Expert View

ADVANCING CANCER CARE THROUGH ON-BODY SUBCUTANEOUS INJECTIONS: THE ONCOLOGY COMMUNITY'S PERSPECTIVE

Dr Greg Moakes of LTS Device Technologies discusses the role that on-body delivery systems have to play in modernising the delivery of oncology drugs, digging into the survey results of over 200 attendees of the American Society of Clinical Oncology 2025 Global Meeting as to their opinions on the place of this pivotal technology in oncological practice.

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The drug delivery industry is currently seeing a continued rise in the popularity of on-body delivery systems (OBDSs). As many industry experts recognise, this growth is driven by the increasing prevalence of chronic diseases, continued innovation in injectable drug delivery, a continued focus on at-home healthcare and the growing range of therapy areas that OBDSs can be configured to treat, including diabetes, Parkinson's disease, pain management, autoimmune diseases and many types of cancer.

In the case of oncology care specifically, new therapies are being discovered and existing therapies continue to evolve rapidly, driven by advances in biologics and immunotherapies. However, the method of drug administration has, until recently, remained a persistent barrier to delivering what should be regarded as better patient-centric outcomes. This is because traditional intravenous (IV) infusions, although often effective, place huge demands on both clinicians and patients, involving emotionally demanding and lengthy visits to healthcare facilitates by patients and the provision of dedicated, specialist and expensive healthcare professionals (HCPs) by hospitals and clinics.

In response to this, the industry is witnessing a growth in pharmaceutical R&D projects either innovating in or repurposing for subcutaneous (SC) delivery methods, particularly large-volume SC injections, and the development of OBDSs that can deliver high-volume, high-viscosity therapies. This article explores the real-world insights from a survey conducted during the American Society of Clinical Oncology (ASCO) 2025 Global Meeting, highlighting both the promise and practical limitations of shifting towards SC delivery.

THE CHALLENGES WITH THE STATUS QUO

Oncology patients undergoing hospital-based treatments face significant challenges, including frequent unplanned hospitalisations, emotional distress, significant variations in access to care and an overall reduction in quality of life. As a result, too many cancer patients choose to discontinue their treatment regimens, stating a myriad of reasons including feeling resistant to treatment, the severity of the side effects outweighing the benefits and the sheer financial burden of treatment.

There are other reasons too, ones that an effective, patient-centric solution could mitigate. Hospitalisation is taxing both physically and psychologically, with patients often reporting deterioration in wellbeing, constant fatigue and an overall sense of a lessening quality of life, particularly at a time when patients and their families are confronted with the reality of a shortened life expectancy. Even the burden of travel is often cited as a tangible reason for discontinuation.

Unacceptable delays in treatment and navigating the complexity of a disjointed, multi-stakeholder healthcare system, including problems accessing daycare support and pain management, further add to challenges that patients face, leaving them feeling isolated and giving them the sense that they have to manage their care on their own. And, of course, there is the economic burden of oncology care,

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which can be considerable to say the least, placing even greater levels of anxiety on the patient or the payer.

SC DELIVERY VIA AN OBDS IS EMERGING AS A VIABLE ALTERNATIVE

SC delivery therefore presents an appealing alternative to the status quo. It offers faster administration and improved patient comfort. However, up until recently, transitioning complex oncology drugs to highly viscous SC formulations has presented unique challenges in terms of patient tolerance and administration feasibility. Some therapies also require follow-up visits with the physician.

One demonstrable example of how these challenges have been overcome is the recent market commercialisation of UDENYCA ONBODY™ (Coherus, CA, US), a state-of-the-art on-body injector system designed to deliver the biosimilar pegfilgrastim-cbqv for cancer patients undergoing chemotherapy or radiation therapy. Based on the approved dosing regimen, pegfilgrastim is to be administered 27 hours after oncology treatment to reduce the risk of infection.

Conveniently, this device can be securely applied directly to the skin at the end of a chemotherapy session. The retractable needle mechanism will then automatically deploy at the predetermined delivery time, with an indicator, status light and audible signal to provide patients with reassurance that the dose has been correctly administered. Furthermore, the injection time is around five minutes, which ensures that the disruption to patients' daily lives is kept to an absolute minimum. This is, of course, on top of the invaluable benefit of not having to visit an HCP for treatment, with all the time, disruption and anxiety that brings.

A LANDMARK STUDY INTO THE ATTITUDES WITHIN THE ONCOLOGY COMMUNITY

To better understand how the oncology community regards the potential of OBDSs as an effective delivery mechanism, 200 oncologists attending the ASCO 2025 meeting were surveyed to ascertain their opinions. The ASCO has a stated aim of "Conquering cancer through research, education and promotion of the highest quality patient care" and attracts a range of highly experienced and diverse oncology expertise, making it an ideal environment for such a study.

Survey Demographics

The study targeted a broad spectrum of oncology specialists, including haematologist, medical, surgical and radiation oncologists, as well as nurse practitioners and physician assistants working across academic centres, community hospitals and private practices. Ranging from recent graduates to seasoned experts, over 88% of respondents had more than six years in practice, with 31% practicing for over 16 years. The majority of those surveyed (45%) were haematologist oncologists who frequently administer SC therapies, while another 38% were medical oncologists.

Current Use and Perceived Barriers of SC Therapies

While SC therapies are gaining traction, they still remain underused in many practices, with just 5% of oncologists reporting that more than 50% of their patients receive SC therapy (excluding supportive care). A significant proportion of respondents (48%) administer SC drugs to just 11–25% of patients. That said, usage is growing where clinicians are looking to reduce the number of frequent IV infusions for chronic therapy or to better manage limited resources.

As shown in Table 1, the greatest barrier to widespread adoption appears to be patient-reported pain or discomfort (44%), followed by administration complexity and staff burden (26%). These concerns underscore the need for better drug delivery systems, particularly for volumes exceeding 2.25 mL.

Tolerability Thresholds

Tolerability thresholds are critical to patient adherence and comfort. In this section, the survey explored the respondents' perceptions of volume tolerance for SC injections via handheld syringes – 46% of oncologists identified 3.5 mL as the upper limit, another 33% considered up to 5 mL as tolerable and only 5% believed that up to 10 mL was acceptable. On this basis, the upper limit for standard SC injections lies between 3.5 and 5 mL, which is clearly a considerable constraint, as many biologics require much higher doses than that.

Paradoxically, the overall tolerability rating of large-volume SC injections (>2.25 mL) was favourable, with 55% rating them as "well tolerated" and only

Percentage of Patients Receiving SC Therapy (non-supportive care)	Most Significant Challenge With SC Injections as Identified by Clinicians >2.25 mL
26–50%: 29%	Patient-reported pain or discomfort: 44%
11–25%: 48%	Administration time and complexity for staff: 26%
0–10%: 18%	Injection site reactions: 15%
More than 50%: 5%	Patient anxiety or apprehension: 10%
	Reimbursement or billing issues: 5%

Table 1: Barriers to large-volume SC use.

5% indicating that they were "poorly tolerated". No respondents rated them as "very poorly tolerated"; the remaining 40% reported them as "moderately tolerated". So, while clinicians believe there is a volume threshold, many acknowledge real-world tolerability is better than expected, opening the door to alternative methods for larger-volume delivery.

Response Option	Percentage
Enabling at-home administration	62%
Freeing up staff time in the clinic	18%
Reducing patient-reported pain	11%
Improving patient adherence	7%
Allowing for administration of viscous drugs	2%

Table 2: Primary potential benefit of an OBDS.

OBDSs: The Promise and the Unease

The emergence of OBDSs is generating cautious optimism among clinicians. A total of 76% of the respondents rated the potential of OBDSs to improve the patient experience as "substantial" or "significant". The primary benefit identified by the respondents was their potential to enable at-home administration (62%), followed by freeing up staff time (18%) and reducing pain via slower, controlled injection (11%), as shown in Table 2.

However, the optimism is tempered by practical concerns such as device failure (43%) and the ability of patients to manage the device at home (35%). Other concerns cited included reimbursement (14%) and potential side effects (6%), although these were seen as somewhat lesser barriers to adoption.

Notably, 73% of respondents saw the greatest potential for OBDSs as enabling technology platforms in at-home settings, reflecting the strong appetite for decentralising treatment while maintaining therapeutic efficacy and safety. The respondents thoughts on the potential of OBDSs to improve quality of life for patients are shown in Table 3.

Response Option	Percentage
5 – Significant Improvement	25%
4 – Substantial Improvement	51%
3 – Moderate Improvement	20%
2 – Minor Improvement	4%
1 – No Improvement	0%

Table 3: Belief that an OBDS could improve patient experience (Scale 1–5).

The Future Outlook Suggests a Shift From IV to SC is Imminent

Finally, the survey turned to the respondents' outlook on the future, which provided some telling statistics. Notably, 48% of oncologists expect 26–50% of their patients to shift from IV to SC biologics within the next five years, with another 40% predicting that between 10% and 25% will make the switch. Only 3% expect the transition to affect fewer than 10% of their patient population. This projection aligns with the conversations drug delivery device developers are having with pharma partners and the broader industry, with all stakeholders making concerted efforts to make cancer therapies more convenient and patient centric to enhance patient quality of life.

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CONCLUSION

Oncology treatment stands at a pivotal crossroads. Scientific advances, together with novel delivery platforms, are creating unprecedented potential for improved

patient outcomes. The landmark survey of oncology professionals discussed here reinforces an increasingly popular view that SC drug delivery, particularly through OBDSs, is both feasible today and inevitable in the future of modern oncology, supporting the clinical motivation to improve patient experience, reduce strain on resources and modernise delivery methods for increasingly complex therapies.

In many ways, OBDSs can be seen as the absolute manifestation of a patient-centric healthcare approach. By integrating drug product, injection hardware and software-controlled activation mechanism into a single automated device, these devices offer significantly greater levels of convenience when compared with the need to regularly self-inject or the requirement to attend a clinic for medicine to be administered by an HCP. This not only removes a burden from patients but can also support improved compliance with sometimes complex therapy regimens, as well as removing a proportion of the costs where travel to care would otherwise be required.

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ABOUT THE COMPANY

LTS is a pharmaceutical technology company that develops and manufactures drug delivery systems for pharma partners, with a focus on transdermal therapeutic systems, oral thin films on-body delivery devices and microneedle-array patches. Its systems are applied in more than 20 marketed products.