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# A New Market Access Path for Repurposed Drugs

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A diverse set of stakeholders within health care came together in the fall of 2013 to brainstorm potential new commercial paths for repurposed drugs for the treatment of rare diseases. This report highlights some of the identified solutions that potentially could create the right set of incentives for the efficient and accelerated development and delivery of needed therapies for patients suffering from rare diseases.

## BACKGROUND

Repurposed drugs present the promise of enabling patients' access to much-needed therapies sooner and at a lower cost. The promise is especially great for patients suffering from rare diseases that lack effective therapies. The traditional development path in pharma is long and costly. In the case of rare diseases, this expense has to be recouped by charging very high prices to the small affected population during the period of exclusivity provided by regimes like the Orphan Drug Act. Providing treatments costing in excess of $200,000 annually to a total population of 25 million to 30 million rare-disease patients could consume almost 50 percent of the gross domestic product. These levels of spending obviously are not sustainable. Making it easier to produce drugs without spiking prices is therefore a pressing, unmet policy need. Additionally,

many patients suffering from rare diseases can't wait twelve to seventeen years for a new treatment to be discovered, developed, and marketed.

The development of repurposed drugs (wherein a drug that already is approved for a specific condition can be repurposed to treat another) is promising in that it enables a faster regulatory path to market since the safety profile of the product already has been established, reducing the risk and cost to get these much needed drugs to patients. Yet historically, biotech and pharma have not pursued repurposing because of the difficulties in establishing exclusivity under the current regulatory paradigm.

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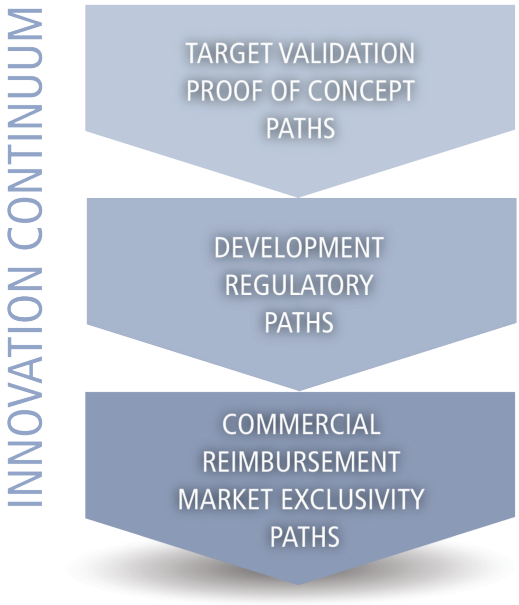
The ongoing and expanding drug repurposing project of evaluating auranofin (Ridaura®), a rheumatoid arthritis agent first approved in 1985, for Chronic Lymphocytic Leukemia (CLL) is a great example. CLL satisfies the definition of a rare disease. The auranofin drug repurposing project successfully advanced this treatment from an in vitro screen to use for patients diagnosed with this hematologic malignancy in eleven months. This drug is being developed through The Learning Collaborative, a partnership between the Institute for Advancing Medical Innovation (IAMI) at the University of Kansas Medical Center (KUMC), The Leukemia & Lymphoma Society (LLS), and the National Center for Advancing Translational Sciences (NCATS) at NIH.

Although there are drug repurposing success stories with agents such as thalidomide and rapamycin (cases where specific regulatory quirks allowed for additional exclusivity), a major challenge for most repurposed drugs is lack of a clear exclusivity path. Although exclusivities provided by patents and the Orphan Drug Act protection may be nominally applicable to the new use, such exclusivities can be undermined by physician decisions to prescribe the generic version of the old drug "off-label" for the new indication. Lack of exclusivity (typically afforded by the composition of matter patents for new drugs) creates challenges for innovator firms, generic manufacturers, and investors, making it difficult to fund drug development activities required for market approval. And even though rare diseases represent the most pressing case, the solution for repurposing existing or abandoned drugs (therapeutic candidates whose development has been discontinued by innovator firms for non-safety reasons) should be useable beyond rare diseases. The solution itself must be repurposable—for diseases like Alzheimer's, diabetes, or many other chronic conditions that might benefit from existing therapeutic agents.

## DESIGNING NEW MARKET ACCESS SOLUTIONS

In the quest to develop needed therapies faster and at a lower cost, many new innovative paths can be considered in parallel along the "innovation continuum" below. For the purpose of the Kauffman Foundation Design Day, we focused on the new potential commercial, reimbursement, and market exclusivity paths that would enable repurposed drugs to reach the hands of patients and their healthcare providers.




## THE SOLUTION—
## FOR DRUGS ALREADY AVAILABLE IN THE MARKETPLACE

Enable diagnosis-based differential pricing and reimbursement, where the repurposed drug has generic pricing for the old indication yet benefits from premium pricing for the new indication, for a market exclusivity period of seven years.

- **Market Exclusivity:** No changes to existing legislation are required. The repurposed drug may benefit from seven years of market exclusivity under the Orphan Drug Act; physicians still may choose to prescribe off-label. Drugs would be repurposed for orphan indications with regulatory approval achieved through established "orphan drug development" paths created by the FDA. Will work for orphan indications and approval through the orphan path. If not achieved through the Orphan Drug Act (e.g., repurposed drug for Alzheimer's disease), exclusivity will vary according to other rules. In some cases, IP may not be protected.

- **Market Segmentation:** The manufacturer or sponsor of a repurposed drug would be allowed to differentially price by indication. Risks of "gaming" through off-label prescription of the generic drug may be mitigated through the use of specific distribution systems in collaboration with physicians and payers (assuming the therapeutic is not available over-the-counter). To avoid differential co-pays that might motivate physicians to engage in gaming, a Payer-Sponsor Rare Disease program (see below) could be established and deployed. Further consideration will be needed on how best to manage Medicare co-pay differentials. Differential pricing also is important because we need to avoid an increase in the price of the generic medication that could limit access for patients using the drug for its original indications.
- **Pricing Flexibility:** Although the manufacturer or "sponsor" could retain full pricing flexibility, the ability to achieve market segmentation might depend on cooperation by physicians and payers. The sponsor therefore might choose to opt in to a Payer-Sponsor Rare Disease program that places certain limits on pricing but provides greater assurance of successful market segmentation.
    - —**Payer-Sponsor Rare Disease Program:** Manufacturers or sponsors will have the option to opt in to a program where they would agree to a cap of 9X sales multiple on R&D investment (in the repurposed drug), including in-licensing and out-of-pocket co-pay programs, in return for payers keeping out-of-pocket costs the same, irrespective of diagnosis. In addition, payers will enforce a prior authorization on all prescriptions to establish diagnosis and thus enable differential pricing for the new label established for the rare condition.
- **Distribution:** All prescriptions for the repurposed drug would go through a prior authorization process, in which diagnosis is confirmed, to enable differential reimbursement. Alternatively, the sponsor could agree to a closed distribution system through a limited network of specialty pharmacies.

## OTHER IDEAS/CONCEPTS

- Establishment of a new agency jointly run by the FDA and CMS should be considered. This joint agency would preapprove clinical development plans for repurposed drugs. In addition to defining meaningful improvements to standards of care, drug repurposing plans approved by this joint agency would be binding, supporting achievement of market exclusivity and maintaining pricing flexibility once regulatory approval is achieved. The joint agency would have the authority to establish terms of market exclusivity and pricing flexibility on a case-by-case basis. This concept would enable learning and determination of the right balance of incentives and efficiency to drive the development of new clinical data to support new uses.