

Indonesia

Lung Cancer Factsheet: Insights & Key Developments

Key Insights on Lung Cancer Care
and Infrastructure

Core Pillars:

1. Infrastructure
2. Treatment Access, Research Funding and Awareness Campaigns
3. Survival Rates, Early Detection and Palliative Care
4. Utilization of Biomarkers
5. Clinical Guidelines
6. Reimbursement
7. Lung Cancer Screening

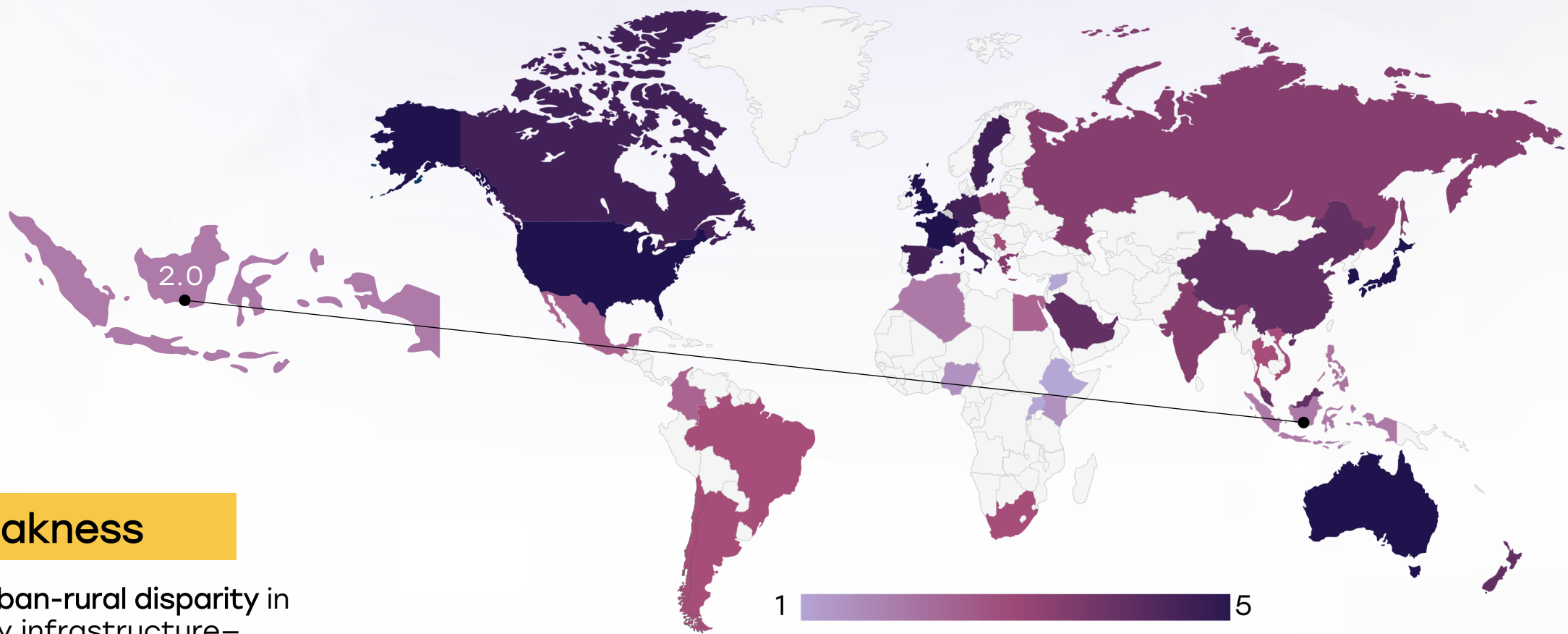
Lung cancer remains one of the most prevalent cancers worldwide, affecting millions of individuals each year. Despite advancements in diagnostics, treatment, and awareness, disparities in access to care, molecular testing, and specialized centers persist.

This factsheet provides a comprehensive overview of key pillars shaping lung cancer care, including specialized infrastructure, treatment accessibility, research funding, early detection, and palliative care.

- Incidence share: Most common cancer in Indonesian men; overall third most common cancer and leading cause of cancer deaths
- Incidence rate:
 - Men: Approximately 21.3 per 100,000
 - Women: Approximately 6.4 per 100,000
 - Overall: Approximately 13.4 per 100,000 population per year
- Total new cases (2020): Approximately 34,800 cases
- Daily diagnoses (2020): Around 95 new cases per day
- Deaths (2020): Around 30,843 deaths
- 5-year survival rate: Very low; majority of cases diagnosed at late stages (III/IV); median survival often under 12 months
- Most affected age group: Adults aged 50–70 years, with a peak between 55 and 64 years
- Screening participation: No national screening program; recent recommendations suggest low-dose CT screening for high-risk individuals aged 35+, but implementation is still limited

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Infrastructure



Strengths

- National referral centers such as Dharmais National Cancer Hospital (Jakarta) and Persahabatan Hospital offer thoracic surgery, radiotherapy, and diagnostic imaging (CT, bronchoscopy).
- Availability of linear accelerators and radiation oncology in select provincial hospitals.
- Integration of cancer into National Health Insurance Scheme (JKN).

Weakness

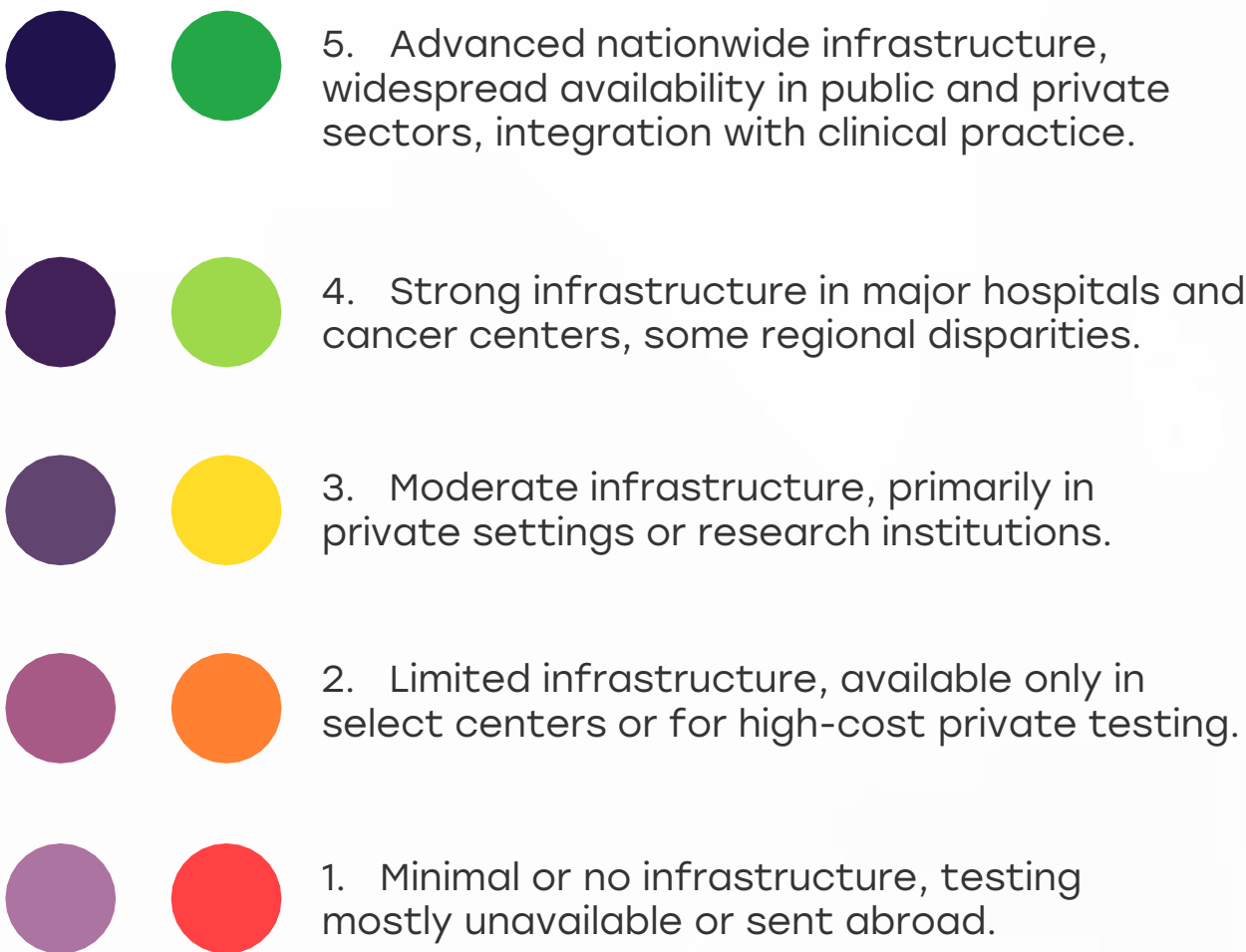
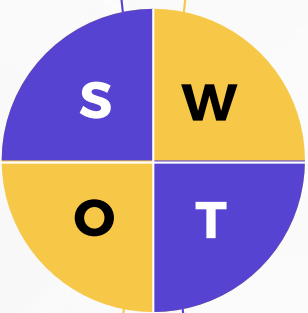
- Major urban-rural disparity in oncology infrastructure—limited services in Eastern Indonesia (e.g., Papua, NTT, Maluku).
- Lack of PET-CT scanners and thoracic surgical capacity outside Jakarta and a few urban centers.
- Underutilization of telemedicine and mobile diagnostics.

Opportunity

- Scale up provincial cancer diagnostic hubs and expand tele-oncology.
- Invest in low-cost diagnostic tools and mobile CT initiatives.

Threats

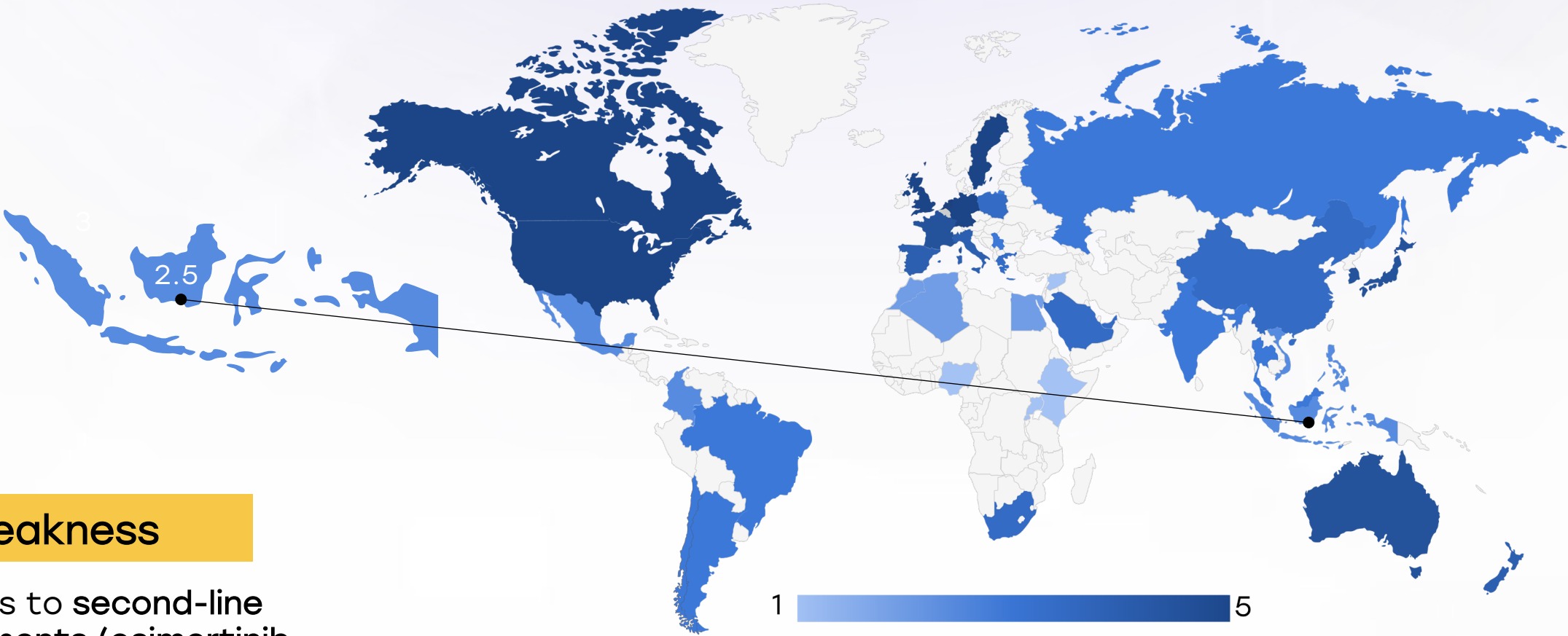
- Rapid increase in cancer burden risks overwhelming urban centers.
- Fragmented care delivery due to decentralization of health governance.



| Country | Specialized Centers | Genetic & Molecular Testing Infrastructure |
|----------------|---|---|
| South Africa |  |  |
| Kenya |  |  |
| Nigeria |  |  |
| Egypt |  |  |
| Morocco |  |  |
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| Ethiopia |  |  |
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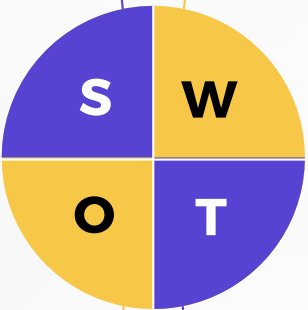
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Treatment Access, Research Funding and Awareness Campaigns



Strengths

- Inclusion of basic lung cancer treatments under **BPJS (JKN)** public insurance, including **chemotherapy and radiotherapy**.
- Targeted therapy access (e.g., **gefitinib, erlotinib**) available in top centers.
- Public campaigns on smoking risks through **Kementerian Kesehatan** (Ministry of Health) and NGOs.



Weakness

- Access to **second-line treatments (osimertinib, immunotherapy)** remains limited or unaffordable.
- **Clinical trial participation** is low due to limited infrastructure and regulatory delays.
- Awareness remains low, especially in **rural men and industrial workers**.

Opportunity

- Collaborate with ASEAN pharma networks for **regional trials and generics**.
- Targeted outreach in **high-smoking regions (Java, Sumatra)**.

Threats

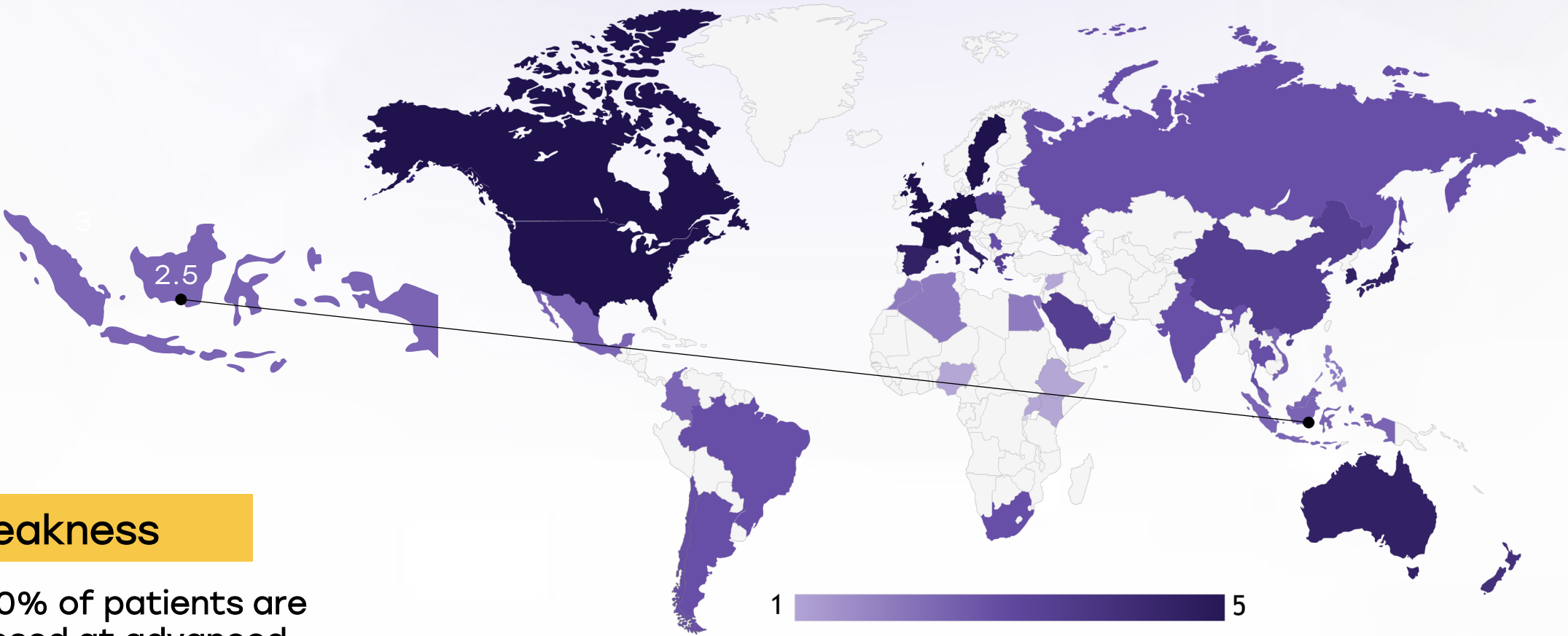
- **Over 60% male adults smoke**, increasing lung cancer incidence.
- Public trust in early cancer treatment remains limited in some communities.

5. Strong healthcare infrastructure with comprehensive treatment access, high research funding, and nationwide awareness campaigns. Patients have access to advanced therapies, clinical trials, and widespread early detection programs.
4. Well-developed system with good treatment availability, strong research funding, and effective but regionally focused awareness campaigns. Some disparities may exist in rural areas or between public and private sectors.
3. Moderate development, with specialized treatments available in major hospitals, research funding concentrated on specific cancers, and occasional but limited awareness efforts. Healthcare access may be restricted by cost or geography.
2. Limited system where cancer treatment is available only in select urban centers, research funding is minimal or sporadic, and awareness campaigns are rare or underfunded. Patients often face long wait times or financial barriers.
1. Poor infrastructure with severe barriers to treatment, little to no research funding, and lack of structured awareness campaigns. Cancer care is largely inaccessible, with many patients relying on out-of-pocket expenses or external aid.

| Country | Treatment Access | Research Funding | Awareness Campaigns |
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Survival Rates, Early Detection and Palliative Care



Strengths

- Early-stage patients in Jakarta centers show 5-year survival of 50–55%.
- Expansion of palliative care training programs and community-based models.
- Radiotherapy services are available in 36+ hospitals nationally.

Weakness

- ~70–80% of patients are diagnosed at advanced stages, especially outside Jakarta.
- Palliative care services still urban-centric and fragmented.
- Limited patient navigation support during diagnostic delay periods.

Opportunity

- Introduce **early symptom screening** at Puskesmas (community health centers).
- Expand **home-based palliative services** and culturally adapted end-of-life care models.

Threats

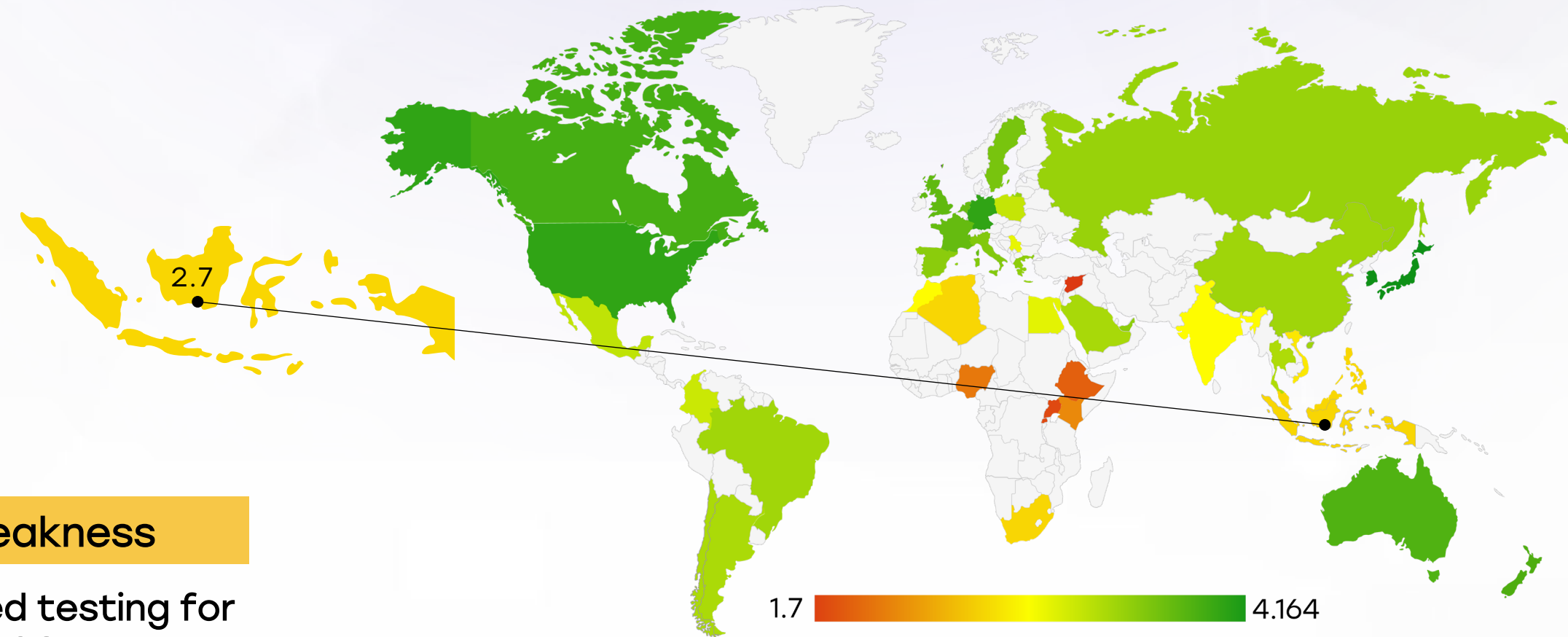
- Long waiting times and **diagnostic delays** can reduce survival even in treatable cases.
- Shortage of trained palliative physicians and nurses.

5. High survival rates, strong early detection programs, and well-established palliative care services. Patients have access to timely diagnosis, advanced treatments, and comprehensive end-of-life care.
4. Good survival rates, effective early detection efforts, and accessible but regionally limited palliative care. Some disparities may exist in rural areas or for specific cancer types.
3. Moderate survival rates, early detection available but not widespread, and palliative care services mainly in urban centers. Some patients experience delays in diagnosis or limited end-of-life care.
2. Low survival rates, early detection efforts are inconsistent or underfunded, and palliative care is minimal or only available in select hospitals. Cancer patients face significant access barriers.
1. Very low survival rates, poor early detection infrastructure, and almost no palliative care services. Many patients are diagnosed late and lack proper support for pain management and end-of-life care.

| Country | Survival Rates | Early Detection | Palliative Care |
|----------------|----------------|-----------------|-----------------|
| South Africa | | | |
| Kenya | | | |
| Nigeria | | | |
| Egypt | | | |
| Morocco | | | |
| Algeria | | | |
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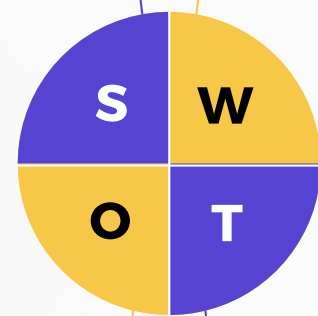
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Utilization of Biomarkers



Strengths

- EGFR testing is routinely performed in **tertiary centers** (Jakarta, Surabaya).
- Awareness growing among oncologists about the importance of biomarkers.



Weakness

- Limited testing for ALK, ROS1, PD-L1, often unaffordable and not reimbursed.
- Long turnaround times and **lack of molecular labs in many provinces**.

Opportunity

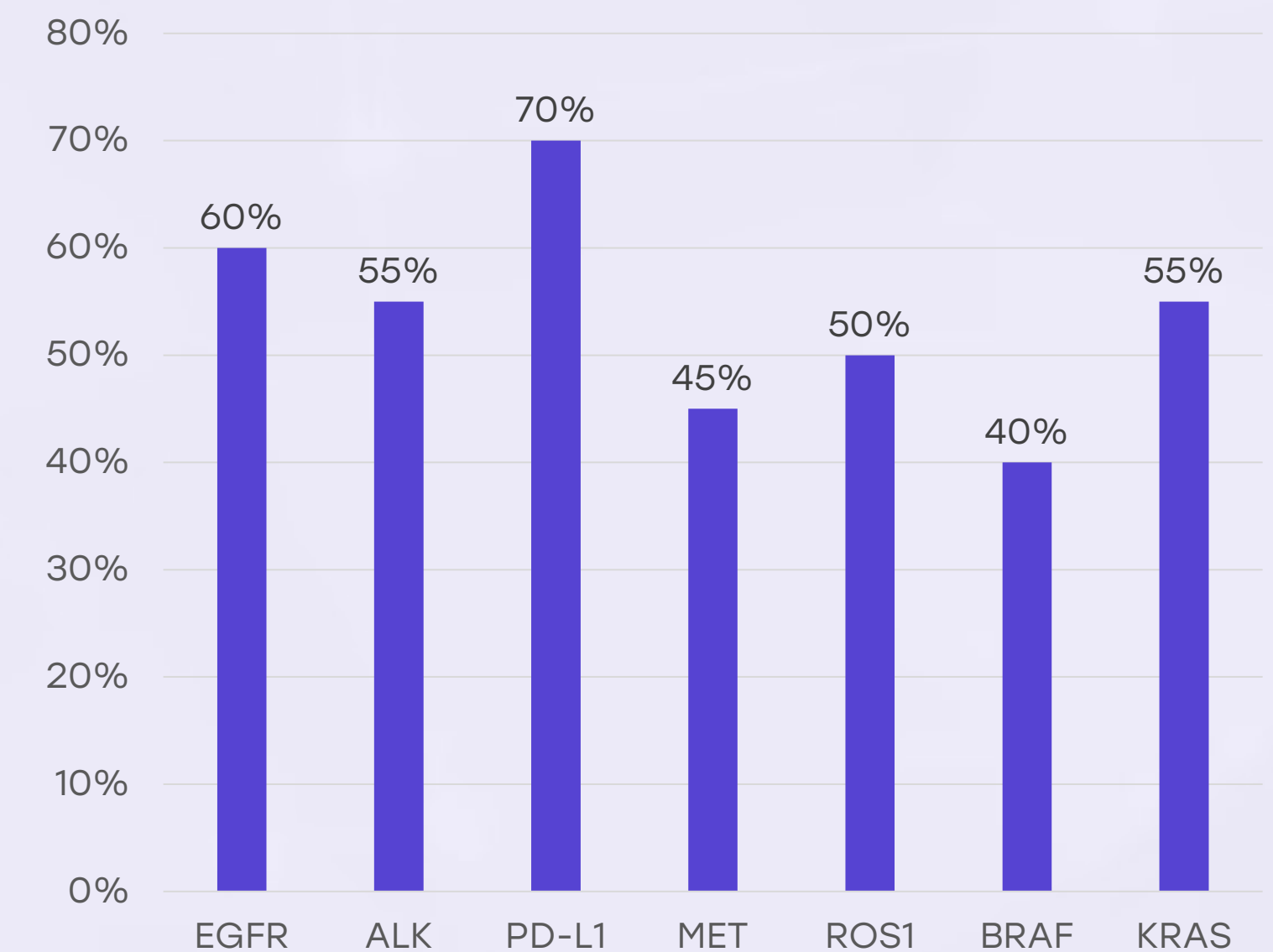
- Set up **regional biomarker testing labs** using pooled funding or public-private partnerships.
- Introduce **low-cost testing programs** for key mutations (EGFR, ALK).

Threats

- **Cost barrier** may exclude patients from targeted treatment.
- Delayed biomarker results may lead to **suboptimal first-line therapy**.

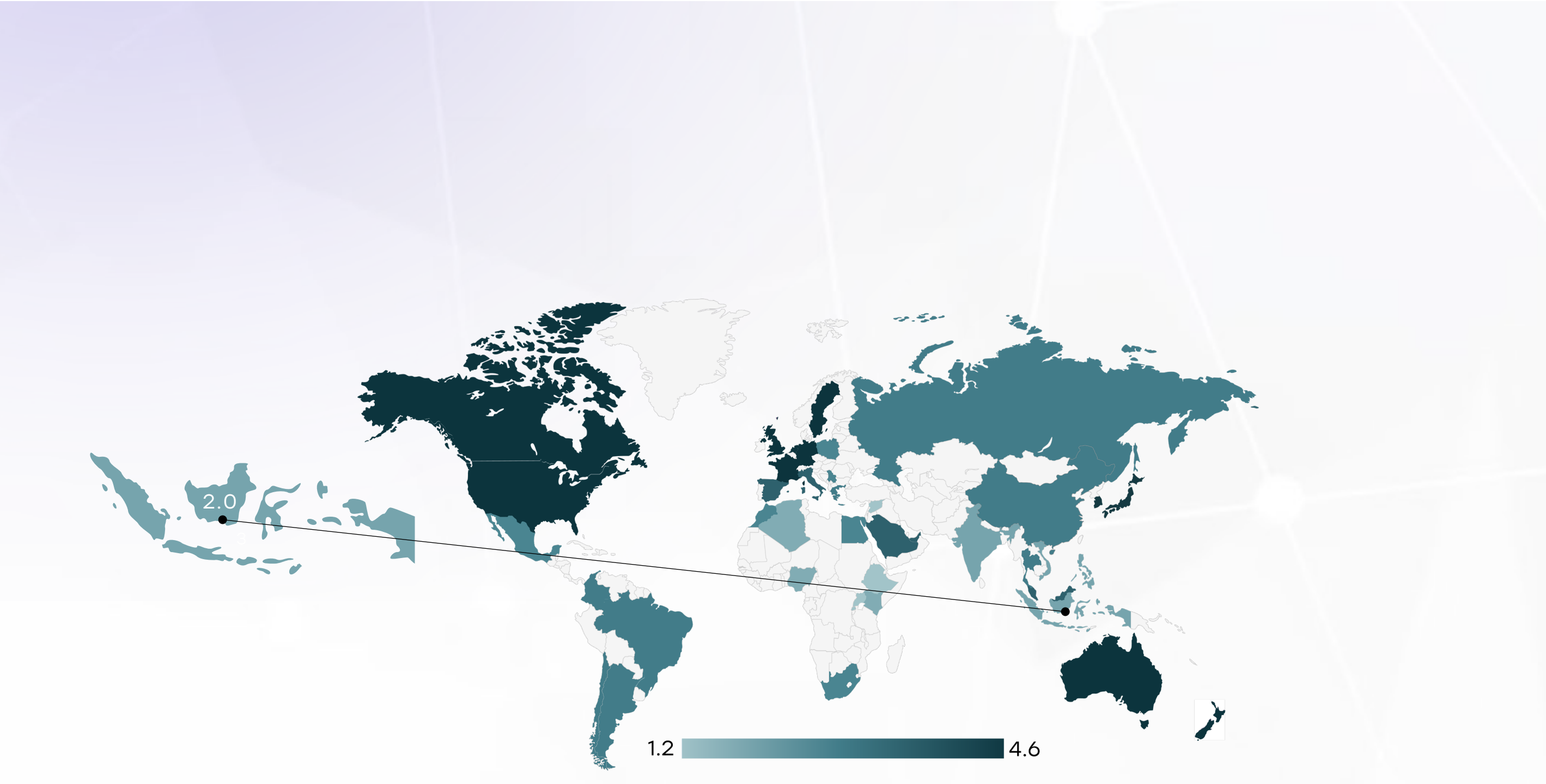
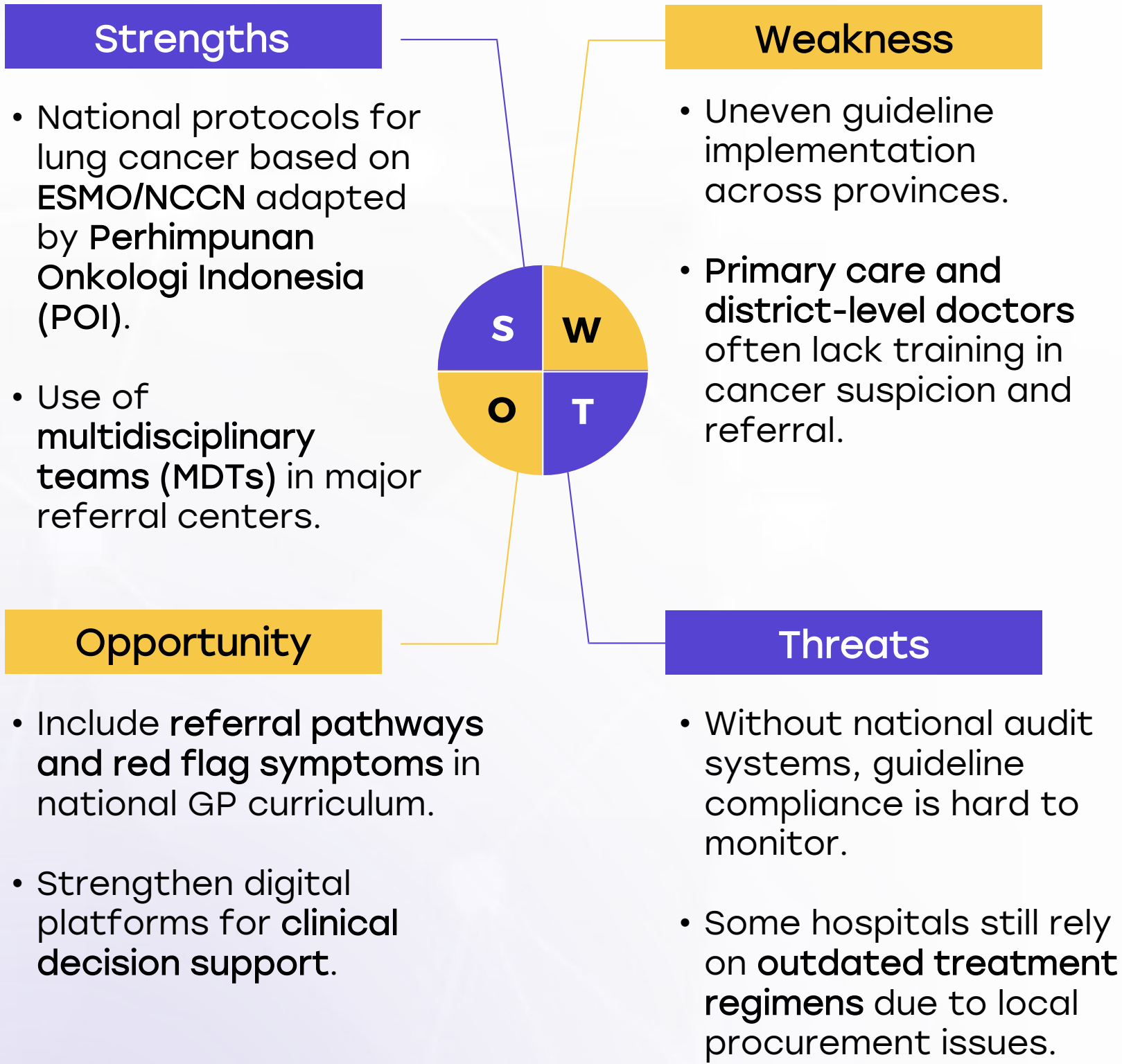
1. Biomarker testing is rarely performed, often due to lack of infrastructure, awareness, or financial barriers. Patients typically do not receive targeted therapies based on biomarker status.
2. Biomarker testing is available but underutilized, with significant barriers such as high costs, lack of awareness, or limited infrastructure. Many patients may not receive recommended biomarker assessments.
3. Moderate utilization, often restricted to major hospitals or private healthcare settings. Some patients may not receive biomarker testing due to cost or limited availability in public healthcare systems.
4. Biomarker testing is commonly used, but access may be limited in certain regions or patient groups. Some disparities exist in coverage or affordability, but it is still a crucial part of cancer diagnostics.
5. Biomarker testing is widely available and routinely performed as part of standard clinical practice. Strong integration into treatment decisions, with national coverage and reimbursement ensuring accessibility.

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Clinical Guidelines



| | Very High | High | Medium | Low | Very Low |
|--------------------------------------|-----------|------|--------|-----|----------|
| Clinical Guideline Implementation | ✗ | ✗ | ◯ | ✗ | ✗ |
| Feasibility of Integration | ✗ | ✗ | ✗ | ◯ | ✗ |
| Adoption of International Guidelines | ✗ | ✗ | ✗ | ◯ | ✗ |
| Engagement with Updates | ✗ | ✗ | ✗ | ✗ | ◯ |
| ESMO Guidelines Implementation | ✗ | ✗ | ✗ | ◯ | ✗ |

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Reimbursement



Strengths

- JKN public insurance covers **core diagnostic procedures, chemo, and radiation**.
- Some provinces have **regional top-up schemes** for additional oncology services.

Weakness

- **Limited coverage for immunotherapy and second/third-line drugs.**
- Private sector patients without full insurance face **significant out-of-pocket costs**.

Opportunity

- Expand JKN to cover **biomarker testing and newer drugs** based on cost-effectiveness thresholds.
- Explore **co-pay caps or compassionate-use programs** for high-cost biologics.

Threats

- Increasing cancer prevalence may **strain JKN budget allocations**.
- Price volatility and import dependency can limit drug availability.

- A structured reimbursement system exists, ensuring biomarker testing is covered through national healthcare systems, insurance, or public-private partnerships. Patients face no direct financial burden.
- A reimbursement framework is in place, but patients may still have out-of-pocket expenses such as co-pays, limited coverage, or financial caps on testing.
- No formal reimbursement system exists, meaning patients must fully cover the cost of biomarker testing out-of-pocket.

| Country | Reimbursement Framework | No-cost Access |
|----------------|-------------------------|----------------|
| United States | ● | ● |
| United Kingdom | ● | ● |
| Canada | ● | ● |
| Australia | ● | ● |
| Germany | ● | ● |
| France | ● | ● |
| Netherlands | ● | ● |
| Sweden | ● | ● |
| Italy | ● | ● |
| Spain | ● | ● |
| Poland | ● | ● |
| Japan | ● | ● |
| South Korea | ● | ● |
| China | ● | ● |
| India | ● | ● |
| Singapore | ● | ● |
| Thailand | ● | ● |
| South Africa | ● | ● |
| Kenya | ● | ● |
| Nigeria | ● | ● |
| Egypt | ● | ● |
| Morocco | ● | ● |
| Algeria | ● | ● |
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| Saudi Arabia | ● | ● |
| UAE | ● | ● |
| Syria | ● | ● |
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| Vietnam | ● | ● |
| Philippines | ● | ● |
| Russia | ● | ● |
| Malaysia | ● | ● |

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Lung Cancer Screening



| Country | Lung Cancer Screening |
|----------------|---|
| United States | Annual LDCT (50-80 years, high-risk smokers) |
| United Kingdom | LDCT for high-risk individuals (55-74 years) |
| Canada | LDCT for high-risk individuals (55-74 years) |
| Australia | No national program, high-risk groups advised LDCT |
| Germany | No national program, under evaluation |
| France | No national LDCT screening |
| Netherlands | Participating in European screening studies |
| Sweden | No national LDCT screening |
| Italy | Regional pilot LDCT screening |
| Spain | No national LDCT program |
| Poland | No national program |
| Japan | No national LDCT program |
| South Korea | LDCT for high-risk individuals (50-74 years) |
| China | No national LDCT program |
| India | No national LDCT program |
| Singapore | No national LDCT program |
| Saudi Arabia | No national LDCT program; some hospital-based opportunistic screening |
| UAE | No national LDCT program; early-stage pilot studies ongoing in select hospitals |
| Syria | No national LDCT program; screening not prioritized due to conflict |
| Malaysia | No program; high-risk CT pilots |

| Country | Lung Cancer Screening |
|--------------|--|
| Thailand | No national LDCT program |
| South Africa | No national LDCT program |
| Kenya | No national LDCT program |
| Nigeria | No national LDCT program |
| Egypt | No national LDCT program |
| Morocco | No national LDCT program |
| Algeria | No national LDCT program |
| Ethiopia | No national LDCT program |
| Mexico | No national LDCT program |
| Brazil | No national LDCT program |
| Argentina | No national LDCT program |
| Chile | No national LDCT program |
| Colombia | No national LDCT program |
| New Zealand | No national LDCT program |
| Greece | No national LDCT program |
| Rwanda | No national LDCT program |
| Uganda | No national LDCT program |
| Serbia | No national LDCT program |
| Indonesia | No national LDCT program; opportunistic screening in private sector |
| Vietnam | No national LDCT program; early pilot screening studies in Hanoi and Ho Chi Minh |
| Philippines | No national LDCT program; feasibility and awareness programs under discussion |
| Russia | No formal national LDCT program; regional pilot screening programs in large cities |