Creating Desire for Microbicides

Session 4: Getting Microbicides into the Market Place

Key Variables in Target Product Profiles

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May 14, 2014

What is a TPP?

GUIDANCE FOR INDUSTRY
And Review Staff
Target Product Profile- A Strategic Development Process Tool

Draft Guidance

U.S. Department of Health and Human Services
Food and Dug Administration
Centers for Drug Evaluation and Research (CDER)

March 2007
Procedural

http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/ucm080593.pdf

TPP as a Regulatory Document:

"A TPP is a format for a summary of a drug development program described in terms of labeling concepts"

- Prepared by product sponsor and shared with FDA to facilitate communication
- Submission is voluntary
- "Beginning with the goal in mind"
  - Itemization of the desired (and required) label claims with the necessary data requirements

TPP as a Regulatory Document: FDA Template

1. Indications and usage
2. Dosage and Administration
3. Dosage Forms and Strengths
4. Contraindications
5. Warnings and Precautions
6. Adverse Reactions
7. Drug Interactions
8. Use in specific populations
9. Drug abuse and dependence
10. Overdosage
11. Description
12. Clinical Pharmacoloty
13. Nonclinical toxicology
14. Clinical Studies
15. How supplied storage and handling
16. Patient counseling information

8.1 Pregnancy
8.2 Labor and Delivery
8.3 Nursing Mothers
8.4 Pediatric Use
8.5 Geriatric Use
8.6 Additional subsections

8.2 *Use during labor or delivery, effects on mother, fetus, duration of labor, delivery and effects on later growth of newborn*

3.0 Dosage Forms and Strengths

Target	Annotations
Include information on the available dosage forms, including strength or potency of dosage form in metric system and a description of identifying characteristics	*Summary infomration regarding completed or planned studies to support the dosage forms and strengths:* • *Protocol #, Serial #, Submission date*

4.0 Contraindications

Target	Annotations
List situations in which the drug might be contraindicated, including: • *Increased risk of harm because of age, sex, concomitant therapy, disease state* • *Adverse reactions which would limit use* • *Known, not theoretical, hazards*	*Summary infomration regarding completed or planned studies to support the dosage forms and strengths:* • *Protocol #, Serial #, Submission date* *Or, literature references describing contraindication*

E.g., General TPP Example: MPT IVR

8. Clinical Safety	Necessary Studies, Trials, Data	Annotations
i. No vaginal epithelial damage; no systemic toxicity; no meaningful effects on the FGT microbiome, transcriptome, or proteome; no significant induction of inflammatory response markers; no unacceptable effects on daily life style or schedule; no social harm effects/AEs	Appropriate Phase 1 thru Phase 3 clinical trials with appropriate pharmaco-vigilance studies post approval.	The minimally acceptable general safety profile should be equivalent to current comparable products (e.g. Nuvaring, or other HC contraceptive based products and currently available ARV treatment products).

Why Microbicide TPPs?

- ✓ To define product target label claims and necessary data to achieve such claims- Regulatory Approval
- Other uses?
  - To define necessary product attributes and parameters for high impact products
  - Provide guidance to MPT developers on necessary attribute targets
  - Provide criteria/guidance to funders on possible product development investment opportunities
  - Serve as standard for definition of development milestones, evaluation of development progress, and inform GO/NO GO decisions
  - Support market research efforts on MPT

Consensus Evaluation Criteria

General TPP:
Rectal Microbicide Gel for the Prevention of HIV Infection

- Target population
- Necessary efficacy (min-optim)
- Safety:
  - -AE profile
  - -Side Effects
  - -Contraindications
- Product format
- Dosing regimen
- Etc..

FDA Type Product Specific TPP:
1.0% TNF Gel for the prevention of HIV transmission during rectal sex

- FDA Guidance for sections 1-16 for TPP

Appropriate High Impact Product?

Attributes of a High Impact Product?

1. Safe and Effective- satisfies regulatory requirements
2. Delivery and Access
   a. Manufacture, shipping, cost, etc
3. Acceptable to end user
   a. Ease of use
   b. Life style side effects (real and perceived)
   c. Impact on sex/other daily activities
   d. Physical properties and sensory perceptions
   e. Partner perceptions/knowledge of use
   f. Ability to conceal
   g. Waste
   h. Necessary follow up
   i. Other
4. High market demand in appropriate target populations
5. Acceptable to providers, procurers, Health Ministries

How to Capture in the TPP?

What happens if the TPP is only sufficient for label claim approval?

- Case Study: Exubra
  - Inhalable insulin treatment developed by Pfizer
    - FDA approved Jan, 2006
  - October, 2007 Pfizer pulls Exubra from the market
    - Cites inability to gain patient and provider acceptance
    - Pfizer takes a $2.8B write down
  - Black et al, 2007: Exubra safe and effective but too expensive to be cost effective

Target Product Profile: A Renaissance for its Definition and Use

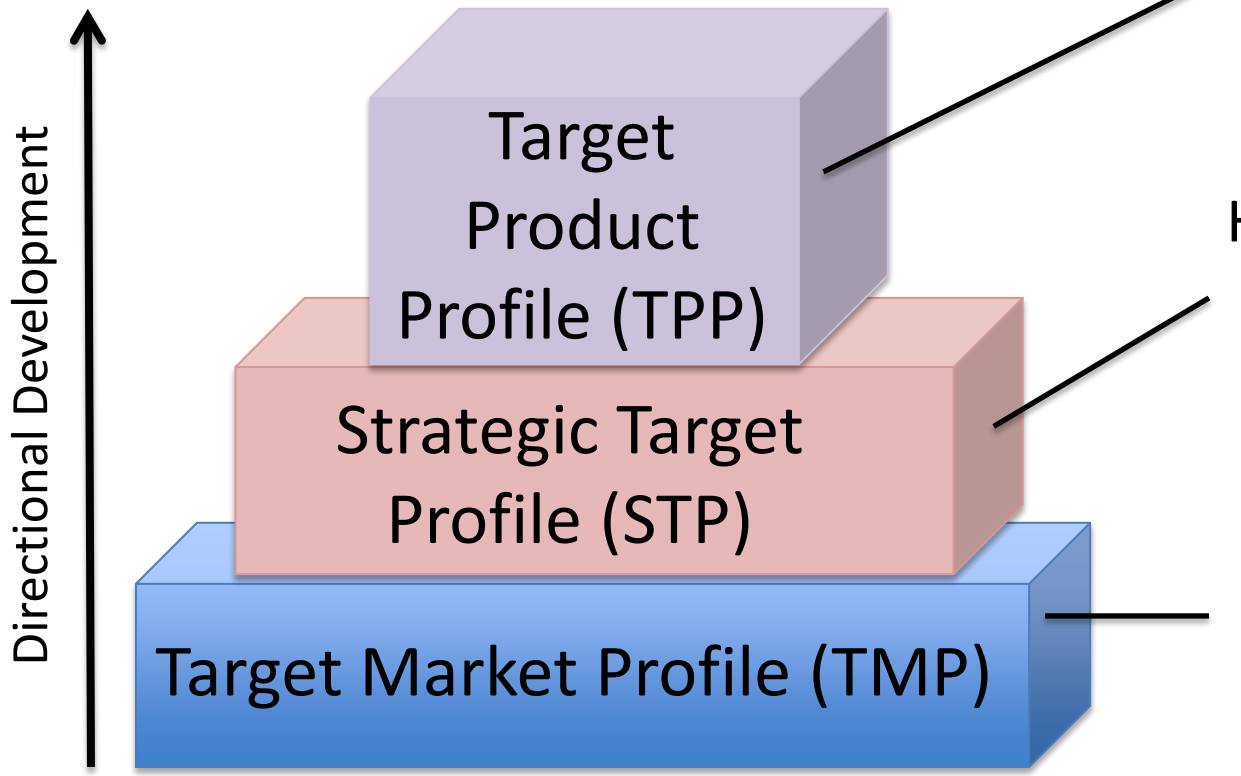
Paul W. Tebbey, Charles Rink

J. Medical Marketing 9:301-307 (2009)

Abstract

The Target Product Profile (TPP) is supposed to be the cornerstone of pharmaceutical product development. But how often is it utilized or updated, and how closely does it resemble the product that originally was envisaged? At a watershed moment for a drug development industry that recognizes the need for profound change in order to increase productivity, and with the US Food & Drug Administration promoting dialogue with pharmaceutical manufacturers via a 'TPP', it is an opportune time to revisit the important role that the TPP should play in the drug development process. In its traditional form, the TPP has proven to be insufficient for effective commercial evaluation of the clinical development strategy. But, rather than redefining the currently accepted form of the TPP, the authors propose a Strategic Evaluation Framework that encompasses the TPP, the vision for the brand and the prevailing needs of the marketplace. The Strategic Evaluation Framework augments the TPP with the additional information necessary for the assessment of a product's commercial potential. The Strategic Evaluation Framework constitutes the yardstick to track the developing product's actual clinical profile versus that necessary for commercial success and thereby serves as the guide for strategic clinical development decision making.

TPP + STP + TMP= Successful Commercialization

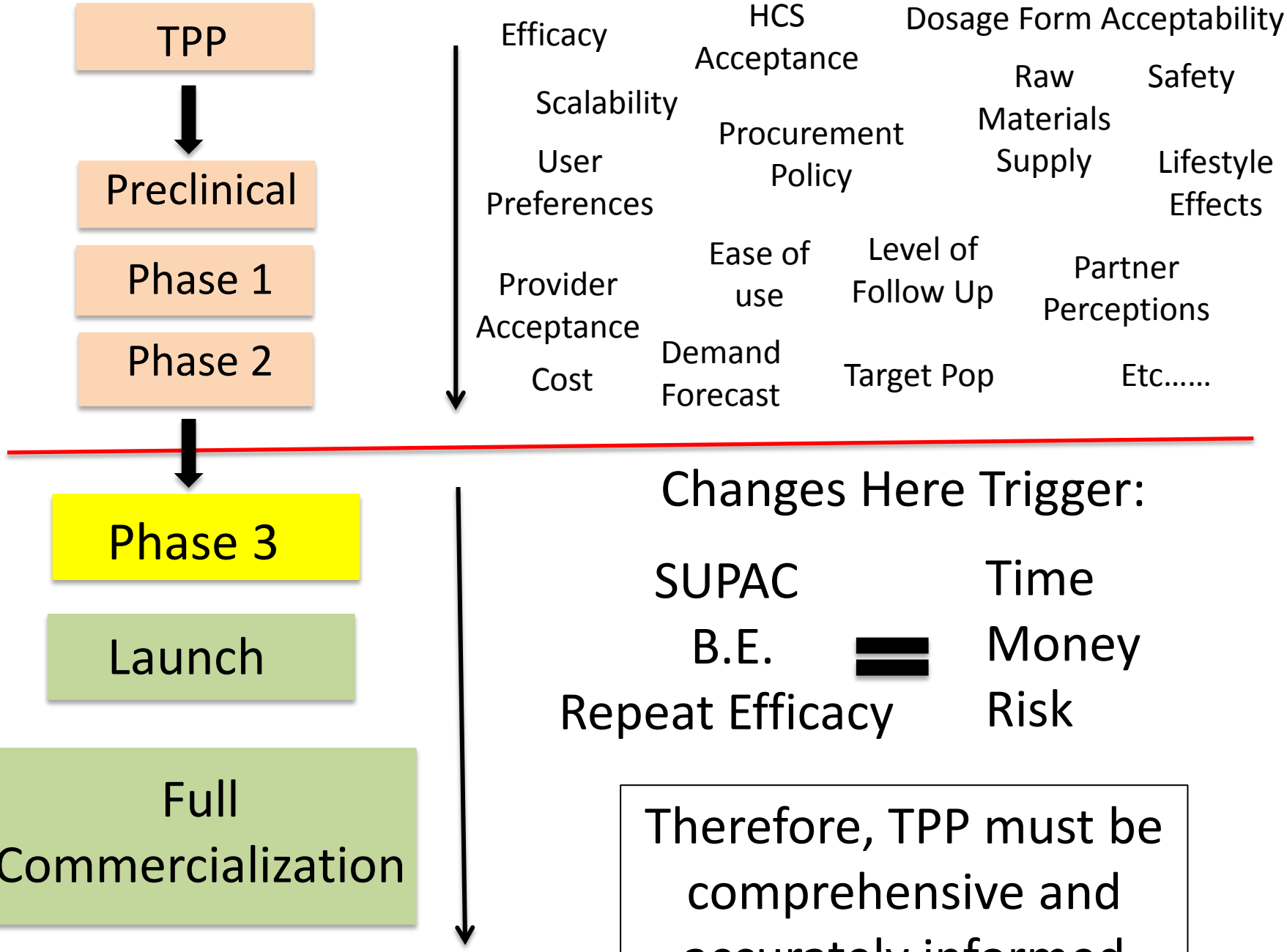


Label claims for the product intended for launch

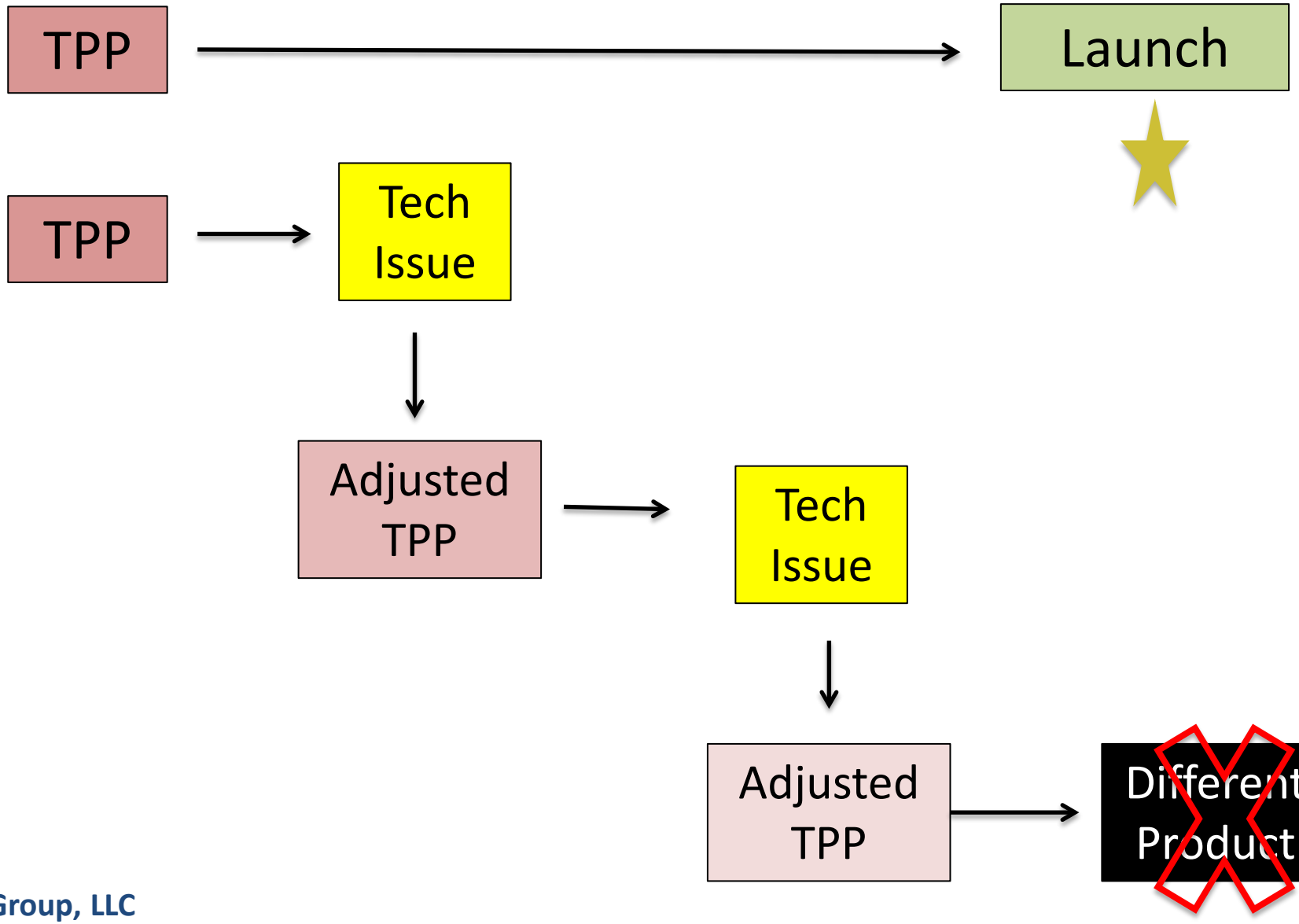
How the product will meet market needs

Summary of market needs the product is intended to address

Tebbey and Rink, 2009


TPP
Preclinical
Phase 1
Phase 2
Phase 3
Launch
Full Commercialization
Efficacy
HCS Acceptance
Dosage Form Acceptability
Scalability
Raw Materials Supply
Safety
User Preferences
Procurement Policy
Lifestyle Effects
Provider Acceptance
Ease of use
Level of Follow Up
Partner Perceptions
Cost
Demand Forecast
Target Pop
Etc……
Changes Here Trigger:
SUPAC
B.E.
Repeat Efficacy
=
Time
Money
Risk
Therefore, TPP must be comprehensive and accurately informed

Dynamic process, but avoid “TPP Drift”



Summary

1. Target product profiles (TPP) are necessary and useful tools for organization and communication of product development plans
2. Although appropriate for defining and managing approval of product label claims, this is not sufficient to assure commercial success and high impact of a product
3. The TPP for a specific microbicide product must be:
   a. Consistent with the strategy for achieving positive health impact with the product…
   b. which is rooted in comprehensive understanding of the medical need and the context of delivery
4. **TPPs need to be designed at the beginning of a product development effort- late stage changes are problematic**
   a. **TPP drift could lead to an approved product that is inconsistent with the market needs**

Thank You