeks 4 and 12, VMS-mITT Population					
Estradiol/Progesterone	1 mg/100 mg (n = 141)	0.5 mg/100 mg (n = 149)	0.5 mg/50 mg (n = 147)	0.25 mg/50 mg (n = 154)	Placebo (n = 135)
Frequency					
Week 4 P-value versus placebo	<0.001	0.013	0.141	0.001	-
Week 12 P-value versus placebo	<0.001	<0.001	0.002	<0.001	-
Severity					
Week 4 P-value versus placebo	0.031	0.005	0.401	0.1	-
Week 12 P-value versus placebo	<0.001	<0.001	0.018	0.096	-
Primary Safety Endpoint: Incidence of Consensus Endometrial Hyperplasia or Malignancy up to 12 months, Endometrial Safety Population <sup>‡</sup>					
Endometrial Hyperplasia	0% (0/280)	0% (0/303)	0% (0/306)	0% (0/274)	0% (0/92)

MITT = Modified intent to treat





<sup>‡</sup>Per FDA, consensus hyperplasia refers to the concurrence of two of the three pathologists be accepted as the final diagnosis

P-value < 0.05 meets FDA guidance and supports evidence of efficacy

## Primary Efficacy Analysis pre-specified with the FDA in the clinical protocol and Statistical Analysis Plan (SAP)

- P-value < 0.05 meets FDA guidance and supports evidence of efficacy

# Multi-Billion Dollar Total Substitutable Market Opportunity

	<b>TX-001HR</b> (if approved) 		
	<b>FDA-Approved</b>		<b>Compounded Combination Bio-Identical E+P</b> 
	<b>Separate Bio-Identical E &amp; P Pills</b> 	<b>Combination Synthetic E+P<sup>1</sup></b> 	
<b>TRx US:</b>	~3.5 million <sup>2</sup>	~3 million <sup>2</sup>	12 – 18 million
<b>TX-001HR Potential Market</b>	\$700M-\$875M <sup>3</sup>	\$600M-\$750M <sup>3</sup>	\$2.4B-\$4.5B <sup>3</sup>
<b>TX-001HR Total Substitutable Market Opportunity</b>	<b>\$3.7B – \$6.1B</b>		

**If approved, TX-001HR can provide a single pill solution for women and physicians who:**

- 1) Demand an FDA-approved bio-identical combination hormone product
- 2) Do not trust compounded hormones

1) Includes the following drugs: Activella®, FemHRT®, Angeliq®, Generic 17β + Progestins, Prempro®, Premphase®, Duavee®, Brisdelle®

2) Symphony Health Solutions PHAST Data powered by IDV; 12 months as of December 31 2015

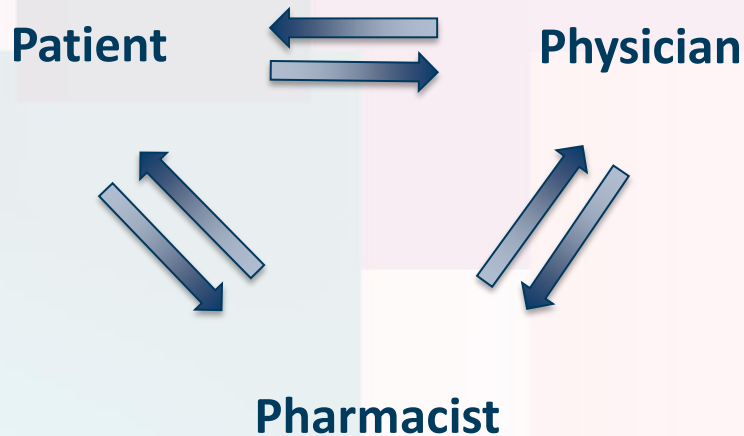
3) Assume WAC pricing between \$200-250

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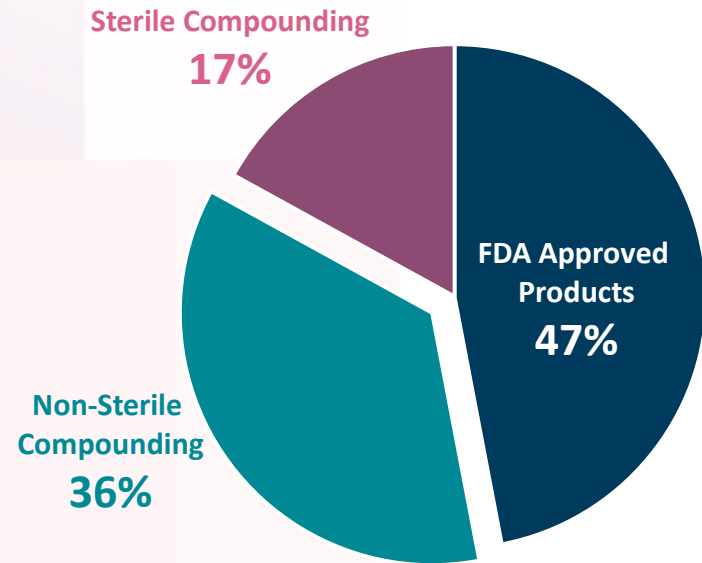


# Understanding the Compounding Pharmacy

## Collaborative Relationship



## Compounding Pharmacies % of Business (by Prescription Units)

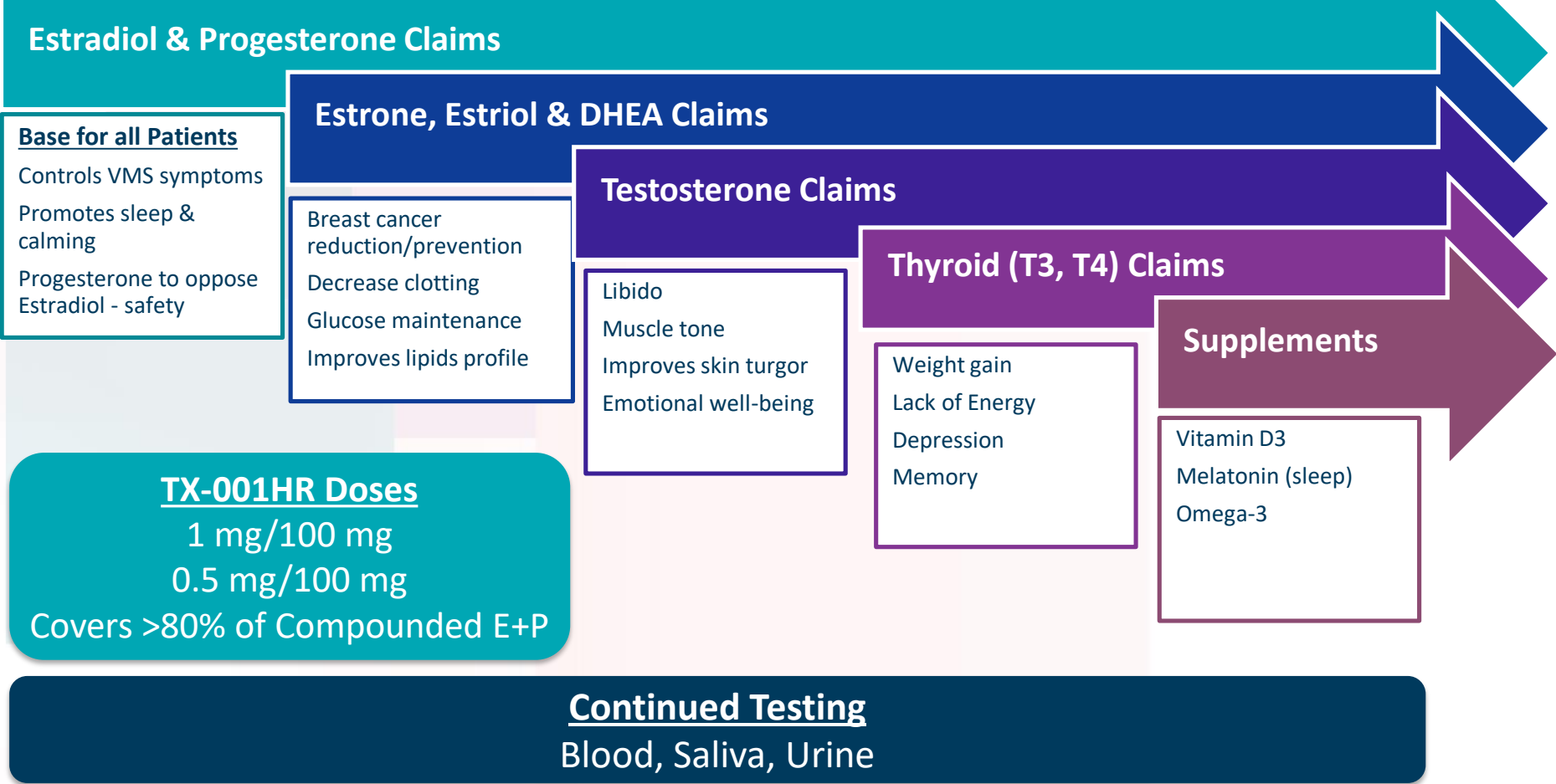


N = 3,000-3,500 Compounding Focused Pharmacies<sup>1,2,3</sup>

(1) 2013 National Community Pharmacists Association Digest: Financial Benchmarks (Sponsored by Cardinal Health)  
(2) NCPA Community Pharmacy Compounding Survey (November 2012)  
(3) NPI Database: using taxonomy codes

# Compounding Pharmacy Menopausal Treatment Paradigm

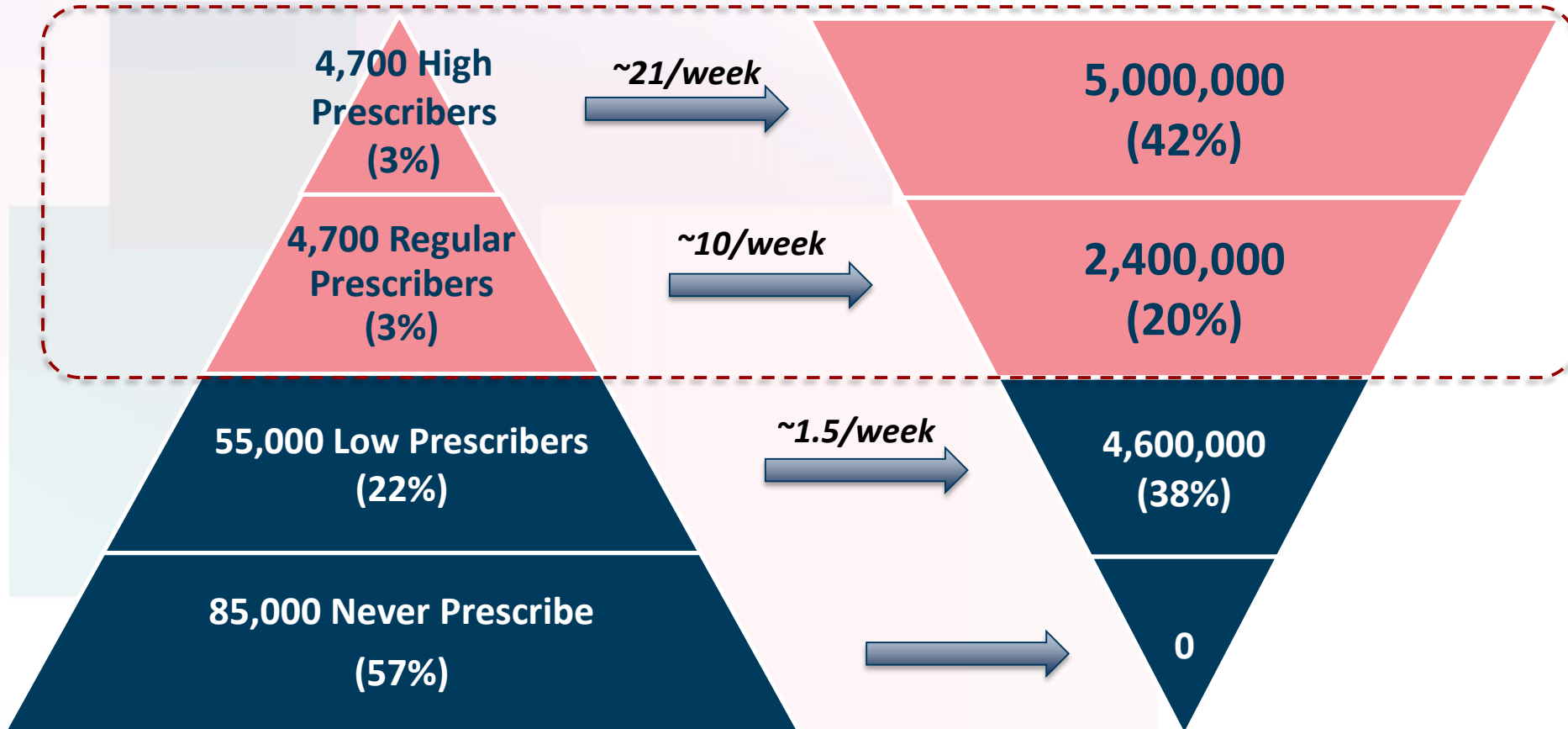
Customization is adding therapy...not tweaking dosages



# Small Number of Physicians Account for Large Percentage of the Compounded BHRT Market

150,000 Total Eligible Physicians<sup>1</sup>  
(Includes OB/GYNs, PCPs, and Anti-Aging)

~12M Annual Compounded Bio-Identical E+P  
Prescriptions Breakout by Volume



1) SK&A Nationwide Physician Specialty Report – June 2015

# BIO-IGNITE™

## Compounding Pharmacy Partnership Strategy

**BIO-IGNITE™ is an outreach program to quantify the number of compounded bio-identical estradiol and progesterone prescriptions currently dispensed by the 3,000-3,500 high-volume compounding pharmacies, and qualify their interests in distributing our hormone product candidates, if approved.**

### **Phase 1:**

Understand and identify the high volume pharmacies and prescribers that have developed a specialty focus around women's menopausal health

### **Phase 2:**

Work with these specialists to transition patients from unapproved compounded therapies to an FDA-approved treatment

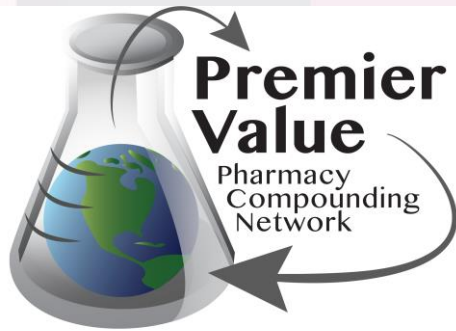
# BIO-IGNITE™ Progress and Results

## Partnerships with Large Pharmacy Network and Individual Pharmacies

Pharmacy Network and Individual Pharmacy Partners

# of Pharmacies

Combination Bio-Identical E+P Scripts



>300 Pharmacies In Network

~1,500,000 prescriptions annually

TXMD Outreach to Individual Pharmacies

>400 Pharmacies with Prescription Data

>500,000 prescriptions annually

# Adverse Reimbursement and Regulatory Environments Continue to Erode Independent Pharmacy Margins



**November 2013:** Congress enacts Drug Quality and Security Act (DQSA), which prohibits compounding of essential copies of an FDA-approved drug except in limited circumstances such as drug shortage<sup>1</sup>



**June 3, 2014:** ESI launches a “Compound Management Solution,” creating a list of excluded ingredients that eliminated almost 95% of all compound claims<sup>2</sup>



**July 2014:** Optum initiates a comprehensive compound management program, including prior authorizations and step therapy for all compounded prescriptions<sup>3</sup>



**December 1, 2019:** USP-800 implementation will set new identification requirements for receipt, storage, mixing, preparing, compounding, dispensing, and administration of hazardous drugs<sup>4,5</sup>

- Considered “prohibitively expensive” requiring major pharmacy upgrades and renovations to be compliant
- **Large fixed capital expenditure requirements, with some totaling >\$150,000 per pharmacy to implement**

1) <http://www.fda.gov/Drugs/DrugSafety/DrugIntegrityandSupplyChainSecurity/DrugSupplyChainSecurityAct/ucm376829.htm>

2) <http://www.iacprx.org/general/custom.asp?page=CCIns161314>

3) <http://www.optum.com.br/content/optum/en/optumrx/pharmacy-insights/restoring-trust-compound-medications.html>

4) <http://www.usp.org/compounding/general-chapter-hazardous-drugs-handling-healthcare>

5) <https://www.ascp.com/sites/default/files/Joint%20USP%20letter%202015%20FINAL.pdf>

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# Economic Incentives Provide Catalyst to Switch to TX-001HR

Independent Pharmacy Net Income Per Script with TX-001HR			
	Compounded E+P Post USP-800	TX-001HR Launch 1Q19	
<b><u>Revenue</u></b>			
Patient Co-Pay	50.00	50.00	
Third-Party Reimbursement	-	200.00	
<b>Total Net Revenue</b>	<b>\$ 50.00</b>	<b>\$ 250.00<sup>1</sup></b>	
Costs of Good Sold	7.50	200.00 <sup>2</sup>	
<b>Gross Profit</b>	<b>\$ 42.50</b>	<b>\$ 50.00</b>	
<i>Gross margin</i>	<i>85.0%</i>	<i>20.0%</i>	
<b><u>Operating Expenses</u></b>			
G&A	15.00	15.00	
S&M	7.50	5.00	
Additional Compounding Costs <sup>3</sup>	15.00	-	
Cost of USP-800 Requirements <sup>4</sup>	10.00	-	
<b>Total Operating Expenses</b>	<b>\$ 47.50</b>	<b>\$ 20.00</b>	
<b>Pre-Tax Profit</b>	<b>\$ (5.00)</b>	<b>\$ 30.00</b>	
<i>Operating margin</i>	<i>-10.0%</i>	<i>12.0%</i>	

1) Assume AWP-18% Third-Party Reimbursement

2) Assume \$250 WAC less 20% distribution discount

3) Includes additional labor, pharmacists, technicians, regulatory, and legal expenses

4) July 2018 Implementation; includes >\$150,000 capital expenditure as well as new identification requirements for receipt, storage, mixing, preparing, compounding, dispensing, and administration of hazardous drugs

# PVPCN Distribution Agreement Rationale

## Innovation

- Potential low-dose local estrogen therapy for VVA
- Potential first and only FDA-approved bio-identical combination of E+P
- Clinical validation of current treatment paradigm for menopausal symptoms

## Regulatory Environment

- Drug Quality and Security Act
- Loss of Third-Party Reimbursement
- USP-800 – Hazardous Drugs

TXMD and PVPCN

## Commercial Opportunity

- 1.5 million annual compounded E+P prescriptions directly substitutable to TX-001HR
- Improved pharmacy economics
- Maintain and grow patient and physician relationships

TherapeuticsMD®

*For Her. For Life.*



# Expect Robust Insurance Coverage For TX-001HR, If Approved, In-Line with Product Class

4,315 Commercial Plans	% Unrestricted Access of Commercial Plans	Not Covered
Estrace® (Oral)	96%	1%
Prempro®	94%	5%
CombiPatch®	93%	4%
Climara Pro®	92%	4%
FemHRT®	87%	6%
Duavee®	86%	5%
Vivelle-Dot®	84%	5%
Activella®	83%	8%
Prometrium®	83%	6%

Data Source MMIT August 17, 2016 – 4,300 commercial plans  
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**TherapeuticsMD®**

*For Her. For Life.*

# TXMD: Financial Snapshot

Listing  
Exchange

TXMD  
LISTED  
NYSE MKT

Debt

\$0M

Shares  
Outstanding

216.4M

(as of Sept 28, 2017)

Cash

~\$150.9M\*

(as of August 31, 2017)

\*As of August 31, 2017, pro-forma for net proceeds of September 2017 equity offering

TherapeuticsMD<sup>®</sup>

*For Her. For Life.*

# Worldwide Patent Filings\*

Strong IP Portfolio with 158 Patent Applications, including 82 international filings, and 17 issued U.S. patents



\*Not all patent filings filed in all jurisdictions.

TherapeuticsMD®

*For Her. For Life.*

# Appendix



TherapeuticsMD®

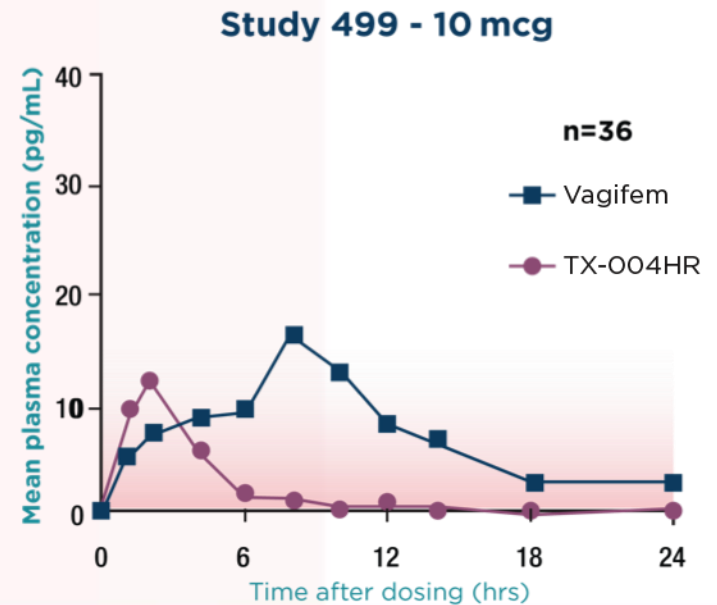
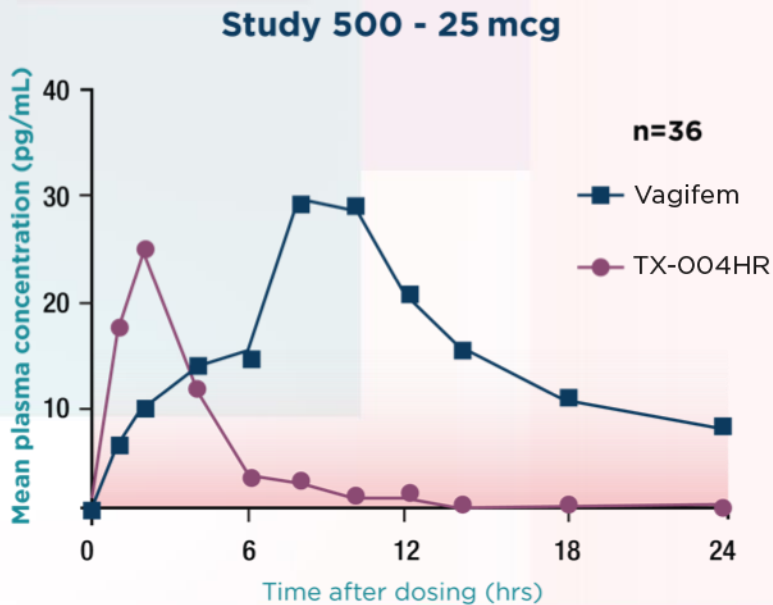
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# TX-004HR vs. Vagifem<sup>®</sup>

## Phase 1 Single Dose PK Studies

### Key Findings

- Tmax ~2 hours with TX-004HR and ~8 hours with Vagifem
- Systemic absorption of estradiol AUC (0-24 hours) is 2- to 3-fold lower with TX-004HR relative to Vagifem



# FDA-Approved Separate Bio-Identical E & P Substitutable Market Opportunity

- Healthcare providers not comfortable with compounding will often prescribe two separate FDA-approved bio-identical products to treat menopausal symptoms



Product Use by Age	AGES 41-50	AGES 51-60	AGES 61-70	AGES 71+	TRx Totals
<u>Progesterone*</u>	528,325	1,326,618	1,060,666	678,775	3,594,384 <sup>1</sup>
<u>Estradiol</u>	2,677,210	5,494,846	2,826,636	1,083,726	12,082,418 <sup>1</sup>

\*Menopausal use of progesterone directly substitutable to TX-001HR

**~3.5M Potential Prescriptions for TX-001HR (if approved)**  
**Market Opportunity = \$700M-875M<sup>2</sup>**

- This regimen carries **significant risk** of endometrial hyperplasia/cancer if the patient is non-compliant with regular progesterone use
  - Side effects of progesterone including nausea and somnolence can lead to a patient not taking the progesterone
  - Results in two separate co-pays for the patient

1) Symphony Health Solutions PHAST Data powered by IDV; 12 months as of December 31 2015

2) Assume WAC pricing between \$200-250

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# FDA-Approved Combination Synthetic E+P Substitutable Market Opportunity

TX-001HR

## FDA-Approved Combination Synthetic E+P Prescriptions by Age

**PREMPHASE**



*Prempro*

AGES 31-40	AGES 41-50	AGES 51-60	AGES 61-70	AGES 71+	Unknown Ages	TRx Totals
52,575	372,968	1,712,852	759,634	151,821	68,672	<b>3,118,522<sup>1</sup></b>

**~3M Potential Prescriptions for TX-001HR (if approved)  
Market Opportunity = \$600M-750M<sup>2</sup>**

1) Symphony Health Solutions PHAST Data powered by IDV; 12 months as of December 31 2015  
Includes the following drugs: Activella®, FemHRT®, Angeliq®, Generic 17β + Progestins, Prempro®, Premphase®, Duavee®, Bristelle®  
2) Assume WAC pricing between \$200-\$250

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