The Novartis Foundation

Needs assessment

Discovery phase: Gathering insights on the disease burden and enabling environment prior to implementing a population health approach

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Cardiovascular diseases (CVD) take almost 18 million lives every year, with three-quarters of these deaths occurring in low- and middle-income countries.

The emergence of CVD as a key risk factor for COVID-19 complications is yet another reason for urgently addressing cardiovascular (CV) health at the population level.

Population health approaches are essential for reducing health inequalities and achieving Universal Health Coverage. Partnerships are the basis for improving population health, while data and digital technology can support healthcare systems in becoming **proactive, predictive and preventive systems** that keep people healthy in the first place.

The following slides lay out the initial steps for policy-makers to reach a better understanding of the burden of CVD in their local context. They also describe the enabling environment to design a holistic intervention package that will improve CV population health.

Ann Aerts
Head of Novartis Foundation

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Needs assessment

Goal

Gather insights to understand the burden of CVD in a local context, as well as the enabling environment to design a holistic intervention package that will improve CV population health

Download an editable PowerPoint version of the needs assessment here.

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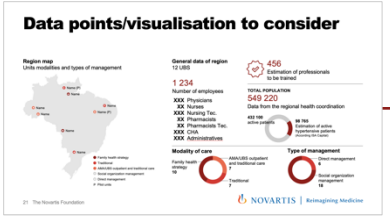
Steps to take

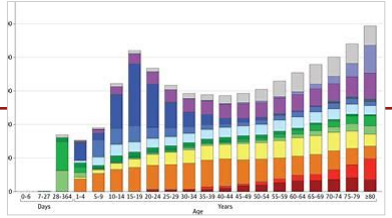
1. Review the health system and policy landscape
Assess the political commitment to addressing CV risk and understand key success factors/ barriers within the local context

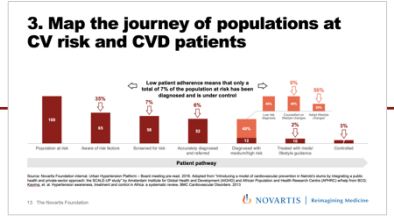
2. Estimate the CVD burden and the number of people on treatment as well as the number of people with heart attacks and strokes

3. Map the cardiovascular health value chain and patient journey to identify key attrition points, which will differ **depending on the geography**

4. Map the environment surrounding populations at CV risk and CVD patients to identify potential intervention opportunities to reduce CV risk







Goals

1. **Have a better understanding of the burden of CVD in your city/country**
2. **Understand the policies and environment upon which to build a CV population health approach**

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1. Review the health system and policy landscape

City, State

Health need

- How are the current health system needs for CVD management being addressed? Are they being met? What works/what doesn't?
- What is the public-private provider ratio in the local healthcare infrastructure?

Enabling environment

- Are city authorities committed to improving CV health and willing to invest time and resources?
- Is there a strong mechanism in place for managing public-private partnerships?
- Is there an established committee or mechanism to promote and coordinate multisectoral exchanges/collaboration?
- Are there local champions whose work can be scaled or leveraged to initiate a population-based approach?

Country profile		Urban profile	
Population		Population	
Gross national income (GNI)		Median age	
Inflation		Life expectancy	
Unemployment rate		GNI per capita, Purchasing Power Parity (PPP)	
Public expenditure on heath		Literacy rate (adult 15+)	
Total expenditure on health		Unemployment rate	
Expenditure on health as % of Gross Domestic Product (GDP)		Ethnic demographics	
Proportion of total health expenditure on CVD		Rates of smoking, alcohol consumption, physical exercise, and nutrition	

Key policies and strategic priorities of the Ministry of Health for CV population health

- Does the city have policies regarding sin taxes or bans on trans fat?
- Is there a set of clear predefined targets and indicators to measure the progress and impact of interventions?
- Is there a national digital policy in place, or established priorities for the city (i.e., Smart City initiatives)?
- Do electronic medical records exist and can health authorities leverage data for improved decision-making regarding populations at CV risk?

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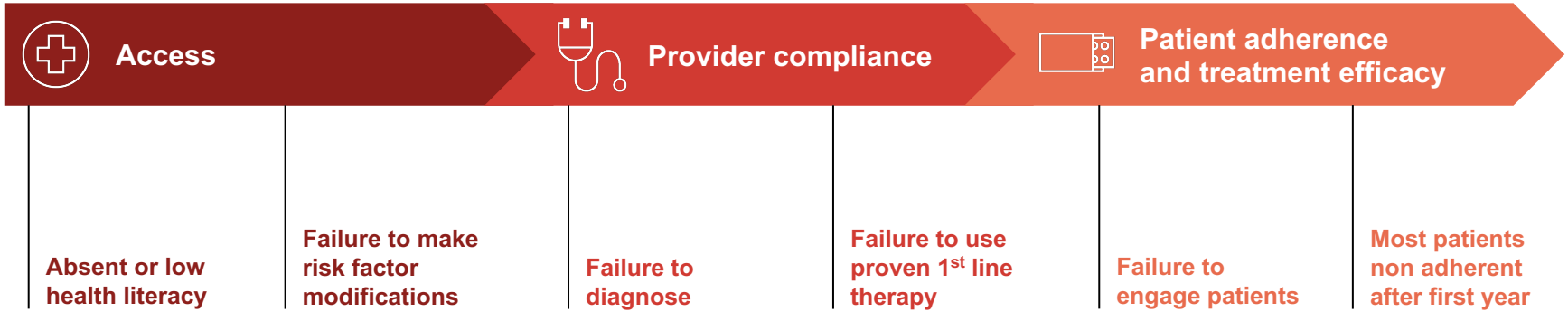
2. Estimate the CVD burden

Key data points	Data
Total population	National census
Adult population	National census
CVD mortality	WHO NCD profiles
Prevalence (hypertension, diabetes, high LDLC) **(People with CVD – 3 tiers)**	STEPS survey (WHO Methodology) or equivalent
Treatment rate (hypertension, diabetes, high LDLC)	STEPS survey (WHO Methodology) or equivalent
Control rate (hypertension, diabetes, high LDLC)	STEPS survey (WHO Methodology) or equivalent
Funding allocated to CVD management as % of city/national budget	Ministry of Health/City health authorities' budget
List of supporting questions for other data points	▪ Which populations and individuals are most at risk of developing a CVD? ▪ What % of diagnosed patients are on treatment? ▪ What % of treated patients have their condition under control? ▪ What is the availability of medicine for patients? Is it affordable for all segments of the population? ▪ Is CVD care covered by the universal health coverage package of care? ▪ What is the number of heart attacks and strokes per year in the population?

3. Map the cardiovascular health value chain and patient journey

The need to better understand missed opportunities at every step of the journey

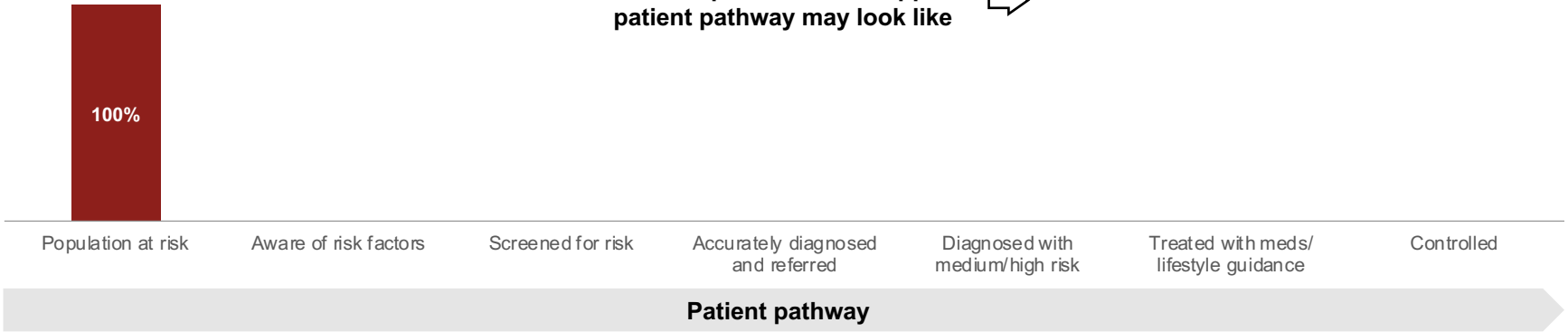


Adapted from Mark McClellan et al. AHA presidential advisory. A call for Action. Circulation 2019

3. Map the cardiovascular health value chain and patient journey

Finding the weak points in the patient pathway and identifying the reason for the weakness is key to strengthening a health system. This will vary with geography, so mapping should be specific to the target areas. **This pathway can be used to explore the journey for patients at risk of hypertension (HTN), diabetes and/or dyslipidaemia.**

An example of what a mapped patient pathway may look like



Source: Novartis Foundation. Urban Hypertension Platform –. Adopted from "Introducing a model of cardiovascular prevention in Nairobi's slums by integrating a public health and private-sector approach: the SCALE-UP study" by Amsterdam Institute for Global Health and Development (AIGHD) and African Population and Health Research Centre (APHRC) w/help from BCG; Kayima, et. al. Hypertension awareness, treatment and control in Africa: a systematic review, BMC Cardiovascular Disorders. 2013

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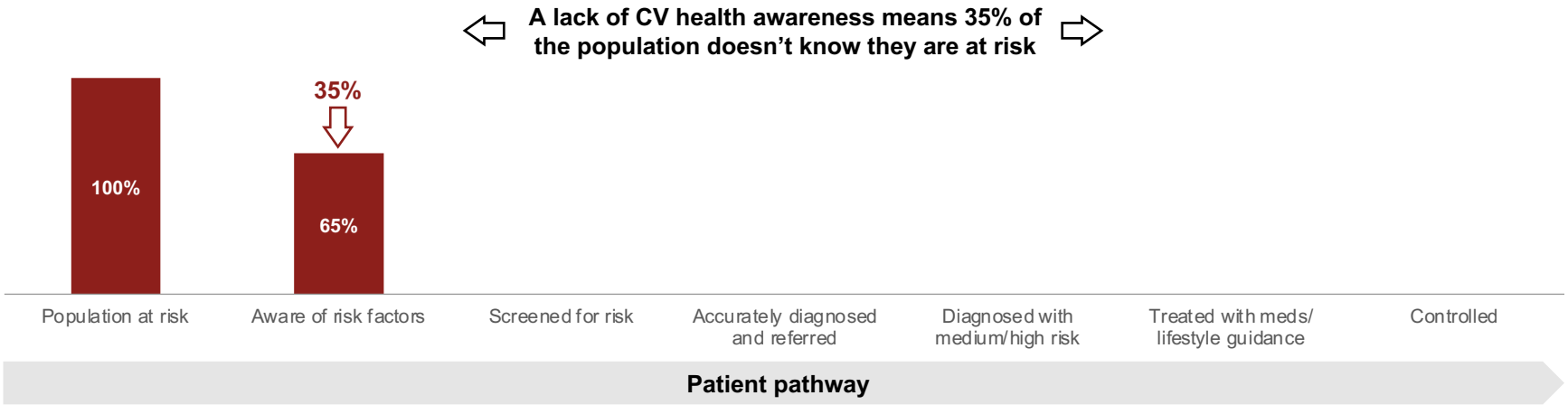

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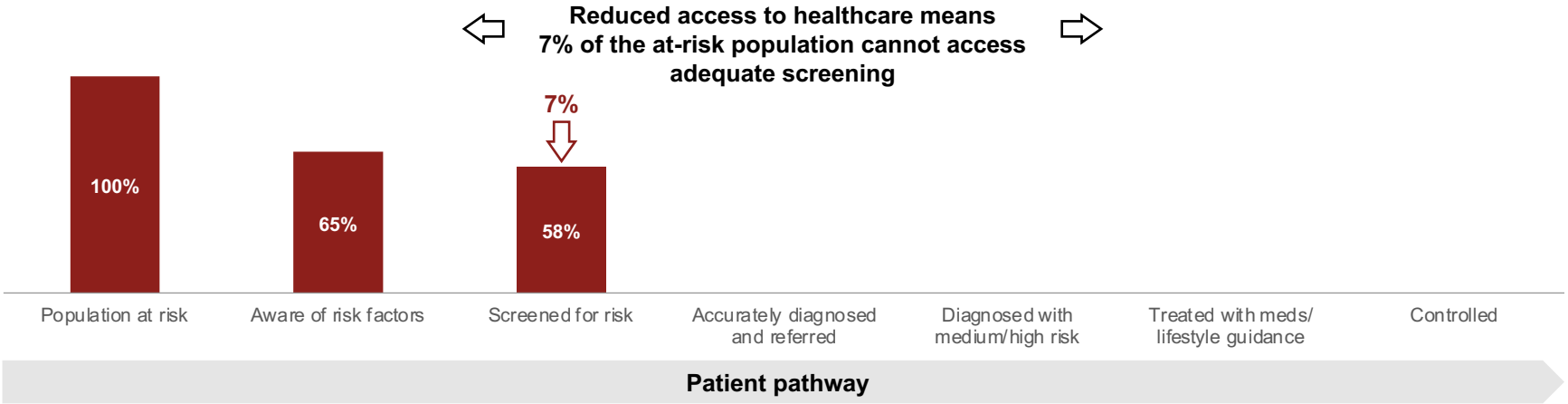

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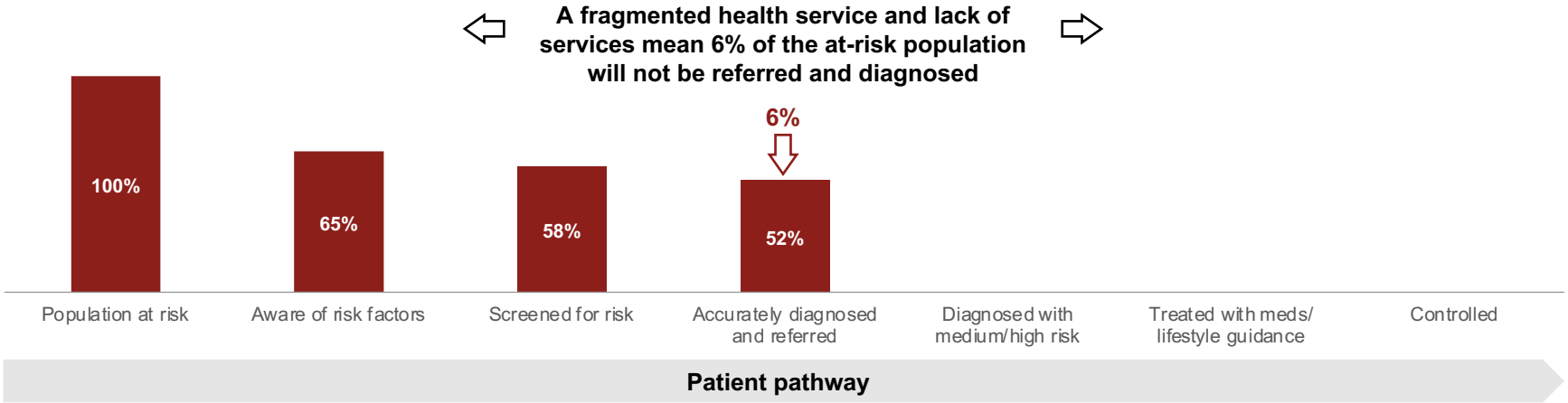

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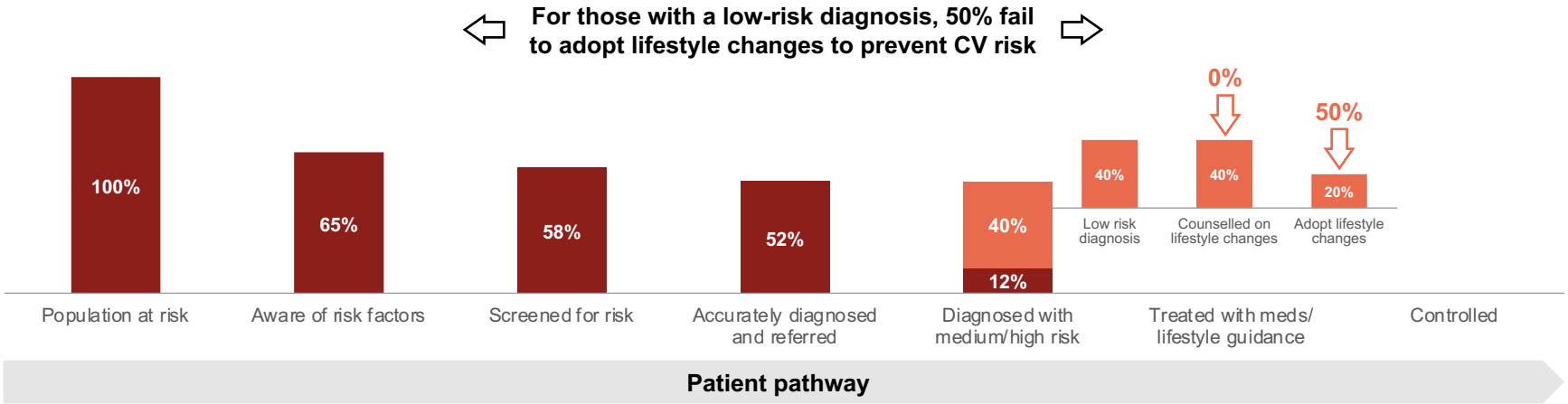

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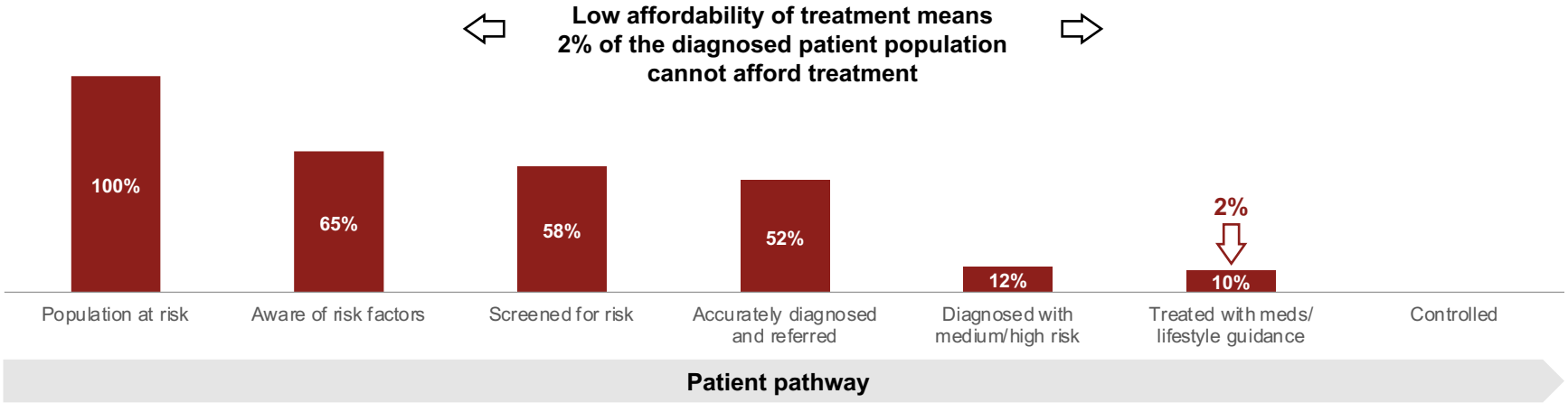

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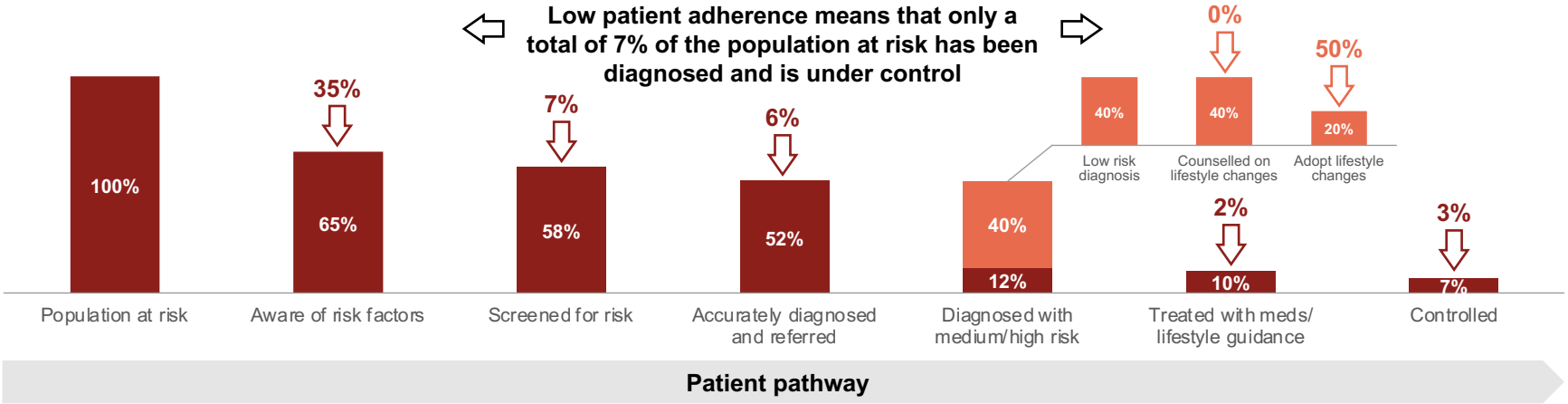

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4. Map the environment surrounding populations at CV risk and CVD patients

Mapping the wider social, health, and market environment that has influence over an individual's life enables the design and implementation of intervention programs that are tailored to the needs of the local situation. It may also reveal opportunities for interventions and partnerships that can lead to novel and effective solutions to prevent CV risk in the population and CV events for patients (also outside the brick and mortar of the health system).

Consider the wider environment
Who/what are the **key influencers on a person/patient** that can therefore have the greatest impact on patient outcomes?

Social influencers	Telecoms | Religious institutions | Work | School | Community | Family and friends | 'Pop' culture | Media
Health influencers	Drug outlets | Healthcare providers/nutritionists | Health NGOs | Payers/financiers
Market influencers	Policy makers, government agencies and medical associations | Pharmaceutical companies | Digital technology companies | Social entrepreneurs/social enterprises | R&D (universities, research institutes) | Medical equipment manufacturers | Food/agriculture/consumer product companies

Source: Novartis Foundation internal. Urban Hypertension Platform. 2016

4. Map the environment surrounding populations at CV risk and CVD patients

Identifying potential intervention opportunities

After **mapping the journey of CVD patients and populations at CV risk**, an in-depth analysis reveals **people's contact points**, **guidelines** and **policies**, key **stakeholders**, and other **influencers** at each step. These stakeholders and influencers are the starting point for partnerships which can lead to innovative health solutions.

	Awareness and prevention	Screening	Diagnosis	Treatment and follow-up	Secondary and tertiary care
Key stakeholders	▪ Populations at risk ▪ Policy makers ▪ Food manufacturers ▪ Nutritionists ▪ Community ▪ Advocacy groups and policy makers	▪ Populations at risk ▪ Healthcare providers ▪ Community ▪ Medical associations ▪ Advocacy groups and policy makers ▪ Tech community/ Medical equipment manufacturers	▪ Populations at risk ▪ Healthcare providers ▪ Tech community/ Medical equipment manufacturers ▪ Medical associations ▪ Advocacy groups and policy makers	▪ Diagnosed patients ▪ Healthcare providers ▪ Drug outlets ▪ Pharma companies ▪ Medical associations ▪ Advocacy groups and policy makers	▪ Diagnosed patients ▪ Healthcare providers ▪ Medical associations ▪ Advocacy groups and policy makers

Source: Novartis Foundation internal. Urban Hypertension Platform. 2016

CARDIO framework

To design a CV population health approach in your city, learn more about **key interventions and best practices** from the Novartis Foundation's CARDIO framework

www.novartisfoundation.org