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SOCIAL POSTER AGAINST DOMESTIC VIOLENCE PROBLEM

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The aim of the thesis is to consider the problem of taking medication and new pill production technology that can solve this problem.

The study object is ZipDose technology, Aprecia's unique delivery platform that serves as the foundation of orodispersible formulations of highly prescribed high-dose medications. It creates premeasured, spill-proof unit-doses designed to disintegrate in the mouth with just a sip of liquid. ZipDose technology utilizes proprietary three-dimensional printing (3DP) platform. This process binds multiple layers of powder blend using an aqueous fluid to produce a porous, water-soluble matrix that rapidly disintegrates with a sip of liquid.

The scientific novelty of this technology lies in its working principle. ZipDose technology combines formulation science with the processing capabilities of 3DP. The 3DP-based ZipDose technology platform does not rely on compression forces, punches, or dies. As a result, ZipDose technology is the only delivery platform to date that can achieve high doses (up to 1,000 mg) in dosage forms that disintegrate rapidly. First, a powder blend is deposited as a single layer. Then, an aqueous binding fluid is applied and interactions between the powder and liquid bind these materials together. This process is repeated several times to produce solid, yet highly porous formulations, even at high dose loading.

Results and discussion. Taking medications orally, in the formulations that are currently marketed, works well for many people. However, liquids, tablets, and capsules can pose administration and/or swallowing challenges for patients. An online survey conducted in the United States found that 50% of surveyed American adults (N = 1002) reported difficulty swallowing tablets and capsules. Another survey (N=679) found that less than 25% of adults in the US with swallowing difficulties discuss the problem with their healthcare provider. That same online survey found that 8% of adults with swallowing difficulties admit to skipping doses of a prescribed medication (N=679). Difficulty swallowing tablets and capsules can be a problem for many individuals and can lead to patient non-compliance with the recommended treatment regimens.

Additionally, an estimated 16.5 million people in the US suffer from dysphagia, a clinically diagnosed swallowing difficulty. Dysphagia increases with age and can represent a significant challenge as it relates to the routine administration of chronic oral medications.

Swallowing difficulties can affect drug adherence and result in increased morbidity and mortality. Tablets and capsules can be difficult to take and challenging for HCPs and caregivers to administer. Additionally, liquid formulations can be difficult to carry, may require precise measurement, can be spilled, and may have taste issues and/or refrigeration requirements.

Conclusion. Through ZipDose technology, Aprecia is working to enhance customer's experience with medication, so that patients and caregivers can experience a rapidly disintegrating, taste-masked, and convenient way to take or administer medicine. Healthcare providers can be confident in prescribing high-dose formulations of highly prescribed medications that are precisely dosed and easy to take. Pharmaceutical partners can extend product lines for broader patient reach and/or continued brand exclusivity through life-cycle management of marketed medicines. Business partners can leverage a low-risk regulatory pathway via 505(B)(2) submissions of ZipDose product candidates

Keywords: ZipDose technology, swallowing difficulties, dysphagia, rapidly disintegrating tablets.

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