Over the past several years, the dermatology industry has undergone a substantial amount of strategic repositioning and consolidation. Some of these activities have resulted in significant reductions in investment in research and development. At the same time there has been a slowdown in funding from governmental agencies, such as the NIH, that has dramatically reduced the percentage of competing research project grants funded. Despite these changes, at Advancing Innovation in Dermatology (AID), a not-for-profit organization committed to furthering innovation in our field, we are optimistic that there are sources and means for continuing to create and bring to market important and impactful new products for skin health. Furthermore, we believe that at a grassroots level, the dermatology community itself can play an important role in augmenting the usual avenues that provide the flow of technologies and treatments for patients.

There are still traditional sources for new products in dermatology. Although smaller in number, we do have discovery-based, vertically integrated pharmaceutical companies that focus on dermatology and invest profits and resources into product innovation. These include, for example, Allergan, Galderma, Merz, Leo Pharma, and Stiefel (a GSK Company). Moreover, large pharmaceutical companies are showing a renewed willingness to invest in cutaneous indications—first opportunistically with agents repurposed from other therapeutic areas, and then deliberately once market viability has been established.

One notable example is psoriasis, where the first wave of systemic biologic therapies consisted of TNF-alpha inhibitors originally approved for rheumatoid arthritis (RA). Now, no less than a half dozen agents are in mid- to late-stage development with the express intent of having the skin disease indication serve as the beachhead. Additionally, important new treatments for basal cell can-

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cer (BCC) and melanoma are coming from pharma oncology programs. In addition to these paths, given the consolidation in dermatology and competition with other therapeutic areas for resources, it can be helpful for stakeholders in our field to consider other avenues for product innovation. Approaches where members of the dermatology community have the ability to be proactive and exert influence in augmenting the creation of new drugs, devices, and diagnostics for skin may be of particular interest.

It is not an easy process, but dermatology startup companies can, and do, attract funding from venture capital firms and angel investors, and the latter can include dermatologists and dermatologic surgeons interested in investing in and ensuring the future of our specialty. One advantage is that proof-of-concept clinical trials, an important value-infection point, can generally be done quickly and inexpensively in dermatology as compared to many other therapeutic areas. Recent examples of dermatology startups that went on to provide handsome financial returns for investors include Ceptaris Therapeutics, which was acquired by Actelion, and Anacor Pharmaceuticals and Kythera Biopharmaceuticals, both of which had successful initial public offerings.

Academic research centers and entrepreneurs comprise two other important sources of innovation that can serve as the basis for startups. An example of the former is the Wellman Center of Photomedicine at the Massachusetts General Hospital. Dr. Rox Anderson, a professor at Harvard Medical School’s dermatology department and his colleagues have an outstanding track record of translating their scientific discoveries and insights into inventions that became the underlying basis for marketed products. Lasers for a range of skin treatments by Candela, Conbio, Palomar, and Solta; an epidermal blister harvesting system for wound healing by Kinetics Concepts Inc.; and a cooling device for targeted adipose tissue reduction by Zeltiq are but a few examples of bench-to-bedside successes that came out of the Wellman Center.

Regarding entrepreneurs, an example is Dr. Stuart Shanler, a board certified dermatologist and dermatologic/Mohs micrographic surgeon, who co-invented a topical therapy for rosacea while still in clinical practice. His work led to the formation and private funding of Vicept, which after Phase II trials, was acquired by Allergan. There are numerous other instances where astute clinical thinking has augmented therapeutic options for dermatologic practice. For example, the observation of the side effect of hypertrichosis in hypertensive patients treated with oral minoxidil led to topical Rogaine for androgenetic alopecia and the effects on skin wrinkling of the anti-blepharospastic onabotulinumtoxin A resulted in Botox for treating glabellar and lateral canthal lines.

These processes can be catalyzed via several different approaches. One method involves helping to build and sustain an ecosystem of people and organizations that are excited about and can further enable product innovation in dermatology. To this end, AID established the Dermatology Summit (watch the highlight video at DermTube.com: http://dermtube.com/video/the-dermatology-summit-2014/), which takes place annually in January around the JP Morgan Health Conference.

AID is also a founding member of the Innovations in Dermatological Science Meeting hosted by the Center for Dermal Research at Rutgers University. The strong successes of both the Dermatology Summit and the Innovations in Dermatological Science meetings demonstrate an enthusiastic and energetic community willing to participate in and support product innovation for skin.

Another prong to encourage invention involves providing support to dermatology research centers and entrepreneurs. An exciting example is Dr. Rox Anderson’s Magic Wand Initiative at Harvard, for which AID is a founding supporter. The vision of this program is to empower dermatology research teams led by young clinician leaders to match clinical problems worth solving with the know-how of our community can play an important role in ensuring that we have a pipeline of innovative products for our field. Dermatology research centers, clinician and scientist entrepreneurs, investors, and corporate partners each bring with them complementary talents and resources.”
to do so, to form the scientific and medical basis of future product technologies and platforms for the clinic. In addition to having supplied seed funding, members of AID and their partners will provide guidance and mentoring with regard to considerations of product development, business development, and commercialization planning. These elements will be considered important by future investors and industry partners, in addition to the robustness of the science and clinical impact of the technology. In the vein of further supporting academic research centers and physician/scientist entrepreneurs, AID is planning to host a presentation and networking venue for dermatologic entrepreneurship and early stage product development preceding the annual meeting of the American Academy of Dermatology in March 2015.

All members of our community can play an important role in ensuring that we have a pipeline of innovative products for our field. Dermatology research centers, clinician and scientist entrepreneurs, investors, and corporate partners each bring with them complementary talents and resources. These can be clinical insights to identify unmet patient needs, the scientific and technical skills to discover and evaluate potential new treatments, and the ability to fund or coordinate the effort. AID envisions that by nurturing people, ideas, and inventions at the grass-roots level and by providing an ecosystem to support and promote innovation, our dermatology community can significantly increase the number of impactful and scientifically-based products for skin. This flow of product innovation can help ensure that dermatology remains a vibrant field in healthcare that will continually have better solutions to address the dermatological needs of its patients.

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