



# Senegal

Charting the path to  
malaria elimination

**APRIL 2018**



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## Malaria has historically been one of Senegal's major health challenges.

Less than two decades ago, it accounted for one-third of outpatient visits nationwide.<sup>1</sup> But strong national political leadership, community engagement, sustained funding, and a proactive approach to policy adoption and intervention scale-up have had a major impact on malaria transmission, morbidity, and mortality. Today, Senegal has one of the lowest malaria case incidence rates in West Africa (Figure 1), and is one of the only countries in which that rate continues to fall, with a 30 percent reduction in estimated cases between 2015 and 2016.<sup>2,3</sup> This progress was recently noted by the African Leaders Malaria Alliance (ALMA), which recognized Senegal for its exemplary leadership against malaria, even as regional and global progress against malaria remain stalled. In fact, Senegal's progress has been so pronounced that there are now several northern districts where local transmission has been nearly wiped out, and where elimination appears to be an achievable near-term goal.

Senegal's substantial and sustained progress against malaria is an inspiring public health success story, and a source of potential lessons for other countries on the path to elimination. This case study describes three major success factors—(1) outstanding leadership and partner engagement, (2) the achievement and maintenance of high intervention coverage levels, and (3) a thriving data culture—and explores several exciting new opportunities to consolidate and expand upon Senegal's two decades of impact.

# Introduction

FIGURE 1. Proportion of Senegal's contribution to malaria cases in West Africa, 2010, 2016.

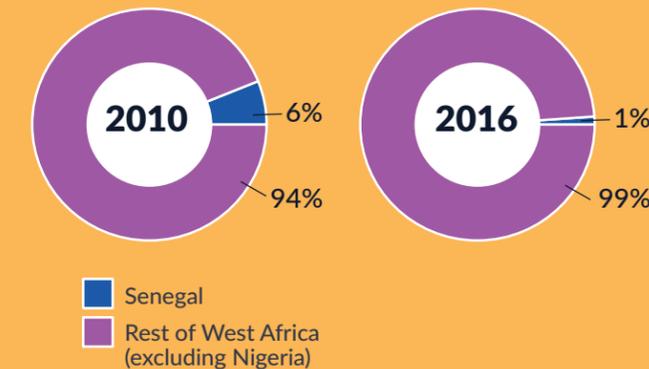


FIGURE 2. Map of West Africa.

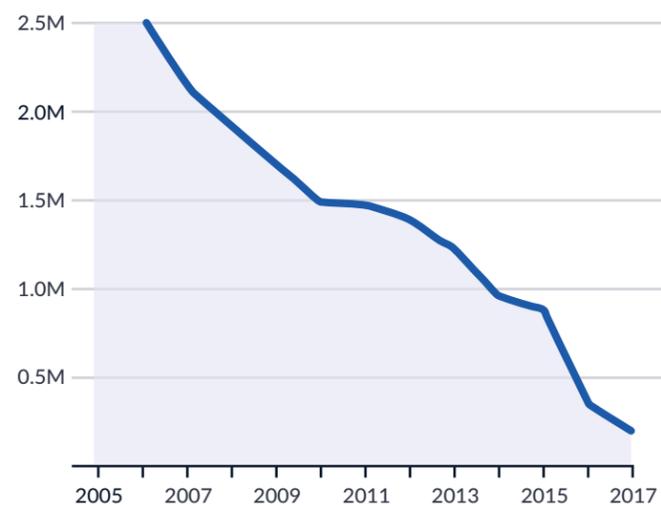


# Progress to Date

## Senegal has a long history of malaria control:

the national malaria control program (NMCP) was first established within the Ministry of Health (MOH) in the 1990s. Since 2004, domestic funding plus external funding from the President's Malaria Initiative (PMI), the Global Fund, and other sources—in combination with national political leadership, community engagement, and proactive policy adoption and implementation—have helped the country to reduce case incidence by over 40 percent between 2010 and 2016 (Figure 3).<sup>4,5</sup> In 2007, following renewed global interest in malaria elimination, Senegal began to focus both on further reduction of morbidity in higher transmission areas, as well as on carving out malaria-free districts in low-transmission areas.<sup>6</sup>

FIGURE 3. Estimated malaria cases, Senegal, 2005–2017



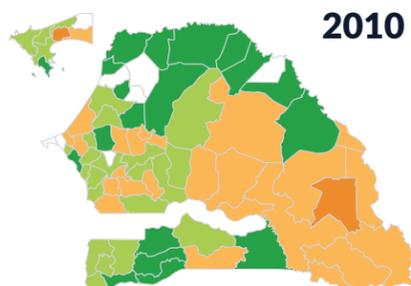
# 30%

Reduction in estimated cases between 2015 and 2016

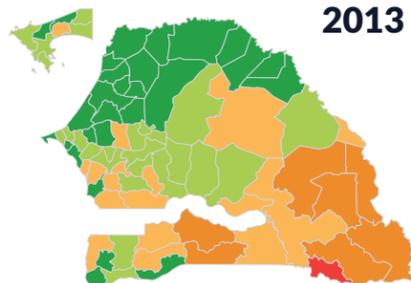


FIGURE 4. Stratification of malaria transmission intensity, Senegal, 2010, 2013, 2017.

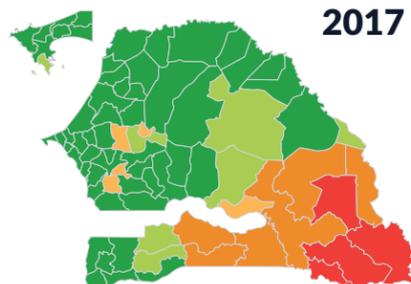
- 1: <10 cases/1000/year
- 2: ≥10-<25 cases/1000/year
- 3: ≥25-<100 cases/1000/year
- 4: ≥100-<250 cases/1000/year
- 5: ≥250 cases/1000/year



2010



2013



2017

Although there appears to be an increase in cases across the southern region, this is due to an improved surveillance system which has enhanced the PNL's ability to detect cases over the past decade. Overall, during this period there has been a marked decline in malaria incidence nationally.

## In 2016, the NMCP launched an ambitious national malaria strategic plan

to further reduce the malaria burden across the country and interrupt local transmission in all northern districts by 2020. The strategic framework for this plan relies on the stratification of districts, which are then assigned intervention packages according to transmission level, in accordance with the guidance from the WHO's Framework for Malaria Elimination (Figure 4).<sup>7</sup> In order to achieve national transmission reduction goals, Senegal plans to: (1) further increase and maintain coverage of vector control interventions (predominantly through long-lasting insecticide-treated net [LLIN] distribution), (2) expand implementation of the highly successful seasonal malaria chemoprevention (SMC) campaigns to all eligible districts, (3) continue to support intermittent preventive treatment in pregnancy (IPTp) for pregnant women, and (4) enhance village-based active and passive case detection. Further, the NMCP is currently developing national malaria elimination guidelines that describe a more aggressive approach to reducing the parasite reservoir in humans by expanding case investigation activities to the entire country during the dry season, in addition to drug-based population-wide strategies.<sup>8</sup>

Going forward, Senegal plans to explore several promising opportunities to accelerate implementation of the current national strategy, expand regional partnerships, and introduce new tools and approaches for malaria elimination. One of these opportunities is

a novel regional malaria elimination platform to improve coordination and information-sharing across borders with neighboring countries. Another opportunity is the work underway to transform the NMCP's community engagement and advocacy initiative—"Zéro Palu! Je m'engage!" ("Zero Malaria Starts with Me!")—into a cross-national platform. The NMCP will continue to explore opportunities to introduce and scale up evidence-based interventions, including new vector control tools (e.g., attractive targeted sugar baits [ATSBs]) and new drug-based approaches. In terms of new funding to combat

malaria, Senegal is looking forward to an infusion of financial assistance from the Lives and Livelihoods Fund, an innovative financing mechanism supported by the Islamic Development Bank (IDB), the Bill & Melinda Gates Foundation (BMGF), and the Global Fund to Fight AIDS, TB and Malaria (GFATM). Finally, Senegal will be able to build on its thriving data culture and pioneering use of information systems to expand rapid reporting of malaria nationally, and to develop data visualization dashboards that facilitate cross-border information-sharing.

# Two decades of impact: Success factors



- Outstanding leadership and partner engagement.
- The achievement and maintenance of high intervention coverage levels.
- A thriving data culture.

## Success factor: Leadership and partner engagement

### **Building political support and technical capacity at the national level**

#### **National commitment to malaria elimination.**

Senegal's malaria program is the beneficiary of strong political support at the national level. The national government recognizes that Senegal is well-positioned—with regard to health system capacity, financial resources, and epidemiological trends—to accelerate toward and ultimately achieve elimination. This could be a stirring new chapter in Senegal's success story against malaria, and one that would resonate across West Africa. Leadership in the Ministry of Health has been very supportive of the NMCP and its malaria control and elimination efforts, and has helped to create a positive and progressive environment. High-profile national engagement for malaria control and elimination was exemplified by the efforts of Health Minister Awa Marie Coll-Seck (2012–2017) to generate political will and mobilize resources for malaria control and elimination in Senegal. In 2017, more than 40 Senegalese mayors signaled their support for the “Zéro Palu!” malaria elimination campaign by signing a pledge of commitment for malaria elimination in Senegal.

### NMCP planning, management, and program oversight.

Senegal's NMCP plays a key role in the timely adoption, scale-up, and evaluation of the national package of malaria interventions. Created in 1995, the NMCP was reorganized in 2005 after the cancellation of a Global Fund award spurred a thorough reassessment of its structure and technical capacities. This resulted in a dramatic expansion of staff capacity, including major boosts in program management and strategic planning. The reorganized NMCP has since earned a reputation for its energetic leadership, strong strategic plan implementation, and program oversight. It has successfully guided the implementation of national coverage of new interventions, including the nationwide introduction of artemisinin-based combination therapies (ACTs) in 2006 and rapid diagnostic tests (RDTs) in 2007.<sup>9</sup> The NMCP provides planning and oversight for implementation, as well as trainings and deployment of staff to oversee activities; it has also shown enthusiasm for testing new evidence-based approaches and scaling up those that demonstrate impact. Examples of this include PECADOM+ (discussed in detail below),

PNLP's technical credibility has earned trust and confidence from the greater malaria community, and has helped to mobilize partners for malaria efforts.

seasonal malaria chemoprevention (SMC), and mobile phone-based rapid reporting into their national health management information system (HMIS). The NMCP's technical credibility has earned trust and confidence from the greater malaria community and has helped to mobilize partners for malaria efforts.

### Partner integration and coordination.

Numerous diverse partners contribute to Senegal's malaria efforts, including technical partners, research institutions, and donors. The proper coordination of these efforts is crucial to ensure that activities are conducted efficiently, gaps are filled, and partners are maximizing the impact of their resources and capabilities. Partner integration and coordination is a strength of Senegal's malaria program—in addition to NMCP oversight and coordination, partner collaboration benefits from the Cadre de Concertation des Partenaires de Lutte contre le Paludisme (CCPLP). Established in 2011, the CCPLP provides a forum for information-sharing, and allows malaria partners to coordinate their efforts in support of national malaria strategies and policies. With its presidency rotating among members, the CCPLP meets regularly to align partner activities, provide feedback to the NMCP, and resolve coordination and implementation challenges as they arise. It has proven to be a valuable tool for partner discussion, deliberation, and alignment.

### The Senegalese Sugar Company story: boosting productivity, improving workforce health, and advancing malaria elimination

With a production of over 100,000 tons of sugar per year, the Senegalese Sugar Company is a leader in the West African sugar industry. The company is also an example of how private-sector firms can improve productivity and support public health goals by investing in the health of workers and their families.

The Senegalese Sugar Company has its headquarters in Richard Toll district, where malaria is endemic. After the NMCP designated Richard Toll as a pilot area for malaria elimination, the company decided to boost its own malaria prevention and treatment services in the area. In collaboration with the Richard Toll health district health management team, the company began distributing insecticide-treated mosquito nets to its employees and using rapid diagnostic tests and artemisinin-based combination therapies to test and treat suspected malaria cases in company clinics. There are now four doctors and ten nurses and nursing aides charged with monitoring and caring for workers and their families.

The initiative has had a direct impact on productivity. In the six months since its start, the company recorded only 24 cases of malaria—4 per month—in stark contrast to the previous trend of 20 malaria cases per day. Workers who do get sick need less recovery time and can return to work more quickly now that the disease is treated as soon as the diagnosis is confirmed. There have also been measurable financial benefits. The company used to spend more than \$20,000 for six months' worth of antimalarial drugs. The new cost? \$300.



## Leveraging private-sector partnerships and donor support

### The private sector: a key set of NMCP partners.

Senegal recognizes the essential role that the private sector can play in supplementing global funding for malaria control and elimination. Senegal's most recent national malaria strategic plan (NMSP) states that "Pre-elimination and elimination of malaria will require significant investments from strategic partners."<sup>10</sup> The NMCP will call on these partners to strengthen the collective will and to mobilize and sensitize the target populations, and the private sector will be seen as a key partner in developing a solid foundation for future efforts. The NMCP has been working with private-sector actors to build private-public partnerships, mobilize resources, and assess how companies can best support malaria control efforts for their employees, their families, and the communities in which they work.

Thus far, the NMCP has worked with companies to strengthen their activities in case management, insecticide-treated net (ITN) distribution campaigns, community outreach, and behavior change communication. Notable private-sector efforts in recent years include the Senegalese Sugar Company's collaboration with the NMCP in Richard Toll district; BICIS Bank's community outreach initiative, including

the distribution of a children's comic book sharing information about malaria; EcoBank's procurement of ITNs for universal distribution campaigns; Total's support for socially marketed ITNs in their stores; and WARI's donation platform allowing citizens to contribute to the malaria fight. In 2015, the NMCP—in partnership with PATH's Malaria Control and Elimination Partnership in Africa (MACEPA) and Speak Up Africa—created a private-sector coalition to accelerate elimination efforts. Fourteen companies are currently part of this growing coalition.

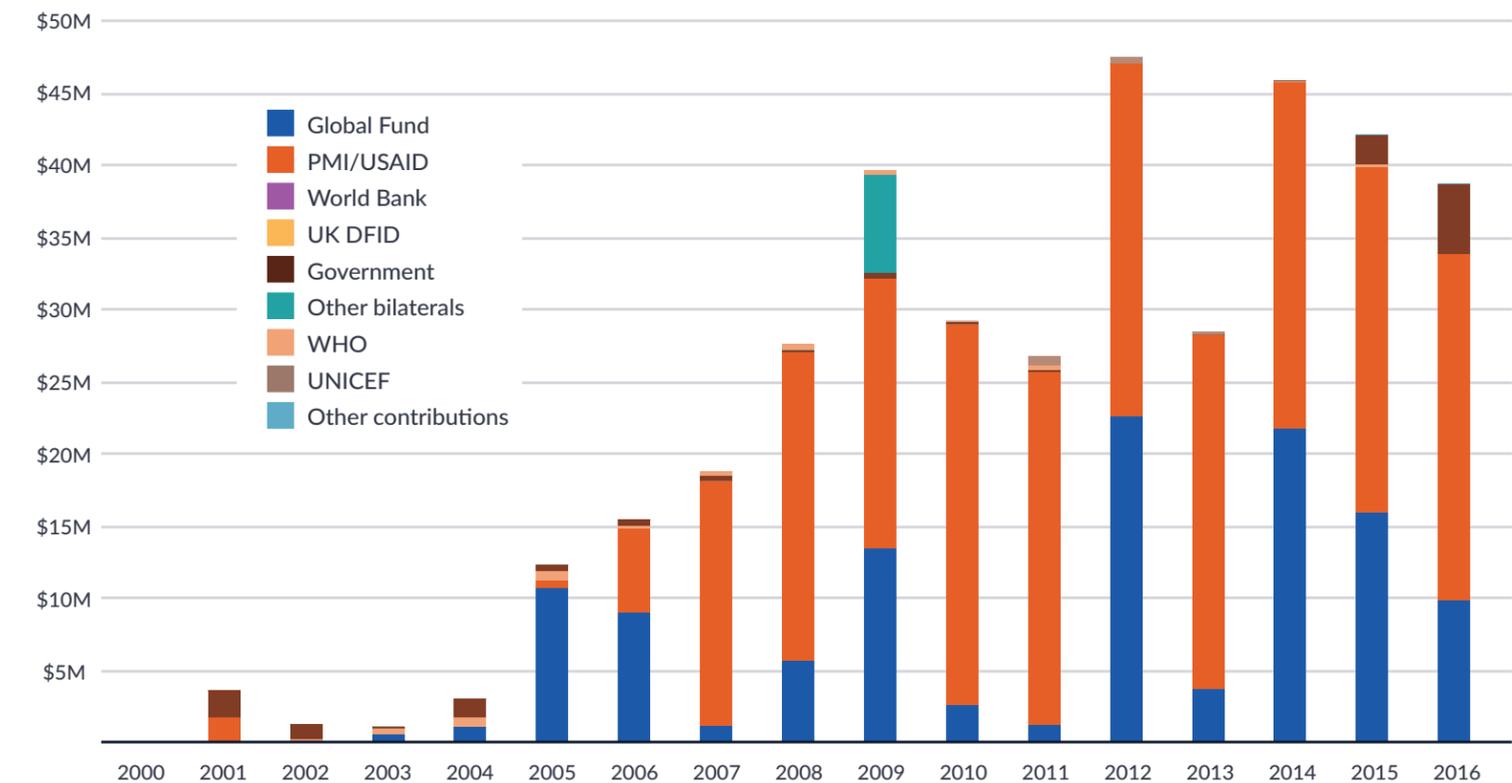
### Leveraging traditional and innovative financing sources.

Historically, PMI and the Global Fund have been the largest donors to Senegal's malaria program (Figure 5).<sup>11</sup> Other donors have included the World Health Organization (WHO), UNICEF, and the IDB. Between 2000 and 2015, PMI accounted for approximately 62 percent of external malaria funding, and the Global Fund accounted for 32 percent.<sup>12</sup> These partners have been instrumental in supporting the adoption and scale-up of malaria prevention and case management interventions. More recently, in 2016, the Global Fund provided funding for more than 4.3 million ITNs for the nationwide universal coverage campaign, making the Global Fund the largest contributor among all partners.<sup>13</sup> Donors have also been crucial in supporting

the evaluation of new approaches to fight malaria. PMI supported implementation of the PECADOM+ model for community-based case management, an approach that was piloted in partnership with the US Peace Corps,

and which has now been adopted as a national strategy by the NMCP. Senegal was also recently awarded \$32 million from the Lives and Livelihoods Fund to support malaria elimination activities in 25 districts.<sup>14</sup>

FIGURE 5. Malaria funding by source, Senegal, 2000-2016.





### Fostering community, engagement, and ownership

#### PECADOM+: A community-centered approach to elimination.

Many individuals in rural Senegal live a long distance from the nearest health post, meaning that they may opt out of seeking care if the facility is too far or transportation is too expensive. The PECADOM+ (Prise en Charge à Domicile plus) model creates more equitable access to health care by training and deploying village malaria workers (dispensateurs de soins à domicile [DSDOMs]) to make malaria testing and treatment available at the community level.

#### Zéro Palu, Je m'engage!: A community-driven approach to a malaria-free Senegal.

In Senegal, communities play a vital role in the fight against malaria, as they are well-positioned to identify, understand, and assess the needs of vulnerable populations. To foster community ownership of anti-malaria efforts, increase cross-sector collaboration, and improve the quality of information, the NMCP—in partnership with PATH MACEPA and Speak Up Africa—launched “Zéro Palu, Je m'engage!” (“Zero Malaria Starts with Me!”), a national campaign designed to create malaria-free communities across Senegal.

The campaign—launched in 2014—taps well-known national soccer players, politicians, musicians, and teachers to empower communities with information about malaria prevention, diagnosis, and treatment. It leverages existing messaging platforms developed by the NMCP and promotes best practices related to systematic use of insecticide-treated nets, early testing with RDTs in case of fever, and free treatment.

Central to the success of the “Zéro Palu!” campaign is the strong volunteer network of Community Champions. The Community Champions program supports national elimination efforts by training local volunteers to raise awareness of and promote their district’s existing interventions (Figure 6). The program is funded by WARI, an international transactional platform. The

NMCP hopes to expand Community Champions with additional private-sector support.

In addition to fostering community ownership of the malaria elimination goal, the campaign is built around the following pillars:

- **Funding diversification:** engaging the private sector through a national private-sector coalition, as well as accessing innovative financing mechanisms to diversify funding sources.
- **Political commitment:** ensuring that malaria elimination remains high on the national agenda.
- **Technical support to the NMCP:** providing support around the development of a costed elimination strategy and its implementation.



FIGURE 6. TV for malaria education.

Building on the success of the Community Champion program, “Zero Palu!” developed Le Champion de Bonaba, a television series featuring a fictional Community Champion who endeavours to end malaria in Senegal after losing his pregnant wife to malaria. Episodes of the eight-part series aired on a national television channel, reaching an audience of approximately 1 million viewers per week.

**Households with at least one net** | 2008: **60.4%**  
2016: **82.4%**

## Success factor: High coverage of interventions

The scale-up of proven interventions—including long-lasting insecticide-treated nets (LLINs), targeted indoor residual spraying (IRS), and improved case management using rapid diagnostic tests (RDTs) and artemisinin-based combination therapy (ACT)—is largely what has enabled Senegal to achieve the progress described here.

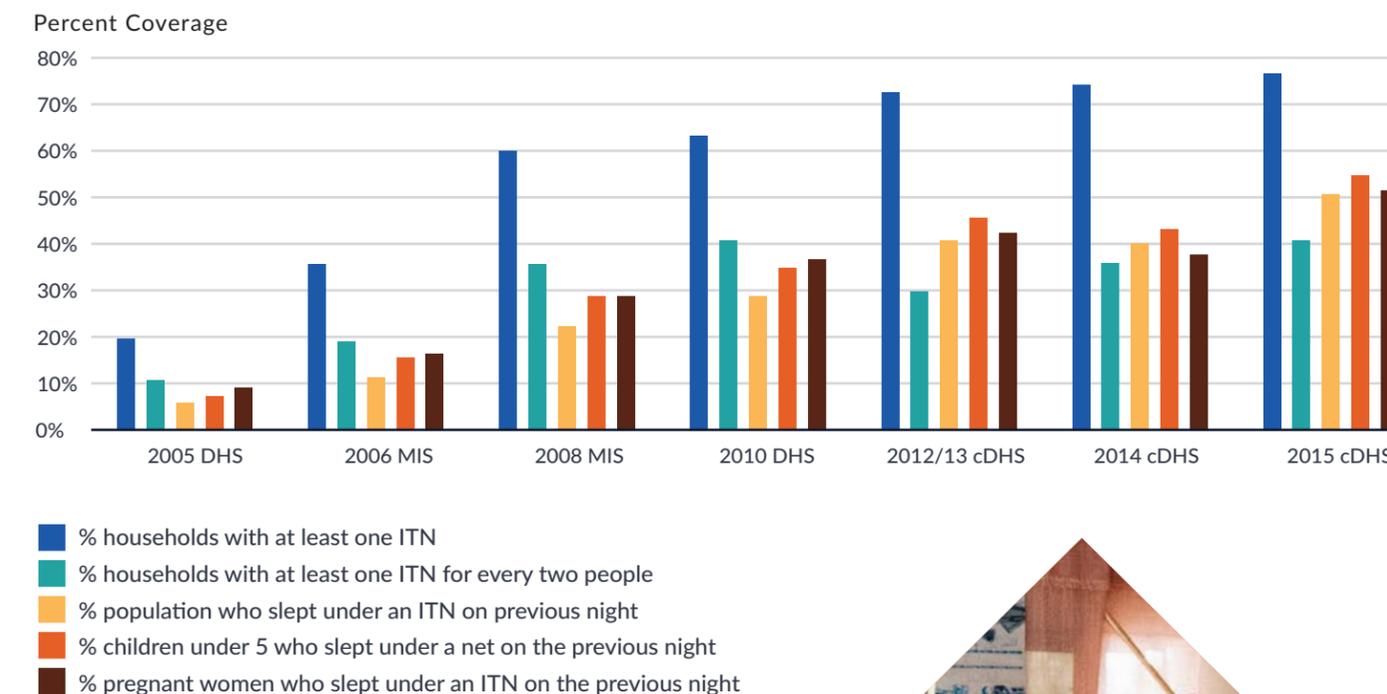
### Controlling biting mosquitoes

The mass distribution of long-lasting insecticide-treated nets (LLINs) has been a main driver of Senegal's reduction in malaria transmission. The first mass distribution campaign of LLINs in Senegal occurred in

2009 and targeted every child under the age of five. As of 2010, mass distribution campaigns, conducted on average every two years, aim at universal coverage—one net for each sleeping space across the country. Additional channels for the continuous supply of LLINs to populations include health facilities (antenatal and immunization clinics), schools, and community-based organizations.

Net distribution across Senegal increased from 1.3 million nets in 2008 to 3.4 million in 2013 and 3.8 million in 2014.<sup>15</sup> Household surveys show that this increase in distribution is mirrored in coverage and usage data (Figure 7).<sup>16,17</sup> In the 2008 Malaria Indicator Survey, 60.4 percent of households reported access to at least one LLIN, with 22.9 percent of all household members reporting having slept under an LLIN the previous night. In the 2016 Continuous Demographic and Health Survey (cDHS), the percentage of households reporting access to at least one LLIN rose to 82.4 percent, with 40.3 percent having at least one LLIN for every two residents. Nearly two-thirds (63.1%) of individuals reported having slept under an LLIN the previous night. In 2016, there was significant variation in the use of nets across the country, with the highest usage in higher-

FIGURE 7. Increase in household ownership and usage of LLINs over time, 2005-2015.



transmission regions. Net usage was also higher in rural areas compared to urban areas. While LLIN distribution campaigns have resulted in high levels of household ownership, there remains a gap between ownership and usage that is currently being addressed by the NMCP through health promotion and social and behavior change campaigns.<sup>18,19</sup> While LLIN distribution is the backbone of vector control interventions in Senegal, innovative methods of controlling biting mosquitoes are on the horizon. New vector control strategies are being considered for evaluation in high-burden areas.

### Delivering high-quality case management

Case management refers to the prompt diagnosis and treatment of malaria infections to reduce the likelihood of progression to severe disease and death. Additionally, timely case management may reduce transmission by markedly shortening the duration of infection and the likelihood of parasite transmission from humans to mosquitoes.

Senegal adopted artemisinin-based combination therapy (ACT) for the treatment of uncomplicated malaria in 2006. Treatment with ACT was scaled up in public health

facilities in 2006, and was introduced at the community level into health huts—rural clinics that provide basic services—in 2008. By 2016, 29 percent of children under five receiving antimalarial drugs for fever were reported to have received an ACT—up from 11 percent in 2014.<sup>20</sup> Further, rapid diagnostic tests (RDTs) were piloted in 2006, introduced in late 2007, and deployed widely in 2008, enabling the RDT confirmation of over 99 percent of suspected malaria cases in 2016.<sup>21</sup>

Both ACT and RDTs are provided free at the point of care to all patients (with all health services provided free to children under five years of age). Starting in 2008, RDTs and ACT have been widely available at the community level through the PECADOM scheme. This involves the recruitment of a DSDOM—an individual chosen by the community who is trained in malaria case management. This individual provides care to all patients within the village, and is trained to refer those with negative RDT results (or serious illness) to local health services. In 2012, PECADOM was expanded to integrate treatment of diarrhea and acute respiratory illness (ARI) to reduce childhood mortality and was piloted in five districts. The program has now been rolled out nationwide.<sup>22</sup>



## Decreasing risk among vulnerable populations

In addition to case management, antimalarial drugs are used to reduce the disease burden in vulnerable populations—including pregnant women and children—in high-transmission areas.

In order to prevent malaria in pregnancy, Senegal introduced intermittent preventive treatment in pregnancy (IPTp) in 2003 with sulphadoxine-pyrimethamine (SP) given free of charge across the country.<sup>23</sup> It is recommended that all pregnant women receive at least three doses of SP under directly observed therapy. In household surveys, the proportion of pregnant women who reported receiving at least two doses of IPTp during their most recent pregnancy increased from 12 percent in 2005 to 60 percent in 2016.<sup>24</sup> However, given the very high antenatal care (ANC) attendance rates reported in the 2016 continuous DHS survey (95 percent attended at least one antenatal care appointment, 91 percent attended at least twice, and 54 percent attended four or more times), there is an opportunity for even greater IPTp uptake.<sup>25</sup>

Trials of the impact of seasonal malaria chemoprevention (SMC) demonstrated a significant decrease in malaria incidence and mortality in children up to ten years of age.<sup>26</sup> Since adopting SMC in 2012, Senegal has employed a community health platform

for the distribution of sulfadoxine-pyrimethamine + amodiaquine (SP-AQ), using a door-to-door approach targeting children up to ten years old. The campaigns have achieved high coverage levels, with approximately 625,000 children in four southern regions (Kedougou, Kolda, Sedhiou, and Tambacounda) protected each year. Between 2013 and 2016 in the four SMC regions, the test positivity rate among febrile children under five years of age dropped from 63 percent to 28 percent; for febrile patients five years and older, the rate dropped from 69 percent to 53 percent over the same period.<sup>27</sup>

## Success factor: A thriving data culture

As with all successful disease elimination programs, high-quality data reporting and surveillance systems are critical to Senegal's malaria elimination efforts. Senegal has built a strong data culture through integration and use of data at all levels of the health system, and has committed to building a sustainable and vibrant community of data experts. Through studies, national surveys, and rapid routine case reporting, the NMCP is able to assess the efficacy of interventions and derive insights that will inform future malaria reduction strategies.



## Analyzing program impact

Senegal's nationally representative household surveys—the Demographic and Health Survey (DHS) and the Malaria Indicator Survey (MIS)—yield data points that provide insight into the overall impact of malaria programs. By assessing the coverage and use of interventions, as well as recording parasitemia in children under five, these surveys enable national programs to adapt and improve malaria reduction interventions. These data also enable the NMCP to identify areas where increased or alternative efforts are necessary (e.g., targeting specific population groups in certain geographic areas). While most countries conduct DHS surveys every five years, Senegal is unique in that the surveys are conducted on a continuous basis, allowing for a more nuanced analysis. Malaria Indicator Surveys are conducted on a biennial basis.

Senegal has a robust scientific community that has recently conducted studies on preventive drug interventions, continuous DHS, parasite genomics, and focal efforts to stamp out infections in low-burden areas.

## Scaling up rapid reporting

While population-wide health surveys are critical for understanding the coverage and use of interventions—and for assessing changes in parasite prevalence and anemia—there is a need for more precise and timely information in order to address immediate challenges, particularly as Senegal moves from control to elimination strategies.

Rapid reporting of clinical cases, a key component of Senegal's disease surveillance system, is intended to improve the availability of timely and detailed data for evidence-based decision-making. Community health workers collect data on malaria cases and commodities; each week, these data are transmitted via mobile phone to District Health Information System 2 (DHIS2), an open-source health management system used for routine health data in Senegal and across many African countries. District and provincial health officials can access these rapid reporting data to view the local

To date, Senegal has rolled out rapid reporting in approximately

**260** facilities in  
**10** districts

in low-transmission areas.

malaria landscape in real time, and make evidence-based decisions about how to target responses and stock essential commodities at health facilities.

Timely and accurate data are even more critical in low-transmission areas in which health workers must be able to quickly report remaining cases of a disease and respond with investigation and treatment to prevent any further spread or resurgence. To date, Senegal has rolled out rapid reporting in approximately 260 facilities in ten districts in low-transmission areas in the north. The NMCP, with technical assistance from PATH MACEPA, is planning to expand rapid reporting to all 76 districts by 2020, with funding from PMI and the Global Fund.<sup>28</sup>

## Improving data quality

To ensure data are useful to decision-makers, Senegal is taking measures to validate data and improve data quality. Routine data quality audits are conducted at district data review meetings using a peer review approach. The head facility nurses are paired to audit data from another facility, after which the results are reviewed and discussed in a large group session. This approach is resource-efficient and encourages the exchange of experiences by health workers across facilities and between district health teams. The NMCP has developed a set of best practices to ensure data quality management in the DHIS2 platform. Across the country, reporting rates, timeliness, and accuracy have remained consistently high.

## Strengthening data culture

Senegal's strong data culture is indicative of the country's commitment to evaluating and investing in new surveillance and data tools that build capacity at all levels of the health system. For example, the Ministry of Health is currently evaluating data visualization tools developed by partners that would improve data analysis capacity at the national level. In addition to ensuring that the right systems are in place, Senegal is cultivating a community of users at all levels of the health system who understand how to use the tools and how to extract meaningful insight from the data (figure 8).

Aperçu Global du Paludisme par District



FIGURE 8. Extracting insight from data

Data visualization helps the NMCP extract meaningful insights from data. This visualization shows a district-level overview of several surveillance and reporting indicators over four transmission seasons, including malaria incidence and case counts, reporting rates, and case investigation coverage. The Malaria Overview Dashboard is part of a suite of data visualization dashboards developed by partners that aid the NMCP in understanding where cases are and whether the national strategy is working.

# Opportunities

- Accelerating progress in the south.
- Expanding a West Africa regional elimination platform.
- Leveraging innovative financing.

## Opportunity: Accelerate progress in the south

Dramatic progress in Senegal over the past two decades has been well-documented and has built enthusiasm for malaria elimination, both nationally and regionally. Even as regional and global progress have stalled in some neighboring countries, Senegal reduced malaria cases by 30 percent between 2015 and 2016.

Senegal has seen the greatest progress in the north, specifically in Richard Toll district. There, the NMCP worked with private- and public-sector partners to establish areas with zero local malaria transmission; in 2017, only 15 of the 136 malaria cases reported in the district were locally transmitted.<sup>29</sup> Now, the NMCP is aiming to expand these areas until entire districts are free from the disease.



As the north celebrates these wins, it is critical to implement a set of aggressive interventions in the southern region. High-transmission areas of the south can seed transmission into Dakar and elsewhere in central and northern districts; thus, expanded control and elimination efforts in the south are critical to achieving elimination of the remaining transmission in the north.

Senegal's strong scientific community represents an ideal setting for continued learning and evaluation of revised intervention packages. Current and recent studies in Senegal have looked at drugs for population-wide parasite clearance, including for mass drug administration (focal or household) and neighborhood test and treat. Opportunities for future evaluation include potential comparisons of seasonal malaria chemoprevention versus mass drug administration or new vector control tools (including attractive targeted sugar baits [ATSBs]) in the higher-burden southern part of the country.

Senegal's current malaria strategy is outlined in the National Strategic Plan for the Fight against Malaria in Senegal 2016–2020, and is led by the NMCP in partnership with the Ministry of Health. The NMCP aims to reduce malaria incidence and mortality by at least 75 percent from 2014 levels by 2020.<sup>30</sup>

## Opportunity: Expand West Africa regional elimination platform

Senegal has adopted a bold and aggressive approach to elimination, but movement of malaria across country borders presents a major challenge. With much cross-border movement in West Africa, eliminating malaria depends on collaboration between Senegal and its neighbors. Across West Africa, there is strong political will to create a regional mechanism that would coordinate efforts to contain cross-border transmission, leverage sustainable financing mechanisms, develop a data-sharing and data visualization platform, and harmonize malaria policies.

Because of documented success and consistent leadership, Senegal is uniquely positioned to advocate for such a collaborative regional elimination platform. Professor Awa Coll-Seck—former Minister of Health of Senegal and current RBM Partnership to End Malaria board member—has provided critical leadership in malaria, and is a vocal advocate of a regional collaboration. Furthermore, the RBM Partnership to End Malaria has expressed an interest in expanding “Zéro



Palu!”, Senegal's national elimination movement, across the continent to spark high-level political commitment and community engagement.

Senegal is currently in talks with The Gambia to align the application and distribution of interventions including IRS, SMC, and LLINs. There is also an opportunity for the two countries to conduct their population-based health surveys simultaneously to provide a more complete picture of the region's malaria landscape. Plans for an inter-country workshop to discuss further opportunities for coordinated efforts are underway. Going forward, the NMCP and partners can work with national and subnational decision-makers in both The Gambia and Senegal to share malaria case detection and treatment data, develop a set of co-owned data products that are easily updatable, and share analyses and insights around local and imported malaria transmission.

## Opportunity: Leverage innovative financing

Global financing, particularly from the Global Fund and PMI, has been high and relatively stable since 2008; in 2017, the national government substantially increased domestic spending on malaria. Now is a critical time to support further progress through existing investments, expanding investments (e.g., the domestic commitment), and advising new funding opportunities (e.g., the IDB's Lives and Livelihoods fund) around high-impact opportunities. The NMCP is currently looking specifically at how to allocate the Lives and Livelihoods Fund financing to align with existing elimination efforts and maximize impact.

# Conclusion

Thanks to the coordinated efforts of the NMCP and its partners, Senegal has made great strides in reducing the malaria burden and charting a path to elimination. Senegal is already beginning to see communities reaping the rewards of malaria-free areas; across growing sections of the country, the benefits of elimination are increasingly within reach. Elimination will mean an end to malaria-related illness and death, and healthier lives for children and other vulnerable populations. It will make communities more prosperous and financially stable, as families and businesses no longer spend money on malaria-related health care costs and as employees stop staying home due to malaria. Children will no longer have to miss school because of malaria, or fear the lifelong disabilities that can occur from complicated malaria. Health care facilities will be freed up to focus on other medical issues.

Senegal is building on the dramatic progress of the last two decades to achieve even steeper reductions in sickness and death, and to push toward national elimination. Reaching these goals will require the deployment of innovative tools and approaches for malaria elimination, in addition to the targeted scale-up of proven interventions for vector control and case management. Senegal's assets—its strong leadership and program engagement, data-informed decision-making, and successful partnership model—will be crucial to these efforts. What is needed now is a concerted effort to secure sufficient resources and funding to support malaria elimination in Senegal, and to build a regional platform for accelerating malaria elimination across West Africa. Together with partners across sectors and throughout the region, Senegal will continue to chart the way to making malaria history.

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