

# An insurance company in Austria develops a telemedicine system

*Transforming preventive care for type 2 diabetes*

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## Overview

### Business challenge and solution

Effective treatment of type 2 diabetes requires close cooperation between physician and patient. A telemedicine solution developed by IBM connects doctors and patients, helping physicians monitor medication and treatment in near-real time. The solution supports patient autonomy, transforms treatment paradigms, improves health outcomes and dramatically reduces healthcare costs.

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## Solution Components

### Hardware

- IBM® System z10® running z/VM®

### Software

- IBM DB2®
- IBM Rational®
- IBM WebSphere®

### Services

- IBM Global Technology Services®
  - IBM Global Services
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This Austrian public insurance company provides health, pension and accident coverage to 260,000 railway workers and miners. Responding to a dramatic increase in the percentage of the population suffering from type 2 diabetes, with lifetime costs per patient averaging EUR150,000, the company shifted its focus from traditional to preventive care.

## Challenge

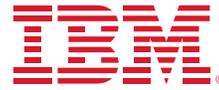
Effective screening, treatment and management of at-risk or already afflicted patients can slow or even halt the advance of type 2 diabetes. Proactive treatment requires close cooperation between physician and patient, however, with success directly dependent on precise medication management and challenging lifestyle changes demanding a high degree of motivation. This insurer required a convenient way to monitor compliance on a daily basis, in near-real time, while offering ease of use to facilitate patient autonomy and participation.

## Solution

Collaborating with IBM, the insurer developed a telemedicine program that helps physicians monitor patient compliance with prescribed treatment programs, including adjusting medications and treatment quickly and remotely. The core of the system is a mobile diabetes memory diary, a custom-designed database solution built on an IBM DB2® data server hosted on an IBM® System z10® Business Class server, developed with IBM Rational® and IBM WebSphere® software.

The solution integrates medical devices such as blood pressure gauges, blood glucose meters and weight scales with cell phones to help patients monitor their vital values. The solution automatically forwards patient data to the diabetes memory database, and an algorithm compares actual results to expected standards, immediately notifying physicians if results exceed critical thresholds. Physicians then respond rapidly to adjust patient treatment to avert the cascading complications that can worsen the disease.





Traditional treatment carries higher financial and human costs, usually occurring after patients suffer symptoms or complications. The solution fundamentally transforms the treatment of type 2 diabetes and helps dramatically reduce the need for emergency treatment or hospitalization. Patients exchange inconvenient, face-to-face, single point-in-time consultations with physicians for continuous home-based tracking and analysis of key parameters using telemedicine, promoting effective, reality-based treatment. More frequent data reporting and analysis helps improve patient health, lower costs and reduce escalated interventions.

The solution gathers and analyzes patient data, helping identify trends and offering visible progress reports for healthcare providers. It also links the insurance records of each patient with the diabetes telemedicine system and gives role-based access to clinical staff. Additionally, it uses telemedicine records and insurance records to calculate ROI to measure treatment efficacy compared to traditional, office-based diabetes treatment. Stringent data security protects patient privacy with encryption and decryption during transfer by mobile technology.

## Benefits

- Reduces healthcare costs by tens of millions of Euros by emphasizing prevention and proactive care
- Helps identify at-risk patients and quickly integrate them into the program, further reducing costs
- Uses telemedicine and insurance records to calculate ROI to measure treatment efficacy

## For more information

To learn more about Smarter Computing, please contact your IBM marketing representative or IBM Business Partner, or visit the following website:

[ibm.com/smartercomputing](http://ibm.com/smartercomputing)

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*“The solution changes the treatment of type 2 diabetes by improving patient outcomes compared with traditional treatment. Telemonitoring helps with ongoing monitoring and analysis of key parameters, facilitating more effective treatment.”*

—Insurance company executive

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