Japanese Market and Patient-Level Insights
Uncovering Unmet Needs for Strategic Portfolio Planning

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The Challenge

Identify Japanese market and patient level insights based on unmet needs – comparing vs. other major geographic markets

Identify demographic trends and comparisons in health habits and attitudes of Japanese citizens vs. citizens of other countries

Map MSD pipeline against future demographics, identify therapeutic areas of potential commercial interest to MSD in the future
Outline

Understanding Unmet Needs: An International Comparison

An International Ranking and Comparison of Conditions

Understanding Unmet Needs: A More MSD Focused Review

Setting Direction Through Portfolio Analysis

Summary of Insights and Strategic Direction
Project Insight Sources

The National Health and Wellness Survey (NHWS) Database

Covering 10 Markets with over 1 million respondents: US, 5 EU, Japan, China, Brazil & Russia

The largest healthcare database of projectable, self-reported, “real world” patient level information which covers over 165 therapeutic conditions

The Epi Database

Covering 13 Markets: US, 5 EU, Japan, Brazil, China, India, Mexico, Russia and Turkey

Epidemiology data covering up to 190 indications and projections
Understanding Unmet Needs: An International Comparison
Unmet Needs among Most Prevalent Conditions
United States

Quality of life (SF-6D scores)

Global mean level of health utility scores

Percentage currently treated

The size of each bubble refers to the number of people who reported experiencing the given condition.
Unmet Needs among Most Prevalent Conditions
Big 5 EU (France, Germany, Italy, Spain & the UK)

Quality of life (SF-6D scores)

Global mean level of health utility scores

Percentage currently treated

The size of each bubble refers to the number of people who reported experiencing the given condition.
Unmet Needs among Most Prevalent Conditions

Urban China

Quality of life (SF-6D scores)

Global mean level of health utility scores

Percentage currently treated

The size of each bubble refers to the number of people who reported experiencing the given condition.
Unmet Needs among Most Prevalent Conditions

Japan

Quality of life (SF-6D scores)

Global mean level of health utility scores

Percentage currently treated

The size of each bubble refers to the number of people who reported experiencing the given condition.
An International Ranking And Comparison of Conditions
While 13 of the top 20 conditions¹ are consistent across geographies…

¹ Ranked in order based on prevalence, source: The National Health and Wellness Survey database
95% of the conditions have a change in priority order across geographies and more than 1/3 of the conditions are different in Japan vs. US and Europe.
While many of the conditions that differentiate Japan from the US and Europe, also feature in China

China, not Japan
- Anxiety
- Anemia
- Ulcer Disease
- Fungal Infections
- Osteoporosis
- Sleep Difficulties

Both Japan and China
- Japan only
- Similar vs US and/or 5EU

Other conditions:
- Headache
- Hay Fever
- Abdominal Pain
- Migraine
- High Blood Pressure
- Pain
- Heartburn
- High Cholesterol
- Gingivitis
- Nasal Allergies
- Arthritis
- Insomnia
- Arrhythmia
- Eczema
- Abdominal Bloating
- Dermatitis
- Diarrhea
- Dry Eye
- Chronic Constipation
- Diabetes
Understanding Unmet Needs: A More MSD Focused Review
Unmet needs in Japan: A More MSD Focused Review
Focusing on Quality of Life

Quality of life (SF-6D scores)

average health utility index for the all Japanese adults

2010

Smoking Cessation
Arthritis
Migraine
Eczema
Psoriasis
IBS
COPD
HCV
High Cholesterol
Nasal Allergies
Osteoporosis
Psoriasis
Depression
Bipolar
Asthma
Glaucoma
Diabetes
Hypertension
OAB
Osteoporosis
Psoriasis
Arthritis
Insomnia

The size of the bubbles represent the prevalence of experiencing the condition.
The select conditions’ growth rates are excerpts from the Kantar Health Epi Database®
Unmet needs in Japan: A More MSD Focused Review
Focusing on Quality of Life

Quality of life (SF-6D scores)
average health utility index for the all Japanese adults

Percentage currently treated

Smoking Cessation 0.76
Arthritis + 5.9%
Migraine
Eczema
HCV
Psoriasis
COPD + 4.7%
IBS
Insomnia
High Cholesterol
Nasal Allergies
Osteoporosis
Asthma
Glaucoma + 6.2%
OAB
Anxiety
Bipolar
Depression
Diabetes + 5.1%
Hypertension + 4.6%
Gastroesophageal Reflux Disease + 2.8%
Unmet needs in Japan: A More MSD Focused Review
Focusing on Quality of Life

The size of the bubbles represent the prevalence of experiencing the condition. The select conditions’ growth rates are excerpts from the Kantar Health Epi Database®.
Unmet needs in Japan: A More MSD Focused Review
Focusing on Quality of Life

Quality of life (SF-6D scores) average health utility index for the all Japanese adults

Percentage currently treated

The size of the bubbles represent the prevalence of experiencing the condition.
The select conditions’ growth rates are excerpts from the Kantar Health Epi Database®
Unmet needs in Japan: A More MSD Focused Review
Focusing on Work Impairment

The size of the bubbles represent the prevalence of experiencing the condition.

Percentage of overall work impairment

Percentage currently treated

2010

- Asthma
- Depression
- Diabetes
- Glaucoma
- OAB
- Insomnia
- Osteoporosis
- High cholesterol
- Hypertension
- Smoking cessation
- Migraine
- Arthritis
- Psoriasis
- Eczema
- HCV
- IBS
- Nasal allergies
- Bipolar

EphMRA
www.ephmra.org

The size of the bubbles represent the prevalence of experiencing the condition.
The size of the bubbles represent the prevalence of experiencing the condition.
Unmet needs in Japan: A More MSD Focused Review
Focusing on Patient Satisfaction

X-axis represents average medication satisfaction.

Conditions with below average satisfaction:
- IBS
- Glaucoma
- Osteoporosis
- OAB
- Smoking cessation
- Psoriasis
Unmet needs in Japan: A More MSD Focused Review
Focusing on Patient Satisfaction

2010

High satisfaction, low prevalence

High satisfaction, high prevalence

Relative treatment satisfaction vs. Prevalence Percentage

-0.60

0.60

0% 2% 4% 6% 8% 10% 12% 14% 16% 18%

Asthma
COPD
Bipolar disorder
Anxiety
Diabetes
Depression
High cholesterol
Hypertension
Migraine
Glaucma
Osteoporosis
OAB
Psoriasis
Smoking cessation

EphMRA
www.ephmra.org
Unmet needs in Japan: A More MSD Focused Review
Focusing on Patient Satisfaction

2020

High satisfaction, low prevalence

High satisfaction, high prevalence

Prevalence Percentage

Relative treatment satisfaction

Asthma
COPD
Bipolar disorder
Anxiety
Diabetes
Depression
Insomnia
High cholesterol
Hypertension
Migraine
Glaucoma
IBS
Osteoporosis
OAB
Psoriasis
Smoking cessation
Setting Direction through Portfolio Analysis
Potential Metrics to be considered

**Size of opportunity**
- Epidemiology
- Demographic change
- % Treated / Untreated

**Position of company**
- Breadth of therapeutic coverage
- Share of individual market (value / PDOT)
- Perception of company within therapy area
- Pipeline strength

**Unmet Needs / Other**
- Humanistic (indirect) costs: QoL / Degree of Work Productivity and Activity Impairment
- Direct Costs: Hospitalization, Dr. visits and ER
- Further unmet needs
- Treatment satisfaction
Strategy Assessment Cube

- Approx. allocation ratios

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- 5 year CAGR
- Absolute size
- % Change
Segment Mappings

Each segment is mapped to a specific strategic direction

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Summary of Insights and Strategic Direction
Among the most prevalent conditions globally, there appears to be greater unmet needs in emerging markets (China, etc.)

While some conditions are similar across geographies, almost all change in prevalence rank order and Japan & China share unique similarities.

Many further unmet needs are uncovered when analyzing from additional perspectives: Humanistic/QoL (indirect), Direct Costs & Satisfaction.

It is important to use multiple perspectives to be able to identify hidden unmet needs and match them with the strategic direction of the company.
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