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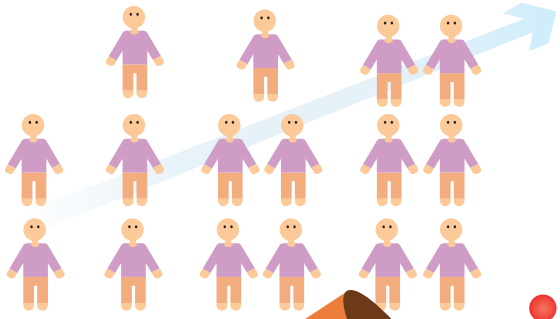
POLICY BRIEF

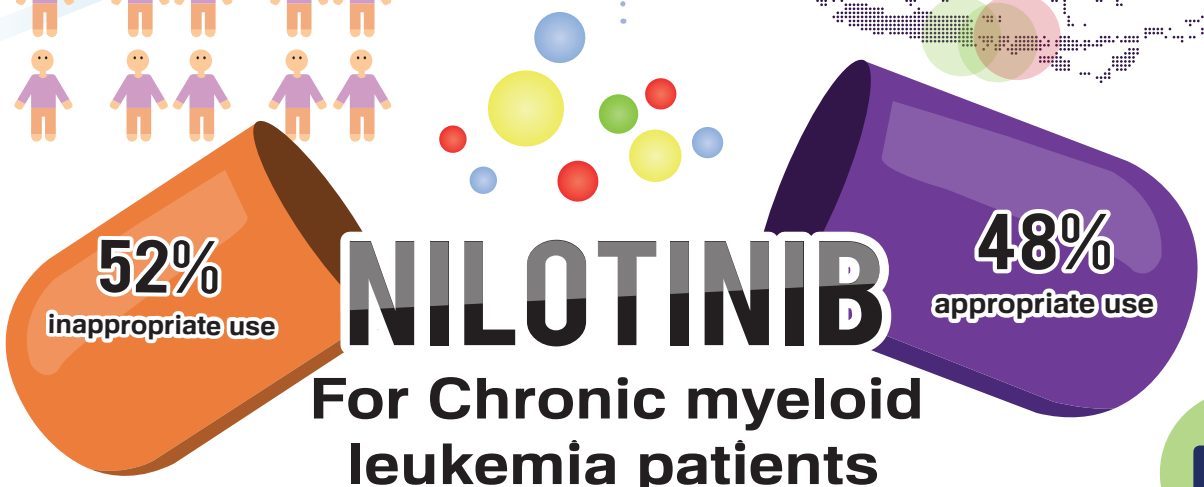
Using Health Technology Assessment to address inefficient and unequal use of Nilotinib across Indonesia

- It is vital to have evidence-informed clinical practice guidelines or clinical indications to guide the usage of high cost drugs in the benefit package under the Indonesian universal health coverage (JKN), managed by BPJS Kesehatan.
- A transparent and legit mechanism is required to support and monitor the prescription of drugs to ensure they are in line with available guidelines and indications. Without such mechanism in place, the costs to healthcare system can be significantly high, for example, this HTA study highlights the case of irrational use of Nilotinib can cost up to 0.5 million USD/year to BPJS.
- There is a national uneven distribution of trained and technically sound human resources such as hemato-oncologists and clinicians.

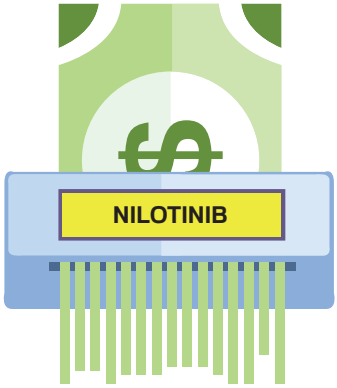
Number of patients using nilotinib
INCREASING RAPIDLY



UNEQUAL ACCESSIBILITY
to CML treatment across Indonesia



For Chronic myeloid leukemia patients



Inappropriate use of nilotinib leads to
0.5 MILLION USD WASTE
in BPJS spending

CLEAR INDICATIONS REGARDING USAGE
of all high-costing drugs, including nilotinib
ARE IMPERATIVE

INTRODUCTION

Chronic myeloid leukemia (CML) is one of the most frequent blood cancers in the world. Its annual incidence is about 1.5 cases per 100,000 individuals or about 15% of all adult leukemia case[a]. In the past, this cancer used to be treated with conventional chemotherapies such as hydroxyureas and interferons. Since the discovery of targeted the rapies such as tyrosine kinase inhibitors (TKIs), the management of CML has changed dramatically and as a result, clinical outcomes in CML patients are improving to an extent that could never have been predicted before. The rates of progression and mortality were lower in patients with greater TKI adherence (20.4/1,000 person-years) versus lower adherence (27.0/1,000 person-years).[b] This applies not only in developed countries but also in developing countries such as Indonesia.

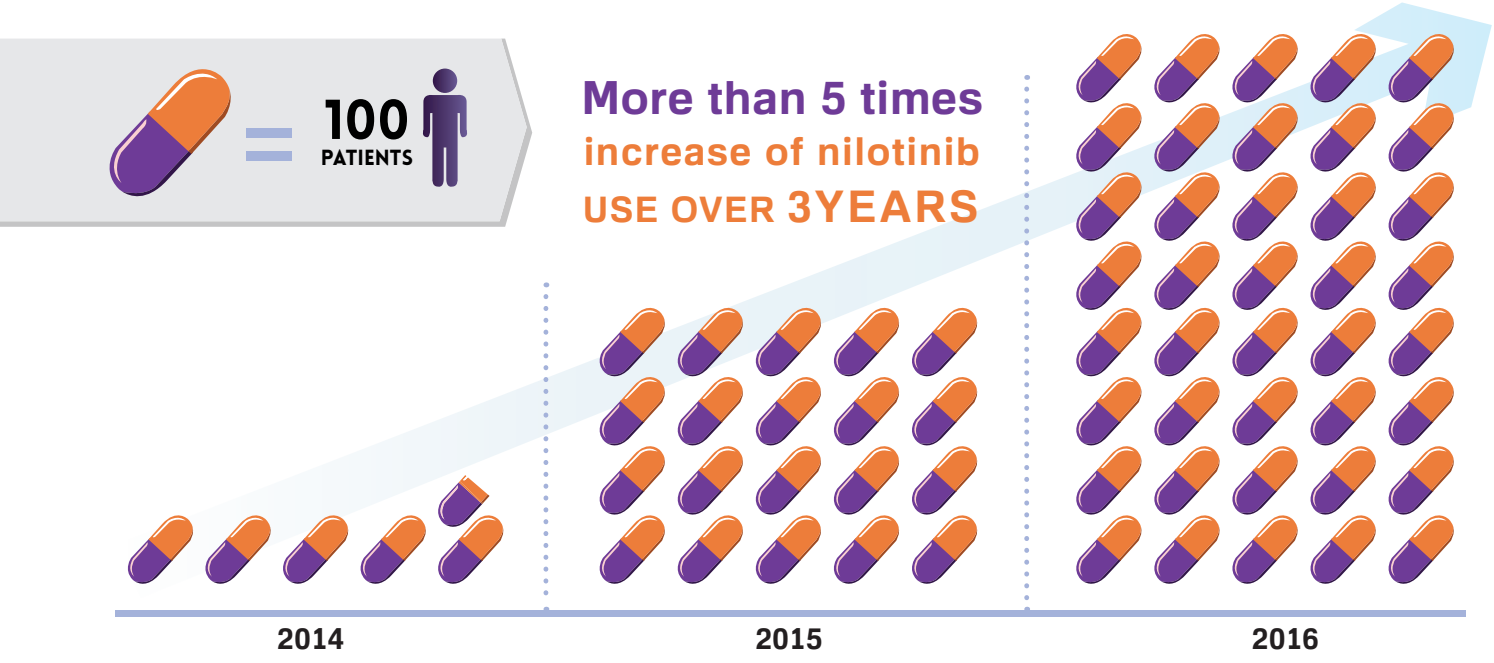
There are two TKIs available in Indonesia, imatinib and nilotinib. Imatinib has been chosen as the first line treatment of CML, in accordance with most international CML clinical guidelines. Nilotinib is one of the TKIs that has been included in the National Drugs Formulary since 2013 for CML patients who are resistant or intolerant to the first line treatment.

An earlier study conducted in 2015 in Indonesia estimated the prevalence of CML patients who are resistant or intolerant to imatinib and therefore requiring nilotinib to be approximately 13%.[a] On the other hand, the current reimbursement at BPJS indicates that more than 25% of CML cases have used nilotinib in the past 3 years. Given this fact, there is still a discrepancy at 12% of nilotinib use, implying irrational use of nilotinib and inappropriate budget spending. This study analyses the current use of nilotinib and imatinib in CML patients in 71 hospitals throughout Indonesia in order to assess the percentage of nilotinib usage and estimate the potential saving BPJS can have.

KEY FINDINGS

Based on the literature review of academic material and gray literature review such as policy documents etc; in accordance with practices in developing countries and developed countries, imatinib is still the choice of CML first-line therapy. However, the provision of second generation TKIs such as nilotinib or dasatinib may be considered if any patient related factors such as financial, tolerance, side effects make it difficult to switch. In cases of normal dose imatinib intolerance or resistance, the addition of imatinib dosage or the use of second-generation TKIs may be considered case by case.

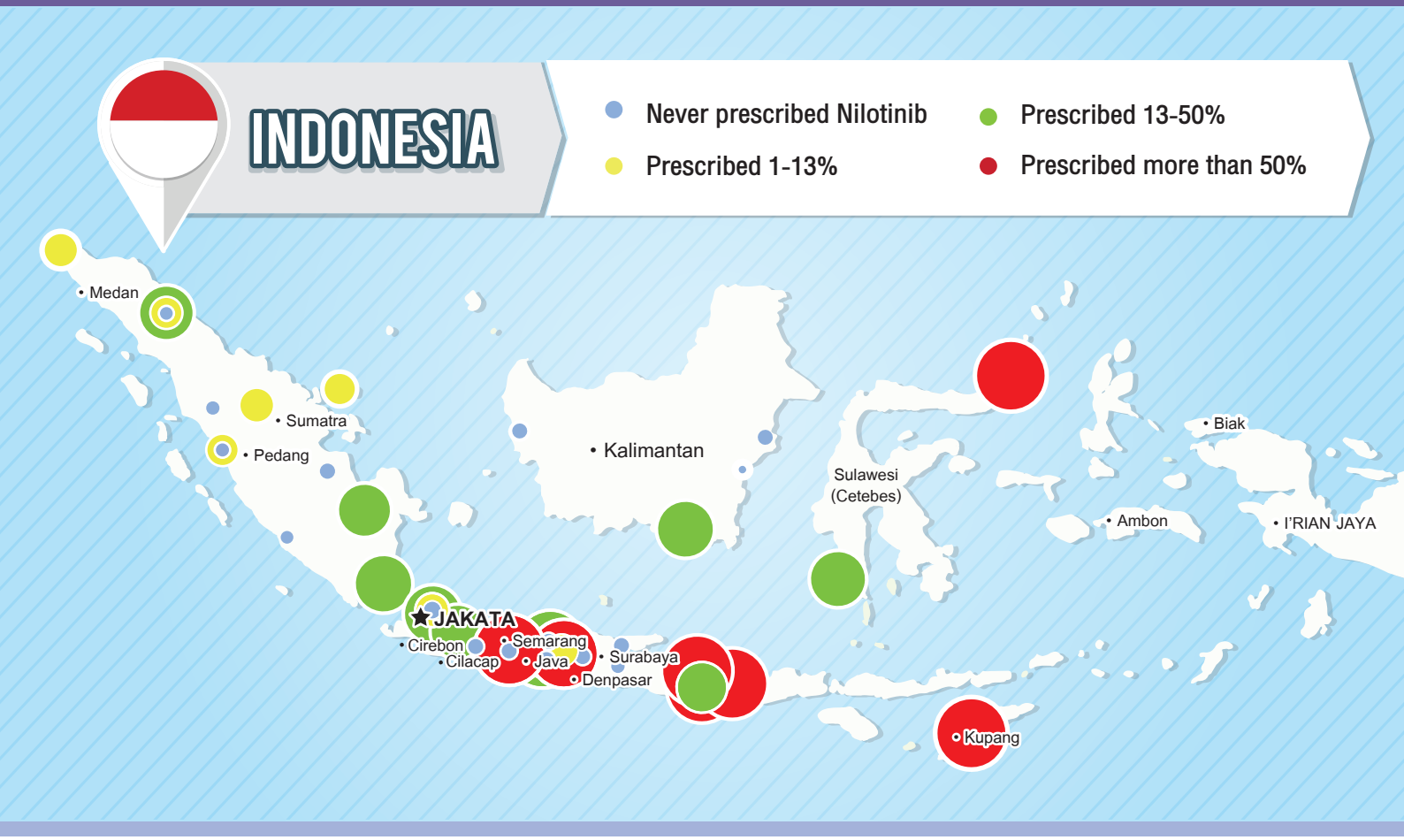
In 71 hospitals there were 562, 2,030, 4,004 CML patients treated in 2014, 2015, 2016 respectively. This figure illustrates a significant proportion of claim data to BPJS which account for 527, 5,344, 9,558 cases in the same period. The number of BPJS patients using nilotinib had been rapidly increasing in the past 3 years at an average rate of 571% per year.



The percentage of nilotinib prescription ranges from 0-100% in these hospitals with the average of 30%. RSUPN Dr. CIPTO MANGUNKUSUMO hospital has the highest number of CML patients (1,058 cases) with the proportion of nilotinib prescription at 10%. The highest prescription of nilotinib was found in RSU DR.MUWARDI with 253 cases accounting for 68% of total CML patients treated. The highest percentage of nilotinib prescription (100%) was found in RSUD PROF DR WZ JOHANNES (27 cases), RSUD BULELENG (11 cases),and RSU KAB. TABANAN (4 cases) while the lowest percentage (0%) was found in RSUD A.W. SJAHRANIE (64 cases), RSUP PERSAHABATAN (36 cases), and RSUD KABUPATEN TANGERANG (35 cases). In 2016, the total BPJS reimbursement was 3,706,356 USD (Rp. 13,000/USD) for 1,605 patients. It is estimated that 0.5 million USD of BPJS could be saved if only 13% of CML cases use nilotinib and the remaining 87% use imatinib.

This reflects huge amount of prescription variation between hospitals across Indonesia which proves that a big chunk of hospitals are not adhering to the guidelines.

Mapping of TKI utilization among 71 hospitals across Indonesian regions for period 2014-2016.



Based on the above picture, we observed unequal accessibility of CML treatment using TKIs (imatinib and nilotinib) nationwide. Some major islands in the eastern part of Indonesia, like Maluku and Papua, are still not covered by such healthcare services whilst CML patients in North Sulawesi are readily able to access nilotinib. Patterns of TKI utilization or prescription is also varied from one area to another. For example, patients in Sumatera and Kalimantan island receive imatinib more frequently than they do for nilotinib. The majority of nilotinib utilization remain concentrated in Java, especially West Java and neighbouring islands such as Bali and Nusa Tenggara Timur.

POLICY RECOMMENDATIONS

- Imatinib should be used as a first line treatment for CML patients in Indonesia in line with national list of essential medicines (FORNAS). Nilotinib should be used only for patients who have undergone the CML screening.
- Given the inconsistency to track the use of nilotinib, Hospital Directors and Medical Committee should use HTA to check the financial impact of the drug on the system.
- The Indonesian Government should ensure the regulation and implementation of the clinical practice guidelines for indications under CML. Monitoring of drug utilization, especially high budget impact drugs, should be carried out by the BPJS to ensure efficient use of public resources and sustainable universal health coverage policy (e.g. requesting evidence of gene mutation of treatment failure before processing nilotinib reimbursment).

RELATED DOCUMENTS OR MORE INFORMATION

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