

## **Facts about the Health Impact Bond**

### **Health Impact Bond background**

Both in Sweden and globally, the healthcare sector is facing numerous challenges with aging populations, strong increases in lifestyle diseases and chronic illnesses, rising medical costs and a need to find new ways to structure healthcare. The majority of healthcare costs go to providing care to those who are already ill, while only a small share is allocated to preventive measures aimed at reducing the inflow of new patients.

A greater focus on prevention can over time significantly reduce Region Stockholm's healthcare costs and thereby free up major resources that can be used for other healthcare purposes. However, the cost savings from preventive work always come with a delay, which makes this work hard to justify economically in the face of scarce resources. To enable prevention on a large scale, which over the long term will both cut costs and reduce human suffering, new, innovative financial solutions are needed. Toward this end, Region Stockholm, together with SEB and Skandia Mutual Life Insurance Company ("Skandia") has developed a Health Impact Bond.

The Health Impact Bond will be used to fund a pilot project for type 2 diabetes prevention, where the return is coupled to how successful the preventive work is. This financial bond model that Region Stockholm has developed in cooperation with SEB and Skandia is the first of its kind, even internationally.

Region Stockholm has the ambition to develop their work in social entrepreneurship and social financing. This has now resulted in a decision to fund the type 2 diabetes prevention pilot project through a Health Impact Bond. The aim of this project has been to develop a model for more effective steering and financing of prevention efforts that are specifically adapted for the major public health diseases such as type 2 diabetes.

### **What is a Health Impact Bond?**

The Health Impact Bond is a bond issued on the financial market – in this case with SEB as an intermediary. The proceeds from the bond will be used to fund a preventive type 2 diabetes prevention programme for up to 925 prediabetic individuals in the greater Stockholm area. The pilot has one investor: Skandia. The documentation for the Health Impact Bond is based on standard bond documentation to facilitate the creation of new Health

Impact Bonds with other issuers than Region Stockholm and other investors than Skandia.

According to scientific studies, lifestyle-promoting efforts of the type that the Health Impact Bond will fund can result in a risk reduction of 58%. This represents a potential to avoid healthcare costs of approximately SEK 1.4bn a year if Region Stockholm at a later stage should choose to scale up this intervention and offer it to all prediabetics in the county.

The sought-after risk sharing in the model is achieved by linking the return to the performance of the preventive measures, since the result can never be 100 per cent certain. Owing to its strong ties to measurability, it is believed that the Health Impact Bond will contribute to efficiency improvements, quality improvements and cost reductions.

In the event of successful prevention, the investor will receive a return that is slightly higher than what Region Stockholm pays for its ordinary funding in the capital market. On the other hand, if the prevention is not successful, the investor will receive a negative return, i.e., it will receive back less than the invested amount.

The prevention programme uses a digital tool to gather a number of health services and providers, and also the help of health coaches to personalise a prevention programme for each individual. Tied to the digital platform are a number of service providers in various areas such as physical activity, diet, sleep, stress, etc. The party conducting the prevention programme is Health Integrator AB.

### **Here's how the Health Impact Bond's type 2 diabetes prevention programme works:**

- To identify people at risk for developing type 2 diabetes, individuals in the target group will be asked to complete a health questionnaire, and for high-risk cases the individual will be asked to submit a blood test. Individuals who after submitting a blood test meet the criteria for participating will be offered a place in the prevention programme.
- Up to 925 individuals who meet Region Stockholm's criteria for being at risk of developing type 2 diabetes can choose to participate in the prevention programme.

- The participants will then meet with a health coach, who will analyse their blood lab results, take their blood pressure, measure their BMI and waistline, etc.
- The health coach will draw up a personal health plan based on the results of the health questionnaire and lab results as well as on the individual's needs and preferences.
- The individual will be credited with a "health account", i.e., a sum of money to buy services and products on the digital marketplace that can help him or her avoid developing type 2 diabetes and preferably move out of the at-risk category entirely.

The prevention programme has been tested in its entirety through a preliminary study that included the participation of more than 200 individuals. The preliminary study was led by a physician/researcher employed by Region Stockholm and Karolinska Institutet (KI) with many years of experience in lifestyle changes among people with diabetes. The preliminary study was concluded in January 2019 and proved to have considerably fewer dropouts than what is normal for similar studies.

**This is how the Health Impact Bond works financially:**

- The amount of funds raised through the Health Impact Bond is SEK 30m. The proceeds from the bond will be used to finance the prevention programme for up to 925 prediabetic individuals in Stockholm County.
- The structure of the Health Impact Bond is a combination of a fixed underlying 5-year Region Stockholm bond with a zero-coupon structure and a variable portion whose return is based on the cost savings achieved by the diabetes prevention effort. The investor's total return will thus consist of the combined return of "the ordinary" bond issued by Region Stockholm and the return based on the diabetes prevention effort.
- The upside of the return is limited by a cap (the maximum accumulated return over the 5-year period is 10%), while the downside is limited by a floor (the minimum accumulated return over the 5-year period is -20%). No payments will be made during the bond's tenor; repayment of the nominal amount and any variable return (positive or negative) will be made upon maturity (i.e. after year five).

## **A few short facts**

### **Advantages of the Health Impact Bond**

- A unique funding model that enables large-scale prevention, which in the long term will both save costs and reduce human suffering.
- A funding model in which Region Stockholm issues a bond with an outcome-based return. The goal is that 925 individuals will participate in the prevention programme, which would result in the Health Impact Bond amounting to SEK 30m.
- A new type of bond specifically adapted for institutional investors. The creation of the Health Impact Bond can be a model for similar initiatives, making it easier to enable investments of large amounts of capital in other diabetes projects or within other health areas.
- Risk-sharing with external investors, who receive a return based on the outcome of the prevention programme.
- A preventive digital measure, with recruitment of at-risk individuals from outside the traditional healthcare structures.
- An effect-measurement model for calculating the value that is created when illness and the need for healthcare among diabetes patients are avoided, and based on that, creating an investment proposal and showing the value of investing in diabetes prevention
- A strong link to what is measured may lead to quality improvements, greater efficiency and cost savings.
- Funding of innovative ideas/methods can be tested and, if they are successful, be scaled up to address other health areas/patient categories

### **Participating parties**

- Region Stockholm
- Health Integrator AB
- Skandia
- SEB

### **Other background information**

- Approximately 500,000 people have diabetes in Sweden today, and of these approximately 90 per cent have type 2 diabetes. There are roughly 150,000 people in Sweden who have the disease and don't even know it.

Every day 5 to 6 people die in Sweden, where diabetes is the underlying cause of death.<sup>1</sup>

- Type 1 and type 2 diabetes are two entirely different diseases, where high blood sugar is the common denominator. With type 1 diabetes, the body stops producing insulin. It is mostly children who acquire type 1 diabetes, although adults can also be afflicted. With type 2 diabetes, the body still produces insulin, but the amount of insulin is insufficient. Type 2 diabetes is also called adult-onset diabetes. Factors that affect the risk of developing type 2 diabetes include, in addition to genetics, obesity, a sedentary lifestyle and stress.
- By analysing data of healthcare consumption among the diabetic and non-diabetic population, Region Stockholm has calculated how type 2 diabetes leads to higher consumption of healthcare in 552 diagnosis codes with strong ties to diabetes. Healthcare consumption is adjusted for the base consumption of care that a diabetic patient has regardless of his or her diabetes diagnosis.
- The diagnosis codes have been selected cooperation with Ylva Trolle Lagerros, senior physician in Region Stockholm and a researcher at KI. The codes are not only diabetes codes, but also other diagnoses where there is a strong connection between diabetes and other diseases.
- The data analysis of the costs for type 2 diabetes healthcare in Region Stockholm draws from Region Stockholm's so-called VAL database, which covers the healthcare consumption for all individuals who seek care at a primary care facility or at a hospital in Region Stockholm.
- The data analysis shows that over a nine-year period (2008-2016), a man with type 2 diabetes consumes healthcare for SEK 240,000 more [for diabetes-related conditions] than a nondiabetic, while a woman with type 2 diabetes consumes healthcare for SEK 150,000 more than a non-diabetic.
- The healthcare cost for a person with type 2 diabetes is nearly 4.5 times higher than for a person without type 2 diabetes.
- The total "overconsumption" of diabetes-related healthcare, i.e., care that could have been avoided with preventive measures, was SEK 2.5bn in 2018 for 134,350 individuals with a type 2 diabetes diagnosis in Stockholm County.
- The target group for the initiative is prediabetic people aged 50-60. The individuals are to have prediabetic long-term blood sugar values (Hb1Ac

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<sup>1</sup> Swedish Diabetes Association, <https://www.diabetes.se/diabetes/lar-om-diabetes/>

between 42 mmol/mol and 47 mmol/mol) to be able to participate in the prevention.

- The target group has been defined based on data from the VAL database in order to capture a target group with very high probability of developing type 2 diabetes within a 5-10-year period.
- Screening and inclusion will be handled by Health Integrator AB.
- The number of participants in the prevention programme is a minimum of 500 and a maximum of 925.
- Every participant will be requested to measure their HbA1c (long-term blood sugar) yearly via a blood sample and also to report other health metrics such as their weight and waistline measurement.
- The metric that determines the return of the Health Impact Bond is the long-term blood sugar and a participant is calculated as a success as long as the participants' HbA1c value are within normal range i.e below 42 (at the last evaluation occurring after 5 years of prevention) and thus the saving is to be regarded as 50% (initial risk level) of the total over consumption cost of diabetes related care.
- The prevention programme will be conducted over a five-year period with an intensive phase during the first two years, and a follow-up phase during years three to five.