Learning from Netflix
A new drug licensing model to enable universal treatment access

Jean-Manuel Izaret, PhD
Dave Matthews, PhD
New pricing models: the search for mechanisms to align price and value

Old economics model

"Take it or leave it" value extraction mindset

- Surplus
- Margin
- Marginal Cost
- Lost opportunity
- Value
- Price
New pricing models: the search for mechanisms to align price and value

Old economics model

- Customers receiving surplus
- Customer indifferent with buying
- "Unserved" segment

"Take it or leave it" value extraction mindset

New economics model

- All customers receiving surplus
- Margin as a share of value created
- High penetration, no "unserved" segment

Value sharing mindset

- Surplus
- Margin
- Marginal Cost
- Lost opportunity
- Value
- Price
Netflix introduced a novel pricing model that fundamentally changed the movie industry.

Historically: pay per view

- Content creators (e.g., movie studios)
- Content distributors
- Consumers

Today: subscription

- Content creators (e.g., movie studios)
- Content distributors
- Consumers
What if we applied this model to healthcare?

The problem:
Hepatitis C has been curable for 4 years...
...but global prevalence remains ~70 M people...
...and high prices make universal treatment untenable

The goal: A "win-win-win" solution

Universal patient treatment access

Lower cost to payers and providers

Proper incentives for pharma to keep innovating
Value from HCV therapy varies widely by patient

Expected healthcare cost-savings per patient over 10 years ($K)

Example patient segment
• F4 (Advanced fibrosis)
• Female, aged 60-70 yrs
• 5K patients
• $87K per patient in cost incurred over 10 years

Former leading therapy
($35,000 / patient)
Peg-interferon therapy equal to healthcare costs incurred for later stage HCV

List price range
Net price range

Note: Based on expected cost avoidance per patient treated and cured. Based on weighted-average disease progression and mortality rates for the entire prevalent population in U.S. and average costs at each stage. 2. No expected cost avoidance for patients with liver transplants or hepatocellular carcinoma. Source: CDA USA HCV EIM and LCM models, ver171010; BCG analysis
A payer licensing agreement (PLA) model would realign drug price with value delivered over time.

**Pricing basis change**
- Pay per population vs. pay per treatment
  - Payer licenses the drug with right to distribute to all patients
  - Price is set based on a percentage of the costs avoided

**Revenue amortization change**
- Pay over time vs. pay at treatment
  - Payer pays over 5-10 years, or
  - A third party annuitizes, e.g., a for-profit bank, etc.
Payer licensing provides a "win-win-win" solution

System cost savings for payer(s)

Aggregate license to pharmacos paid annually

All patients treated as quickly as possible

Payer licensing agreement

(patient segments)

- Surplus
- Margin
- Marginal Cost
- Unserved
- Value
- Price
# Payer licenses in practice: benefit for all stakeholders

## Current model: Unit-based payment model

- **Per patient price**: $30,000 / unit
- **Pay upfront**
- **Population price**:
  - Year 1: $760 M
  - Year 10: $60 M
- **# treated patients (10 yrs)**: 140 K
- **# cured (first 2 yrs)**: 45 K
- **# deaths (10 yrs)**: 22 K
- **System costs (10 yrs)**: $4.5 B
- **Pharma revenue (10 yrs)**: $3.25 B

## Proposed model: Payer licensing agreement

- **Pay annuity over time**
- **Per patient price**: $0
- **Population price**: $350 M / year
- **# treated patients (10 yrs)**: 260 K
- **# cured (first 2 yrs)**: 144 K
- **# deaths (10 yrs)**: 7 K
- **System costs (10 yrs)**: $1.3 B
- **Pharma revenue (10 yrs)**: $3.55 B

### Data for representative EU country

- **Payers savings in systems costs**: $300 M
- **Pharma revenue growth**: $3.2 B
- **100K additional patients cured in 1st 2 years**
Payer licensing provides a "win-win-win" solution

**Patients**
More treatment access

**Payers**
Lower system costs

**PharmaCos**
Equal or greater revenues

Cured patients ('000s)

Eradication

Current trajectory

New model

Total system costs ($ B)

Current

New

Drug revenues ($ B)

Current

New

Highly attractive for high-priced systems today, but also applicable to countries with significantly lower resources

Source: BCG + CDA Epidemiological model; ver170927; Example EU country data adapted from US epidemiology and cost data
Payer licensing agreements relevant for other therapeutic areas: a framework

**Economics**
Therapy should satisfy value, time, cost criteria...

- **Value**: Large cost differential between treating early and late stage patients
- **Time**: Time of payments not aligned with the time that value is consumed
- **Cost**: Low marginal cost of production, High R&D cost

**Epidemiology and access**
...then, market factors can be considered

- **Impact**: Large prevalence affected in both developed and developing countries
- **Access**: Limited affordability and/or availability of prevention or treatment
- Insufficient existing financing and pricing mechanisms, from commercial, government and/or NGOs
Novel pricing models are getting tested in healthcare

Many industries adopt new models

<table>
<thead>
<tr>
<th>Model</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital credit for consumer assets</td>
<td></td>
</tr>
<tr>
<td>Tiered user access via freemium models</td>
<td></td>
</tr>
<tr>
<td>Dynamic, personalized price-setting</td>
<td></td>
</tr>
</tbody>
</table>

Healthcare's new models are limited

<table>
<thead>
<tr>
<th>Model</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indication dependent pricing</td>
<td></td>
</tr>
<tr>
<td>Combination pricing</td>
<td></td>
</tr>
<tr>
<td>Tiered pricing</td>
<td></td>
</tr>
<tr>
<td>Outcomes-based pricing</td>
<td></td>
</tr>
<tr>
<td>Capitated pricing</td>
<td></td>
</tr>
<tr>
<td>Payer licensing</td>
<td></td>
</tr>
</tbody>
</table>

User / segment  Time  Value redefinition
An example:

Hepatitis C has been curable for 4 years...

...but global prevalence remains ~70 M people

What are we trying to accomplish?

Universal treatment access

Limited Access: >90% of countries restrict treatment to sickest patients.

Low diagnosis rates: Little incentive to diagnose early-stage patients when treatment cost is very high
Hepatitis C virus treatment breakthrough faces value alignment challenges

Value per patient varies widely depending on fibrotic stage, sex, age, etc.
- True for all value metrics, e.g., costs averted, QALYs saved, GDP impact.

Time of payments by payers does not align with the time that value is delivered, no matter the value metric.
PLA could deliver value for all stakeholders

Epidemiology
Cumulative patients treated ('000s)

Cumulative patient deaths ('000s)

Economics
Total pharma revenue ($ M)

System savings ($ M)

Notes: PLA - Payer License Agreement, FFS - Fee for service, current trajectory with unit-based pricing. Sources: CDA, BCG, Datamonitor, Decision Resources Group
The PLA approach works because of the long term cost-savings from curing patients quickly.

*Note: Annual hospitalization costs discounted at 3% annually. Cured and deaths are summed in time beginning 2017, all other statuses are showing prevalence. Source: Based on CDA 171101 US-adapted model, BCG analysis.
HCV therapy delivers value over many years

Non-drug costs of example HCV-infected patient cohort

Source: CDA, BCG; Chart shows average costs for male aged 30 when infected in 2013; 3% discount rate

Average DAA net price ($43K)