



CONNECTED MEDICINE: INSIGHTS FROM PAYERS & OTHER STAKEHOLDERS

Sai Shankar, Director, Business Development – Connected Devices, Aptar Pharma, and Chris Hogg, Chief Operating Officer, Propeller Health, draw upon recent research and their experiences in digital health, including interviews with payers, to explore the current state of connected medicines. They believe there are four key themes which need to be addressed to ensure the promise of connected devices is successfully met.

In the drug delivery sector, there is now widespread belief that connected medicines hold great promise for improving medication adherence, reducing healthcare costs and, ultimately, improving patient outcomes. But what are the executives from the various stakeholders in the healthcare ecosystem thinking?

Aptar Pharma recently recruited a panel of industry executives representing health plans, pharmacy benefit managers (PBMs), integrated delivery networks (IDNs) and life sciences manufacturers to study how these stakeholders perceive connected devices. The research revealed four keys to realising the promise of connected medicines:

- Connectivity and patient engagement
- Adherence
- Coverage
- Cost and adoption challenges.

In this article, we explore those themes and provide a glimpse into the current state of

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connected medicines, sharing insights from the study and from Propeller Health’s real-world experience in deploying connected medicines.

CONNECTIVITY & PATIENT ENGAGEMENT

Increasingly, payers, provider organisations, life science companies and PBMs are coming together to better understand and define how connected medicine programmes will work. They are eager to generate data and learnings, and develop appropriate payment models, including how to structure risk-based and outcomes-based contracts.

Like any significant change in healthcare, more work is necessary to make connected medicines truly ubiquitous. Those first steps towards widespread adoption are currently underway, with health plans and PBMs becoming increasingly willing to partner with life sciences manufacturers and digital solutions providers.

Within the EU in particular, there is of course a legislative development, the General Data Protection Regulation (GDPR (EU) 2016/679), which may impact on how the plans for adoption, data generation and interpretation are managed. Recent events also suggest that the US is becoming increasingly cognisant of the reality of personal data breaches and it is therefore almost inevitable that some guidance will be introduced in the US sometime soon.



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The study showed that healthcare leaders see the promise of connected devices and improved outcomes for patients, but want strategic partners who can help structure programmes, generate real-world data and showcase results. One panelist, whose company has partnered with a life sciences manufacturer, responded that they had experienced positive results from a connected device adherence programme: “Texting initiatives led to better case management and communication with patients.”

More than 60 connected medicine programmes have been conducted by Propeller, which have highlighted the technical challenges that come with managing tens of thousands of connected devices around the globe, but have also shown significant value from passively capturing medication use data. For example, due to the connected inhaler programme in the city of Louisville, Kentucky, US, rescue inhaler use for people with asthma was reduced by 78% and symptom-free days was increased by 48% (Figure 1).¹

The main lesson learned is that while connectivity is the foundation, a focus on the entire patient journey is critical to delivering positive results. This requires answering key questions, such as:

- How do patients learn about the connected medicine?
- How do they enroll and onboard?
- What value do they derive personally from the service to make them want to continue using it?
- How do you get this information back to other stakeholders, such as physicians, care teams and payers?
- What are the new care protocols concerning digital, connected medicines?

When connectivity becomes standard in all medication delivery forms, diseases and therapeutic classes, it will be the analytics, user experiences and services built on top of these data streams that will really differentiate solutions. We have seen very different results in engagement, retention and clinical outcomes across different groups, for example:

- **Patient types** – “sicker” patients enroll more often
- **Patient age** – older patients are more engaged
- **Payer type** – Medicaid programmes are more challenging, but possible
- **Clinical involvement** – strong care teams see superior results across most metrics.

ADHERENCE

For many health plans and PBM advisors, increased adherence is a key goal for connected devices. Additionally, health plans and life science manufacturers want data from devices as proof that a patient is taking their medications, and want hard data on outcomes, such as the effect on the number of emergency room visits by patients and the subsequent impact on cost.

Two PBM and health plan panelists, however, focused more on using technology to improve the information flow between patient and provider, and to increase engagement from the patient through the use of contextual reminders and personalised educational content. Technology used this way, suggested one PBM panelist, allows providers to “have more of a direct patient interaction”.

Despite variances on how connected

health technology can be used, the ultimate goal remains the same: keeping patients healthy and out of hospital.

The results from the commercial programmes conducted by Propeller Health validate this finding. For example, connected device users demonstrated more than double the average adherence when compared with a large national sample (calculated from four large studies of more than 84,000 patients).²⁻⁵ In a controlled study, Propeller was associated with a 58% improvement in adherence in the intervention group after six months when compared with the control group.⁶

There was also increased interest in using connected medicines as a new signal for physicians to determine the appropriate level of therapy for each patient, including to justify a “step-up” treatment – such as a biologic for severe asthma – to improve patient health and reduce hospital visits.

COVERAGE

Coverage of connected devices is complicated. The consensus among the interviewees was that if the sensor is integrated within the medication delivery device, it will be covered under the pharmacy benefit, and if the device is an add-on or otherwise separable, it will be covered as durable medical equipment (DME). The software or service component of the solution may also be embedded in the drug benefit but will more likely be covered by health plans. This service reimbursement will cover both the service provider and physicians for their time interpreting data. In the US, physical therapy (PT) codes for interpretation of remote monitoring data are coming into use, with the unbundling of CPT code 99091 in January 2018 and a new RPM code expected in January 2019.

Some panelists from the health plans agreed that they will wait for PBM or Medicare guidance before deciding how to handle these decisions in their own plans. They also wanted to see real-world evidence that the device is going to be worth the investment: providing improved outcomes, significant medical value or cost offset, and helping with quality measures and hospitalisations. Only then would they decide how to cover the device and who will pay for it.

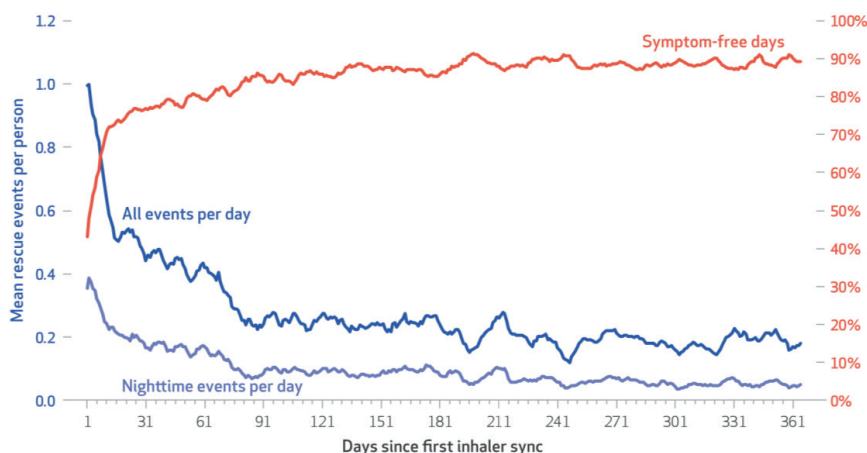


Figure 1: Clinical outcomes of participants with asthma over the 12-month intervention. Chart courtesy of Health Affairs.

COST & ADOPTION CHALLENGES

Cost was consistently ranked as one of the top concerns for plans looking at implementing connected medications. However, life science companies see this technology as a mechanism to usher in an era of value-based contracting, either with PBMs or directly with health plans, possibly upending the current rebate model, thereby gaining a competitive advantage.

The advisors stated that they expected connected devices will cost more, a factor that must be considered when deciding whether to cover. For many, this added cost is the most important factor, meaning they must be completely convinced that the connected device will improve outcomes. Propeller has demonstrated an ability to achieve this, as well as significant reductions in healthcare utilisation, such as emergency room visits and hospitalisations.⁷

Most health plan advisors said they would engage in financial and risk value analyses to understand both the offset and determine if significant value could be obtained. It would be trickier for PBMs; both PBMs interviewed gave an unequivocal “no” when asked if the rebate could be mitigated. A health plan, however, has a net cost, so they would be willing to sacrifice the rebate with evidence of cost savings in other areas. One study panelist said, “We just want people to take their medications. It’s not over complicated.” In other words, if the providers can use connected medicines to correct compliance, then the device is worth the extra cost.

At Aptar Pharma, we believe that it is important to note that, as connected devices get widely adopted, at scale, the costs will reduce significantly and become less of an issue as the focus shifts to the value connected devices deliver for patients and health plans.

CONCLUSION

This study and our shared experiences reveal a market that is maturing quickly. Health plans, PBMs, IDNs and life sciences manufacturers are gaining confidence in expanding their connected device programmes – particularly when paired with the right strategic partners, helping them to consider connectivity and patient engagement, adherence, coverage, and cost and adoption challenges.

As this market continues to evolve in the years ahead, we believe it will be a significant driver in reducing healthcare costs and improving patient outcomes.

BREAKING NEWS: At the time of going to press, Aptar Pharma and Propeller Health announced a major expansion of their 2016 agreement. The companies are to collaborate on the launch of a comprehensive platform to develop digital medicines for multiple therapeutic areas, spanning inhaled, injectable, nasal and dermal medicine delivery forms. The two companies will co-market the platform. In addition, Aptar Pharma has made a strategic equity investment of US\$10 million in Propeller Health.

ABOUT THE COMPANIES

Aptar Pharma provides innovative drug delivery systems, components and services to pharmaceutical, consumer healthcare and biotech customers worldwide, spanning a wide range of routes of administration, including nasal, pulmonary, ophthalmic, dermal and injectable. Aptar Pharma’s mission is to provide complete solution services built around its drug delivery systems and to create stage-specific development packages designed to address regulatory needs proactively and accelerate

approval. Overall, six billion components and systems are produced annually across 12 manufacturing sites and are accessed by 1.6 billion patients, and over US\$50 billion worth of pharmaceutical products depend on Aptar Pharma’s systems. Aptar Pharma is part of AptarGroup, Inc (NYSE:ATR).

Propeller Health is a leading digital therapeutics company dedicated to the development and commercialisation of measurably better medicines. Propeller creates products to treat disease more effectively and improve clinical outcomes for patients across a range of therapeutic areas through connectivity, analytics and companion digital experiences. The Propeller platform is used by patients, physicians and healthcare organisations in the US, Europe and Asia.

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ABOUT THE AUTHORS

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Aptar Pharma – delivering connected, intuitive devices to improve patient health outcomes

As the leader in respiratory drug delivery systems, Aptar Pharma is focused on supporting customers and patients to effectively treat respiratory diseases including asthma & COPD.

Today, 60% of patients fail to comply with their medication regimen. At Aptar Pharma, we strongly believe that patient behavior can be changed through connected and intuitive, user-friendly devices. This can significantly increase dose adherence and improve patient health outcomes. That's why we are partnering with digital health solution providers to develop a portfolio of connected devices such as MDIs and DPIs.

To find out more about how we can help you deliver better patient health outcomes via connectivity, call **Sai Shankar**, Director, Business Development – Connected Devices, at Aptar Pharma on **+1 847-800-6058** or email **sai.shankar@aptar.com**

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