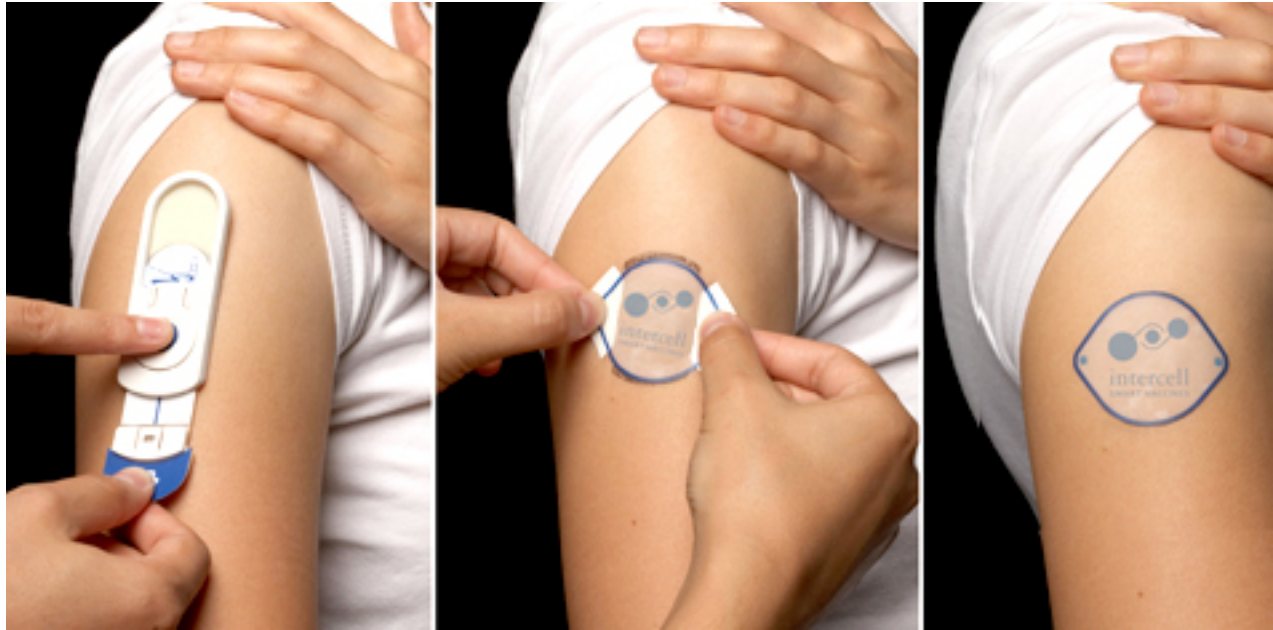




TRANSCUTANEOUS IMMUNIZATION DELIVERY METHOD FOR INTERCELL

DESIGNING THE NEEDLE-FREE FUTURE OF VACCINE DELIVERY

Project Date: 2008



Iomai, now part of Intercell, was a new entrant in the field of needle-free vaccination with IP for a patch - based method of dermal delivery. While the start-up was well on its way to developing the pharmaceutical science behind the vaccination, there remained the challenge of prepping the skin to effectively accept the vaccine. The company approached IDEO to develop a viable method of applying a needle-free vaccine delivery patch. The result is a vaccine patch concept and application prototype that consider the complete user experience, from mail-out packaging to application, and has the potential to make self-application possible for the first time.

IDEO began by investigating a range of skin preparation techniques to enable the vaccine to reach immune system cells in the dermis. By concentrating on the user experience and looking at the needs of patients and nurses in vaccination contexts, IDEO was able to rapidly generate and prototype concepts for application and supporting devices. This approach led to the patch device and test units for use in Phase I/II clinical trials. As a result of devising techniques and concepts in reference to the impending clinical trials, IDEO optimized the product development cycle and helped maintain the development timeline toward approval from the FDA.

IDEO's design is a working model of a concept device meant to ensure consistent application across a range of users. A proprietary mechanism controls the application of the skin preparation and patch location. The patch is shelf stable and has the potential to be sent through the mail and self applied, enabling optimal delivery for pandemic vaccination and large-scale vaccination in emerging economies. IDEO also designed the patch to be easy to manufacture using standard materials and processes, setting the stage for myriad future applications and new models of vaccine delivery.

Following Iomai's creation of this early phase working model, Intercell and IDEO plan to continue development of a final version to take to market. Intercell currently has two vaccine candidates in late stage development. Iomai completed its IPO in 2006 and was funded under a contract with the Department of Health and Human Services directed toward its pandemic flu program. Iomai merged with Intercell in August 2008.