COVID-19 Weekly Trend Insights

Data Week Ending March 27th, 2020
Compiled on April 2nd, 2020
COVID-19 INSIGHTS

Summary of Insights
Week Ending 3/27/2020

• Latest Timeline on COVID-19 Pandemic
• U.S. State Trends for Reported Cases vs. Key Market Shifts
• First-Look at National Telemedicine Trends
• Key COVID-19 Markets: Immediate Response to Outbreak
• Impact of COVID-19 on Other Markets
• Prescription Channel Analysis
• Trends in Payer Rejection Rates and Patient Abandonment
Timeline: Latest COVID-19 Developments

March 19th:
New York City confirms 21,000 cases, making it the biggest epicenter of the outbreak in the U.S.

March 21st:
Unemployment claims reach 3.3 million
(projected to reach 5.6 million the following week)

March 23rd:
Total confirmed cases in the U.S. reach 82,404 – the highest in the world – surpassing China and Italy

March 30th:
FDA authorizes antimalarials for emergency use despite limited evidence as a viable COVID-19 treatment

March 31st:
Roughly 80% of all Americans are under lockdown as 35 states issue stay-at-home orders

Sources:
Department of Labor
The number of cases of COVID-19 being reported in the United States is rising due to increased laboratory testing and reporting across the country.

The growing number of cases in part reflects the rapid spread of COVID-19 as many U.S. states and territories experience community spread. [Source: CDC]
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Confirmed Cases in the USA

- The cases of COVID-19 increased by over 1,900 cases from April 1st, 2020 to April 2nd, 2020 representing an increase of roughly 1% in one day.

Top 10 Impacted States

<table>
<thead>
<tr>
<th>State</th>
<th>Confirmed cases</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>92,743</td>
<td>2,468</td>
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<td>New Jersey</td>
<td>25,590</td>
<td>537</td>
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<td>California</td>
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<td>Illinois</td>
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<tr>
<td>Pennsylvania</td>
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</tr>
<tr>
<td>Washington</td>
<td>6,595</td>
<td>272</td>
</tr>
</tbody>
</table>

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State Trends

- **Increase Across Key COVID-19 Markets** (week ending 3/27/2020 vs. Baseline)
  - Antimalarials, Immunologic Agents, & Respiratory Therapy
  - For the most part, states with the highest increases of confirmed COVID-19 cases show less activity within the key markets (with the exception of Washington and Michigan).
- **Baseline: Week Ending 2/21/2020**
  - Week Ending 2/21/2020 represents regular, reporting thresholds pre-COVID-19 escalation in the U.S., which officially started with the “do not travel” warning issued 2/29/2020 by the Trump administration.

Not Listed:
- Alaska: 47%
- Hawaii: 33%
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Trends in Types of Patient Visits

• After a lull in telemedicine appointments with week ending 3/6/2020 due to increased physician office and ER visits, patient utilization of telemedicine surged with week ending 3/27/2020 as more states went on lockdown.

• After a significant uptick in ER visits with week ending 3/6/2020, average patient visits to the ER have continued to decline in the following weeks.

• Patient Visits is defined as the ratio of number of visits in a week in 2020 to the average number of visits during the baseline period in 2019.
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Trends in Types of Patient Visits

Mirroring ER and in-office trends, both inpatient and outpatient hospital visits have also been on the decline following week ending 3/6/2020.

- Patient Visits is defined as the ratio of number of visits in a week in 2020 to the average number of visits during the baseline period in 2019.
Key Markets: Immediate Response to COVID-19

- Although Antimalarial prescriptions are down with week ending March 27th, unprojected TRxs remain significantly higher than previous thresholds for ages 10+.

- Combined with statements from the Trump administration touting antimalarials as "game changers" and rising COVID-19 cases, the FDA has authorized hydroxychloroquine and chloroquine for emergency use on 3/30/2020. We may continue to see high prescription volumes as a result.

Additional Sources:
Key Markets: Immediate Response to COVID-19

- Payer rejection rates for anti-malarial claims went from an average of 6% to 9% despite early projections of lower barriers to therapy.

- Rejections are primarily driven by refill too soon restrictions and prior authorizations flagged by the off-label use (the latter may be down in future weeks due to the FDA emergency use authorization).

- Although new claims also experienced higher payer rejections since week ending 3/20/2020, the increase is primarily driven by refills.

Antimalarials are traditionally used to treat autoimmune disorders, Lupus, and Rheumatoid Arthritis

Patients relying on these therapies for regular maintenance could run into challenges with prescription fills due to the large increase in demand from COVID-19 patients.
Key Markets: Immediate Response to COVID-19

Markets of Interest: USC 2: 86000 Immunologic Agents & 28000 Respiratory Therapy
Data Ending: March 27th, 2020

Immunologic Agents (ages 3+) are down from the previous week’s run, although unprojected TRx volumes still remain above historical thresholds.

- While immunology rejected claims remained consistent with historical rates of ~17%, the count of total rejected claims jumped from 8% to 10% with week ending 3/27/2020.
- Rejections for the week are driven by prior authorization requirements, exceeded plan limitations, and refusal to cover under the Medicare Part D basic benefit.

The drop in reporting activity for week ending 3/27/2020 is consistent across all age groups.
Key Markets: Immediate Response to COVID-19

Markets of Interest: USC 2: 86000 Immunologic Agents & 28000 Respiratory Therapy

Data Ending: March 27th, 2020

Respiratory Therapy (all ages) are down from the previous week’s run, although unprojected TRx volumes still remain above historical thresholds.

The payer rejection rate for respiratory therapy claims has been increasing since week ending 3/13/2020, from ~6% to ~8%.

These increases are being driven by exceeded plan limitations, prior authorization requirements, and product not on formulary.
Other Impacts: Decrease in Elective Therapies

- With week ending 3/27/2020, unprojected TRx volumes for elective therapies and antibacterials have hit their lowest point in the past 15 months (decreases in these markets can be seen across almost all age groups).

- Other maintenance markets dropped back to normal thresholds with week ending 3/27/2020 (including cholesterol, antineoplastic therapies, cardiac agents, diabetes, neurological/neuromuscular disorders, parasympathetic drugs, psychotherapeutics, sedatives & hypnotics, thyroid therapies, and vascular agents).

The drop in reporting activity for week ending 3/27/2020 is consistent across all age groups.

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Data Ending: March 27th, 2020
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Trends for Other COVID-19 Treatment Candidates

- Despite a significant increase in overall activity for antivirals/HIV therapies early in the year, overall trends have been on the decline since the COVID-19 pandemic gained a foothold in the U.S. in March.
- Payer rejection rates for antiviral claims went from 4% to 6%, driven by refill restrictions and plan limitations.
- HIV therapies being investigated for COVID-19 treatments include AbbVie’s Kaletra, Janssen’s Prezista and Prezcobix, and Gilead’s Truvada.

The drop in reporting activity for week ending 3/27/2020 is consistent across all age groups.
Trends for Other COVID-19 Treatment Candidates

- Older vaccines and antiviral drugs are also being studied as COVID-19 treatment options, including a vaccine to prevent tuberculosis called the bacillus Calmette-Guerin (BCG) [according to a 4/1/2020 article from BioSpace].

- Current tuberculosis therapy trends have remained relatively stable compared to historical activity, but these may shift in the coming weeks.
The drop in reporting activity for week ending 3/27/2020 is consistent across all age groups.

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**Prescription Channel Analysis**

- While overall unprojected TRx volumes declined by -13% with week ending 3/27/2020, total Mail Order activity actually increased by 3%.
- For the majority of markets, retail distribution shifts mirrored changes to total prescription activity with week ending 3/27/2020.
- Increases in Mail Order distribution range from 0%-3%, with the highest distribution shifts occurring for antiseptics, immunologic agents, antimalarials, and antivirals.
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Payer Rejections vs. Patient Abandonment

• While patient abandonment rates have been on the decline the past 2 weeks, payer rejection rates have actually increased by an average of 6% for new claims and 16% for total claims [compared to week ending 3/6/2020].

• The increase in payer rejections are primarily driven by prescriptions exceeding plan limitations, days supply exceeding allowable refills, and prior authorization requirements.

• The increase of prior authorizations in particular is most likely related to the off-label use of medications to combat COVID-19 or as a mechanism to manage patients who are stockpiling.
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Payer Rejections vs. Patient Abandonment

For the majority of markets, payer rejection rates have increased with week ending 3/27/2020. This includes markets where patients are more vulnerable to COVID-19:

- Diabetes: Rejection rate increased from 8% to 9%
- Vascular Agents (Heart): Rejection rate increased from 6% to 7%

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<tr>
<th>BB_USC2_NAME</th>
<th>REJECTION RATE</th>
<th>DIFFERENCE</th>
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<tbody>
<tr>
<td>CALCIMIMETIC AGENTS</td>
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<tr>
<td>ANTI-OBESITY</td>
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<td>ANTIMALARIALS</td>
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