

# TIANJIN



## LAYING THE FOUNDATION FOR DIABETES PREVENTION AND CONTROL IN A RAPIDLY EXPANDING CITY

Located just 30 minutes southeast of Beijing by high-speed rail, Tianjin is among the fastest-growing cities in China in terms of population and economy.<sup>49</sup> It is already the fourth most populous city in China, with approximately 16 million inhabitants,<sup>50</sup> and is expected to continue significant population growth for many years to come. Tianjin's robust economy, as a major port and manufacturing hub in China, drives this trend.<sup>49</sup> Emulating the momentous social transformations in China, Tianjin has invested significantly in local and regional infrastructure, economic development, job creation and expanding health infrastructure.

The rapid growth has also led to a turning point – NCDs have quickly become the number one health threat. Out of every 100 deaths in China, 85 are now caused by NCDs.<sup>51</sup> Several high-risk health behaviours have accompanied the rapid growth. Powerful underlying forces often associated with urban living, such as poor diets, sedentary lifestyles, smoking and alcohol

consumption as well as environmental factors, have resulted in the emergence of a diabetes epidemic in Tianjin. Already, an estimated 9.7% of the adult population (aged 20–79) has diabetes,<sup>52</sup> and it is expected that, without action, the prevalence of diabetes will almost reach 15.0% by 2045 (Figure 6).<sup>52</sup>

### UNDERSTANDING VULNERABILITY IN TIANJIN

Research conducted by the Tianjin Medical University as part of Cities Changing Diabetes in Tianjin revealed that vulnerability to diabetes is embedded in cultural beliefs impacting perceptions of risk and management. Low diabetes literacy, low patient education levels and socioeconomic challenges also significantly impact people's access to information about diabetes and their ability to manage the condition.<sup>16</sup> This is emphasised by the fact that almost 45.0% of people with diabetes remain undiagnosed.<sup>53</sup>



Tianjin, China

### SUPPORTING A NATIONAL STRATEGY

Until recently, most people in China sought medical care in hospitals, especially the large hospitals in major cities, partly due to lack of trust in primary care physicians.<sup>51</sup> However, staff capacity at hospitals has been markedly overstretched, and many patients struggle to gain access to treatment.<sup>51</sup> The central government has therefore made strengthening the tiered medical system and integrated prevention of NCDs a priority of its 'Healthy China 2030' strategy.<sup>54</sup> The healthcare reform will involve establishing a referral system and improving the capacity of general practitioners (GPs).

#### Strengthening diabetes capacity among primary healthcare providers

A key focus of the programme in Tianjin has been to improve the level of diabetes diagnosis and treatment at primary care level in community health centres (CHCs), and, in so doing, lay the foundation for a referral

system for the treatment of diabetes. The programme is training GPs in the diagnosis and management of diabetes in partnership with the Tianjin Health and Family Planning Commission, Tianjin Human Resource and Social Security Bureau and Tianjin Medical Association. The training programme is based in 30 training centres and led by 70 specialists. The aim is to train one or two Chief GPs for each primary health institution in the city.

Enabling Chief GPs to play a lead role in improving the diagnosis, treatment and management of diabetes will provide urban residents with access to high-quality and professional medical services, and lay the foundation for a tiered medical system. By the end of 2016, 300 GPs had received training, including theoretical training, clinical hands-on practice and sessions with mentors, and were granted the title of Chief GPs of Diabetes by the Tianjin Health and Family Planning Commission. Indications are that this effort has already resulted in improved levels of diagnosis and treatment of diabetes at CHCs, and will improve trust in the primary health system.

Furthermore, an evaluation of the training programme shows that GPs not only perceive that their knowledge of diabetes has improved, but that so too has their self-confidence and motivation to help patients manage their diabetes. This is beneficial in order to create a good medical atmosphere and promote efficient medical treatment.

Going forward, the training efforts will continue to grow to meet the needs of a growing diabetes population. The programme will provide centralised training for GPs twice a year, online supplemental tutorials twice a month and a three-week mentor training programme where Chief GPs receive hands-on diabetes training at a clinic. In addition, patient education is being made available in order to improve self-management.

Ensuring capacity for the diagnosis and management of diabetes at CHC level in Tianjin is a critical step in improving diabetes care in this rapidly expanding city.

*“Through initiatives like the Chief GP of Diabetes in Tianjin, Cities Changing Diabetes is laying the foundation for diabetes control in primary health centres in Tianjin.”*

**ZHANG FUXIA,  
DEPUTY DIRECTOR OF TIANJIN HEALTH  
AND FAMILY PLANNING COMMISSION**

### LOCAL PROGRAMME PARTNERS

- Tianjin Human Resource and Social Security Bureau
- Tianjin Medical Association
- Tianjin Medical University
- Tianjin Municipal Commission of Health and Family Planning

### 8.7% OF ADULTS IN TIANJIN HAVE PREDIABETES.<sup>53</sup>



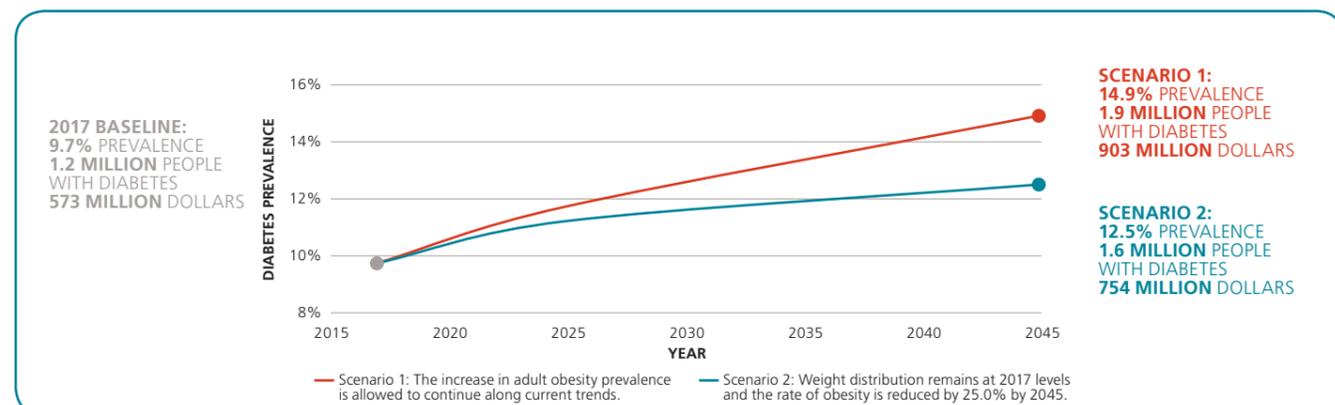
#### MEET XIA<sup>16</sup>

- 55-year-old woman
- Married and works as full-time labourer
- Slightly overweight and has type 2 diabetes.

Xia lives in an apartment with her husband. Daily, she cycles from the city to the countryside, where she spends several hours doing farm work, and therefore feels that she is in good physical condition for her age. Xia also has many household chores; this keeps her busy and she often skips meals during the day. She says: “I think I get the diabetes because I eat too much this time and too little next [time].” In principle, Xia trusts doctors, but is unsure as to what help they can give her and avoids seeking medical attention, even when necessary. At the same time, she is very concerned about the complications of diabetes, which could prevent her from working and caring for her family. Her knowledge about diabetes is very limited, though she knows she can get information from the local hospital.

**FIGURE 6: PROJECTED DIABETES PREVALENCE IN TIANJIN, 2017–2045 (ADULTS AGED 20–79)<sup>52</sup>**

If we reduce obesity by 25.0% by 2045, 300,000 cases of type 2 diabetes can be avoided and 149 million dollars in healthcare expenditure saved



**NOTE:** The baseline prevalence of 9.7% among adults (aged 20–79) in 2017 uses published data from 2010.<sup>53</sup> For China, the model uses different BMI cut-off points for overweight and obesity because, in Asian populations, there is a risk of developing type 2 diabetes at a BMI lower than the existing WHO cut-off point for overweight.<sup>55</sup>