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New Report on Evaluating Payment Models for High-Cost Curative Therapies

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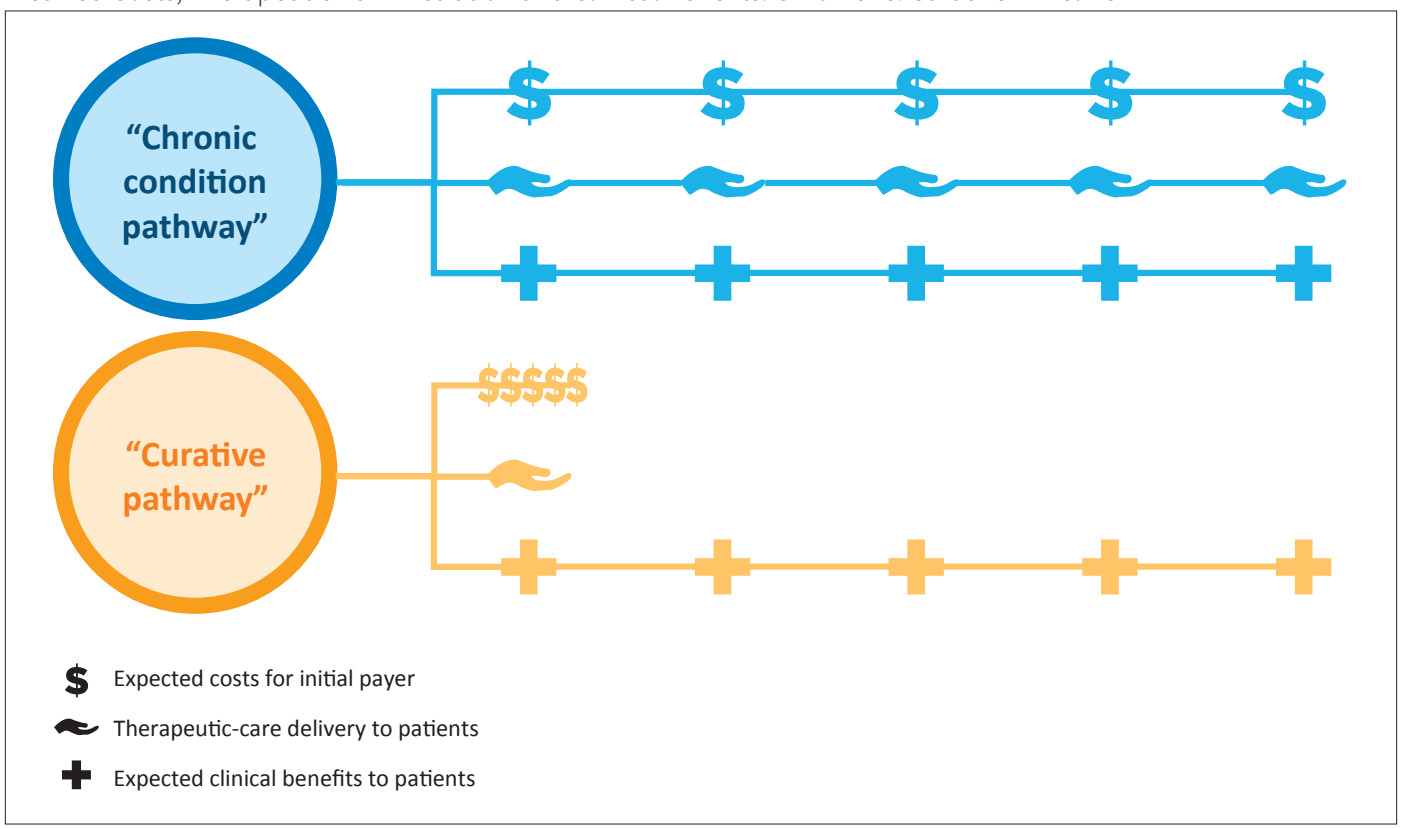
Last October, four actuaries from the U.S. and the U.K. released their latest research report on alternative payment models for high-cost curative therapies, culminating over a year of research and partnership with the Society of Actuaries (SOA). This short article aims to present the rationale and context for initiating research on this issue and to provide a brief overview of the full report, now available online.[1]

CURATIVE THERAPIES VS. TRADITIONAL MAINTENANCE THERAPIES

High-cost curative therapies have begun to enter the market, and more are expected to follow, particularly in the rare-disease space. The pipeline for these high-value therapies is growing, but traditional payment for care—where cost is incurred up front at the time of treatment administration—could strain a payer's annual budget if these therapies launch at record-setting prices. Many of these therapies have the potential to provide an extended duration of clinical benefit from a single administration or limited treatment duration. Compared to more traditional maintenance (or chronic) therapies, for which funding mechanisms are structured to cover costs incurred at the time the service is delivered, curative therapies show a mismatch between the up-front treatment costs, delivery of care to patients and long-term realization of clinical benefits to patients, as seen in Figure 1.

Figure 1
Incurred Costs, Therapeutic Administration and Clinical Benefits: Chronic vs. Curative Timeline



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PAYMENT MODELS CONSIDERED AS ALTERNATIVES TO PAYING FOR THE THERAPY UP FRONT

We believe that alternative payment models should take into account the risks to payers, manufacturers and third-party entities and should attempt to mitigate or share these risks. Several approaches are selected for consideration as potential alternative payment models for high-cost curative therapies. These include approaches found in the literature such as industry pooling, multiyear insurance contracts, financial bonds, annuity payments and health currency.

Our study also looks at how models can incorporate selected conditions for payment to mitigate various risks. Two key risks included in the study are membership turnover and efficacy of the curative therapy. In an environment where members can switch insurers, there is a risk that the entity paying for the curative therapy up front does not realize the expected financial benefits associated with the cure, a phenomenon known as the free-rider problem. Similarly, there is a risk that the curative therapy will not be effective or will be less effective than anticipated. Our study assesses the effect of implementing conditions for payment related to turnover or drug failure.

In general, the research focus is on the extent to which each of the proposed payment models can diversify, mitigate or eliminate financial risk after the decision to fund a therapy has been made.

STUDY CRITERIA USED TO EVALUATE ALTERNATIVE PAYMENT MODELS

Alternative payment models for high-cost curative therapies are discussed in the literature, but no systematic review has been performed to support a comparison across a variety of payment models. The purpose of the report is to evaluate the models that could be instituted in the real world to pay for these high-value and high-cost curative therapies, using a common set of assumptions and evaluation framework. From the literature, we identify a list of seven evaluation criteria—five core criteria that apply to all payer systems and two additional criteria that are payer-specific (Figure 2).

For each payment model, the study measures the 10-year net present value (NPV) of the total expected financial exposure to the initial payer—that is, the NPV of the difference between revenues and expenses over that period. The NPV includes the

Figure 2
Framework: Payment Models and Evaluation Criteria

Potential Alternative Payment Models

Insurance-Like Models	Debt-Like Models
Industry pooling	Annuity payments
Multiyear insurance	Annuity payments with effectiveness guarantee
	Health currency
	Financial bonds
	Financial bonds with effectiveness guarantee

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treatment cost of the curative therapy and the expected costs for the patient after treatment, offset by the annual premium and other incoming revenue. This research aims to highlight the strengths and weaknesses of each payment approach across several payer perspectives.

HOW THE SMALL BUDGET IMPACT OF CURATIVE THERAPIES COULD BECOME A BIGGER FINANCIAL ISSUE

Collectively, rare diseases lose their rarity. As more therapies and therapy–indication combinations are approved over time, the payer's aggregate cost exposure may become more significant and may pose financial risks to both smaller and larger payers. As more therapies are approved, the aggregate exposure will likely increase and the need for alternative payment models may come into sharper focus.

ALTERNATIVE PAYMENT MODELS FOR MORE PREVALENT DISEASE AREAS

The illustrative scenarios we present in our study focus on payment mechanisms for curative therapies for rare diseases. This is because rare diseases may be more likely to experience record-breaking prices for curative therapies, given the smaller treatment populations. Yet most of the payment approaches we explore in this report may be valid in more prevalent disease areas as well.

CHALLENGES FOR SINGLE-PAYER AND MULTIPAYER SYSTEMS AND HOW THEY DIFFER

The decision by payers to enter into an alternative payment arrangement to fund a one-time, high-cost curative therapy depends on many factors, with financial risks unique to each health payer.

In a single-payer environment, the majority of the cost of health care is the responsibility of one entity. In a multipayer environment, the cost of health care may be shared by more than one payer, including but not limited to private payers (e.g., insurance companies, self-insured employers) and government-funded programs (e.g., Medicare, state Medicaid agencies). Over a patient's lifetime, he or she will likely receive health coverage from multiple sources or insurers. The ability to capture future financial offsets associated with the curative therapy is a key risk in a multipayer landscape. In a single-payer system, the full duration of clinical benefits is expected to accrue to the entity funding the curative therapy. This represents a simplistic approach as there are still intergenerational concerns to address in such systems.

In our research, we use the National Health Service (NHS) in England and experience in the United States as proxies for analyzing payment considerations relevant to single-payer entities and multipayer systems, respectively.

CONCLUSION

Overall, there is no single payment model that satisfies all the evaluation criteria, and some of the payment models would not be practical for all payers or may have barriers to implementation. Fundamentally, our study demonstrates that there is no one-size-fits-all approach to the payment of high-cost curative therapies. It is important that payment models be tailored to address or mitigate the risks specific to each payer's characteristics. ■

This report was commissioned by the SOA as part of its efforts to expand the boundaries of the actuarial profession. It also received funding from the REX pool. We wish to thank the SOA for recognizing the importance of research in advancing the role of actuaries within the insurance as well as the health economics space.

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ENDNOTE

1 Serre, Didier, Joanne Buckle, Anne Jackson and Jessica Naber, Evaluating payment models for high-cost curative therapies, *Society of Actuaries*, October 2018, *https://www.soa.org/research-reports/2018/high-cost-curative-therapies/* (accessed December 20, 2018).