EnvisionPharmacies continuously monitors the drug pipeline. As treatment options change, we evaluate and share our perspective on the clinical benefits, cost-effectiveness and overall impact to payers, physicians and patients. Our Perspective on the Rx Pipeline report provides insights on what you should expect from your pharmacy partners to get patients the treatment they need.

**Included in this Edition**

- A Sensitive Alternative for Peanut Allergy Sufferers: Treatment Developments Could Reduce Severity of Reactions
PEANUT ALLERGIES

A Sensitive Alternative for Peanut Allergy Sufferers: Treatment Developments Could Reduce Severity of Reactions

In the United States, approximately 32 million people have food allergies, defined as an adverse health effect resulting from a specific immune response that occurs on exposure to a given food. The allergic reaction occurs because the immune system attacks the food proteins that are normally harmless. Reactions can vary from mild, such as rash or hives, to severe reactions of anaphylaxis, which can be deadly. The most common food allergies are to peanuts, followed by milk and shellfish. Allergies to peanuts and shellfish are generally lifelong. According to a recent study, the prevalence of childhood peanut or tree nut allergies tripled from 1997-2008. Additionally, the economic burden of caring for children with food allergies costs U.S. families nearly $25 billion annually, with only $4.6 billion of that cost going towards medical expenses.

Current Treatment Options for Peanut Allergies: Today, there are no FDA-approved curative treatments and spontaneous resolutions to peanut allergies are rare. Oral antihistamines may be used for mild reactions, however, the standard of care for peanut allergies consists of strict avoidance along with a prescription for an epinephrine auto-injector and a written anaphylaxis emergency action plan for if a patient is exposed. With peanut allergies, avoidance does not remove the danger of an allergic reaction or anaphylaxis because the risk still exists from cross-contamination of food, environmental or other exposure, and the human factor of dealing with mostly small children. If there is an exposure, the severity of an initial reaction does not predict the severity of subsequent reactions.

Immunotherapy and Desensitization Developments in the Drug Pipeline: With the unmet need to reduce the severity of peanut allergy-related adverse reactions, manufacturers are seeking FDA approvals for medications using immunotherapy. This type of therapy, often given orally, sublingually or through a transdermal patch, introduces trace amounts of the specific allergen, slowly increased over time, with the hope that the food allergy sufferers will become desensitized and small amounts will not trigger a reaction. Close patient supervision and frequent office visits to the allergist
are required with these protocols, and they would not be considered curative. In fact, long-term, if not indefinite, use would be required to maintain the desensitized response.

With a focus on peanut allergies, the two immunotherapies with the furthest development in the drug pipeline are AR101 from Aimmune Therapeutics and Viaskin® Peanut from DBV Technologies. If approved by the FDA, these therapies could reduce the risk of serious reaction, however, they will not allow patients to consume peanuts intentionally.[8]

Other oral immunotherapy products have been studied previously, but have not used Good Manufacturing Practices (GMP) to prepare the products. GMP are regulations enforced by the FDA that assure proper design, monitoring and control of manufacturing processes and facilities. This helps ensure drug products meet quality standards and, therefore, reduces errors, such as contaminations or deviations.[8] Both AR101 and Viaskin use GMP. Additionally, both products are currently targeting the pediatric population for treatment, as it is thought that desensitization techniques for food allergies may be less effective in adults.[9]

AR101 - What you Need to Know

Route: Oral
Mechanism of Action: Biologic immunotherapy (peanut flour)
Most Common Side Effect: Gastrointestinal, such as abdominal pain, nausea or vomiting
Clinical Studies: Phase III
Estimated PDUFA*: September 2019
Duration: Initial dosing, followed by up-dosing and finally, maintenance phase
Provider Visit: Visit to allergist for a minimum of every two weeks for at least 90 minutes for every dose escalation

The Peanut Allergy oral Immunotherapy Study of AR101 for Desensitization (PALISADE) was a phase III, double-blinded, placebo-controlled study, enrolling more than 555 eligible participants aged four to 17 years with peanut sensitivities. Those completing PALISADE received 300 mg of AR101 daily for approximately 24 weeks, at which time they received a food challenge where they ingested a dose of 600 mg of peanuts (approximately two peanuts) with a primary endpoint of no or mild symptoms only.[10] The results were 67.2% of participants achieved the primary endpoint of no to mild symptoms versus 4% of participants on placebo, which was deemed statistically significant between the groups (P < 0.0001).[11]
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Viaskin - What You Need to Know

Route: Transdermal patch

Mechanism of Action: 250 mcg of peanut antigen

Most Common Side Effect: Patch site reactions, such as redness and itching

Clinical Studies: Phase III

Estimated PDUFA*: TBD

Duration: One patch daily with total time wearing the patch gradually increased until the maintenance phase

Provider Visit: First application only

More adverse reactions requiring the use of an epinephrine pen occurred in the AR101 phase III studies versus Viaskin trials. It is theorized that the delivery of Viaskin may contribute to an increased safety profile because it allows for the allergenic information to enter the immune system through intact skin without going through the blood stream, with epidermal dendritic cells activating an immune response.\(^{[12]}\)

Viaskin did receive a complete response letter (CRL) from the FDA in December 2018. A CRL is a request for more information or requirements before the FDA will consider drug approval. DBV Technologies voluntarily withdrew its application, citing insufficient data on manufacturing procedures and quality control as the reason, and that the CRL was not related to safety or efficacy concerns.\(^{[13]}\) The company relayed intentions to resubmit the Biologics License Application (BLA), most likely in the third quarter of 2019.

Specialty Medication Research in the Pipeline

Both Xolair® (omalizumab) and Dupixent® (dupilumab) are FDA-approved products that are seeking expanded indications for adjunctive therapy for peanut desensitization. Xolair had been granted breakthrough therapy designation by the FDA for prevention of severe food-related allergic reactions, as monotherapy or in combination with oral immunotherapy.\(^{[14],[15]}\) Dupixent is also being studied for use in allergic immunotherapy, as adjunct to AR101 to improve desensitization at completion of up-dosing.\(^{[16]}\) Xolair and Dupixent are high-cost, specialty medications that could add additional cost to peanut desensitization therapy.

Consider Options and Risks: Members and their dependents will need to weigh the risk versus benefit of these new peanut allergy treatments. Available data is suggesting that desensitization will require maintenance, meaning therapy may be lifelong for AR101 and Viaskin Peanut.
Impact to the Pharmacy Care Experience

Formulary: Most payer formularies currently restrict access completely or have prior authorization criteria that restricts off-label, non-compendium-supported use for Dupixient and Xolair for food allergy treatment.

Plan Design: If both products are approved, comparable effectiveness, safety, quality-adjusted life year (QALY) and cost will need to be considered. Payers may want to plan for a slight increase in pharmacy and medical spend. Physician or provider office visits may increase due to titration schedules or the need for emergency care due to the occurrence of an adverse event. Increases in pharmacy spend may be due to the peanut biologics themselves or increases in epinephrine auto-injector prescriptions. Additionally, plan sponsors should consider that some patients may begin therapy, but be unable to complete treatment.

PAYER ACTION PLAN

• Monitor the Drug Pipeline
  At this time, there is no action that payers need to take. EnvisionPharmacies will continue to monitor the drug pipeline and keep our clients apprised of updates.
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Sources


* Prescription Drug User Fee Act
A Committed Clinical Partner

The EnvisionPharmacies’ Clinical Team continuously monitors the drug landscape to provide our clients and patients with recommendations on ways to address marketplace changes and to ensure they are proactively prepared as more prescriptions become available.

Building on this expertise and commitment, we created our care model which allows us to empower specialty patients through customized, high-touch engagement. Our condition-focused approach helps eliminate road blocks that could impede a patient’s treatment goals and targeted outcomes.

The care model combined with our balanced perspective and marketplace insights allow us to provide a consultative approach to partnership, fully complementing our clients’ benefit designs.

Thank you,

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For more insights on pharmacy care
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