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Management Consultants

Digital Oxygen

Hospital Market Entry for Connected Diabetes Care

Case Study

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The “Digital Oxygen – Case Study Connected Diabetes Care” shows the potentials of digitalization in the diabetes care market.

Management Summary

Our case study shows that **current diabetes care** in hospitals is inefficient and error-prone – especially the daily glucose measurements.

A **central and connected diabetes care solution** could significantly reduce medication errors and labour cost, which are key drivers in hospital management.

Admission processes and GDPR compliancy seem to be a greater threat to digitalization of medical technology than they are in reality.

The **proven set of methods** guarantees to bring new mindsets into the development of medical technology products; especially in the case of connected diabetes care.

Digital Oxygen’s long **track-record on connectivity integration projects** and development of digital products, enables us to bring faster progress.

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The mission's objective was to develop a strategic approach allowing our client to access the market for connected diabetes care solution in hospitals.

Client Situation & Objective

Situation

Cost Savings as Entry Requirement

To **enter this market**, our client needed to offer a **cost saving solution**, as the most important criterium for hospitals.

High Labour and Error Costs for Diabetes Care

The **current diabetes care process** in hospitals is **inefficient** and **error-prone**. Providing a solution that can reduce medication error and/or labour costs is an **opportunity**.

Goal

Central and Connected Diabetes Care Solution

A **solution** consisting of **connected insulin pumps and glucose sensors** enables **nurses** to **monitor and medicate** their patients in **one central place**.

Less Labour and Medication Error Costs

The **central and remote glucose measurement** and **pump control reduces costs** for medication errors and labour.

Market Positioning Focus

	Consumer	Non-Acute		Acute	
		Home Care	Nursing Home	Non Intensive	Intensive
Users	Privates (B2C)	Home Care Operators	Nursing Home Operators	Hospital Operators	Hospital Operators
User Advantage	Security & Convenience	Financial Savings	Financial Savings	Financial Savings	Financial Savings
Feasibility	✓	✓	✓	✓	X
Client Focus	Present	Potential [1]			No interest
				Part of this Case Study	

1) Hypothesis: Implementation in non-acute and acute markets will not be funded by insurers

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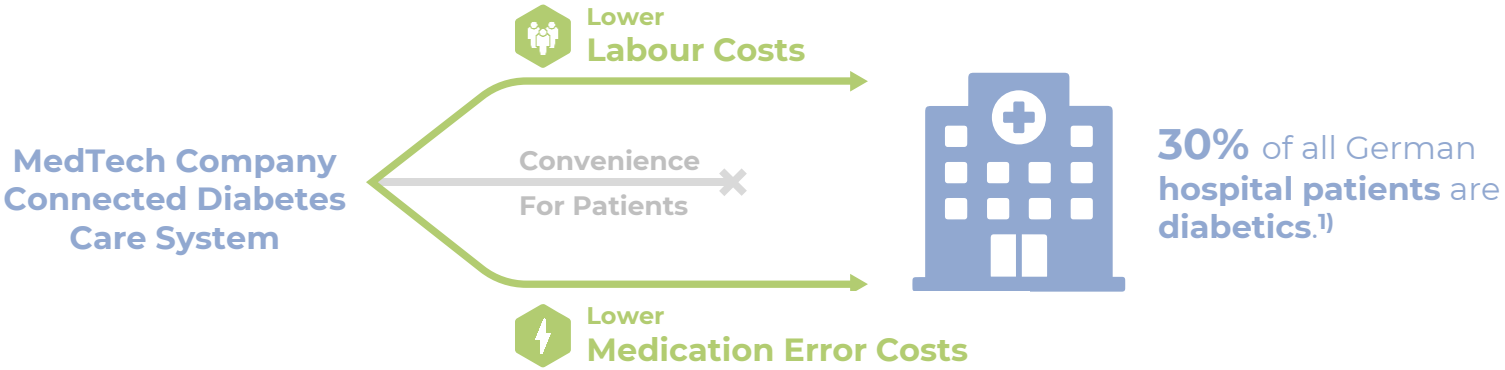
To enter the hospital market, our client needed to offer a solution that saves labour costs and/or reduces costs from medication errors.

Hospital Market Entry with Connected Monitoring and Medication Solution



Solution: Diabetes Care Glucometry

Connected diabetes care in hospitals

- **Reduced labour costs** through automated glucose measurement, **central monitoring, medication, and quality management**
- **Reduced error costs** through **less human errors**

Source: 1) DDG (2016)

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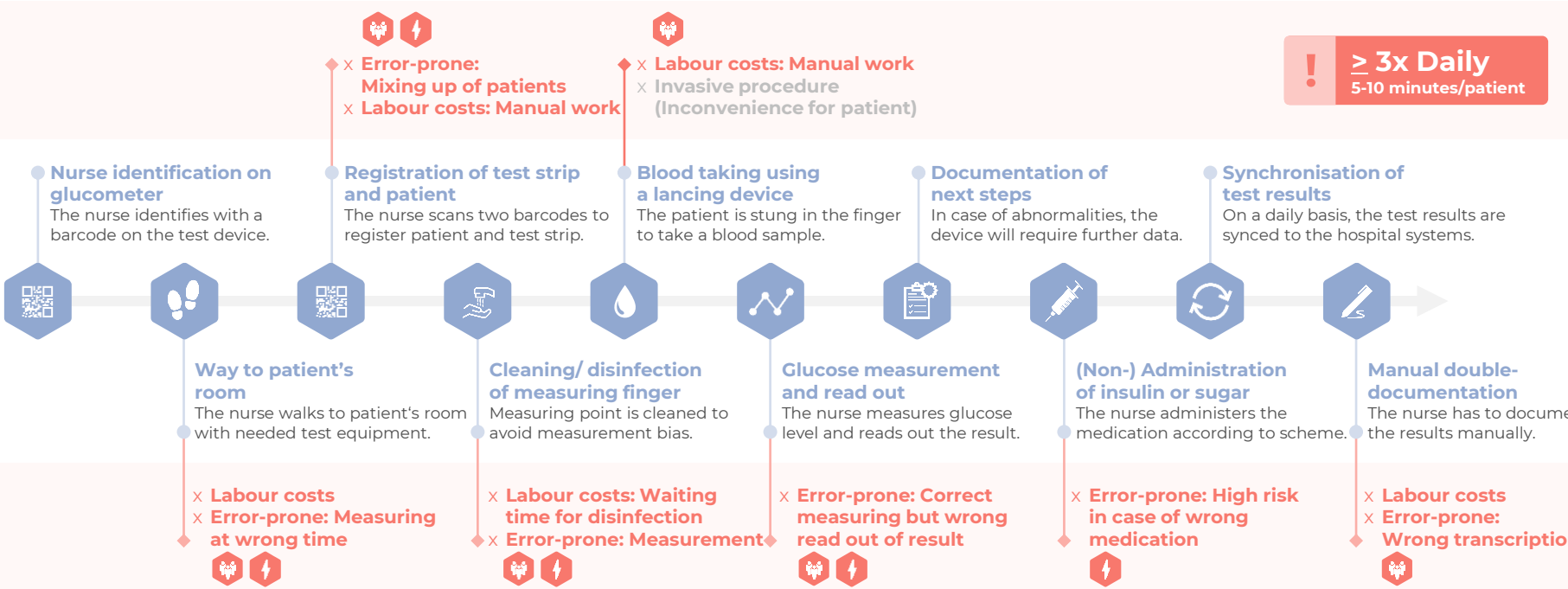
Diabetes care in hospitals is inefficient and error-prone – especially the glucose measurements multiple times per day and patient.

Status Quo: Daily Diabetes Care in Hospitals (Example)



Source: Interviews with nurses **Labour** Costs **Medication Error** Costs

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Connected sensors, insulin pumps, and remote control capabilities enable centralized diabetes care in hospitals.

Central Diabetes Care

Connected **Inpatients**

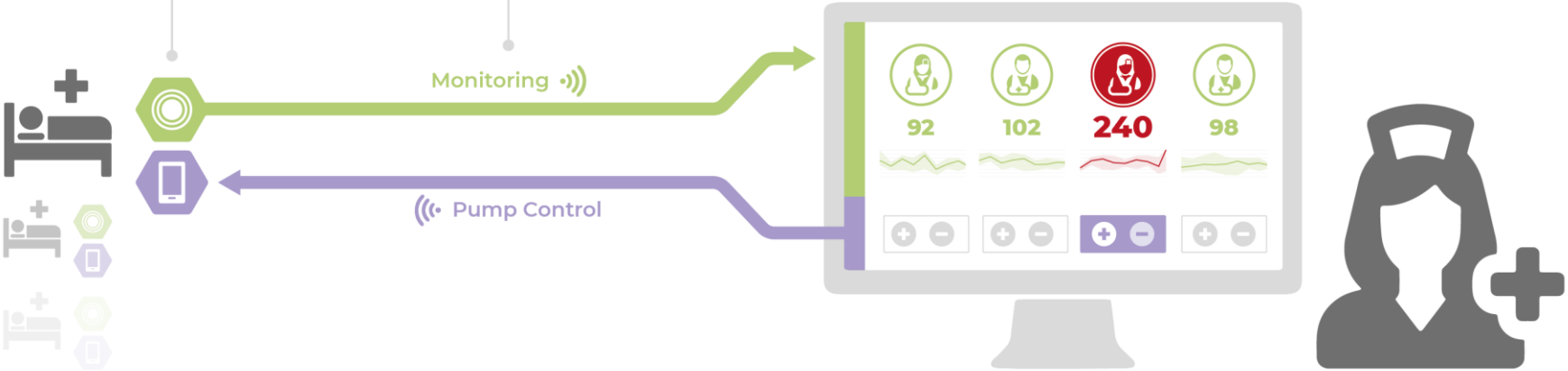
Each* inpatient has a **glucose sensor** and an **insulin pump.**

Remote, Continuous **Glucose Monitoring**

The **sensors continuously send** glucose data to a **central monitoring system.**

Central, Remote **Insulin Pump Control**

The **health care professional** can **monitor** the inpatients and **control their insulin pumps in a central place.**



* If applicable

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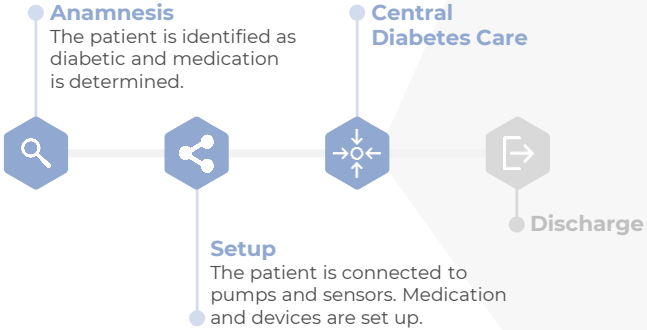
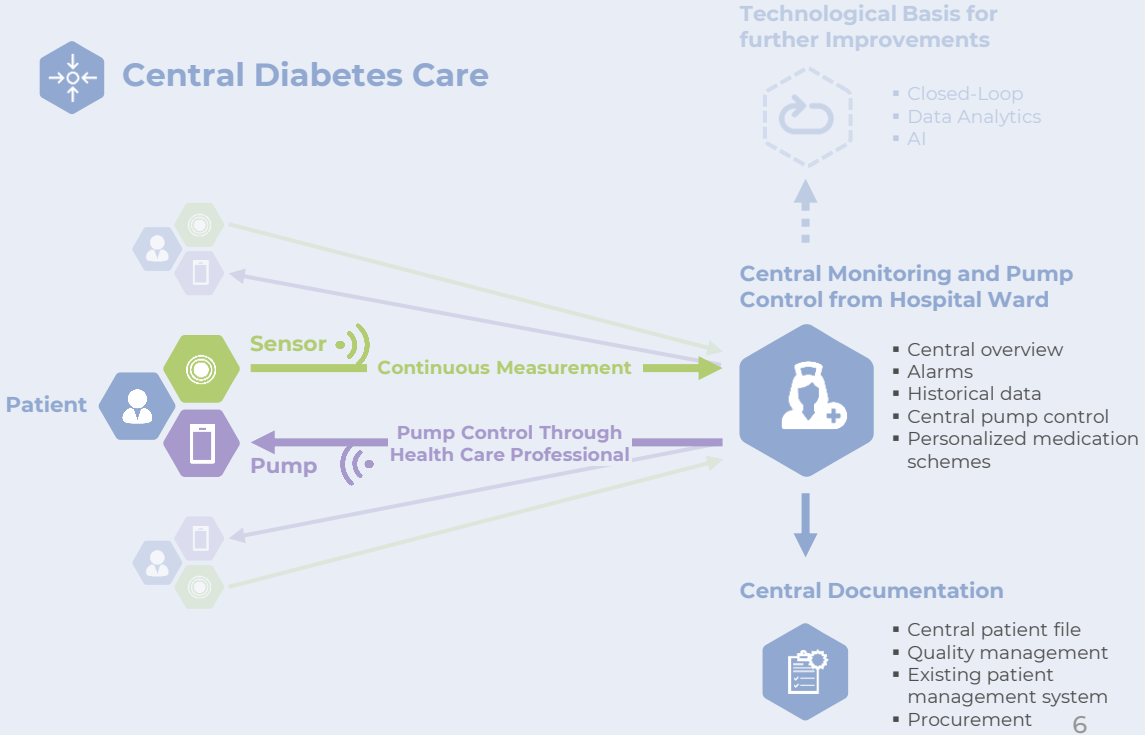
A connected and centralized monitoring and control solution is the core of a much more efficient diabetes care process for hospitals.

Central Diabetes Care





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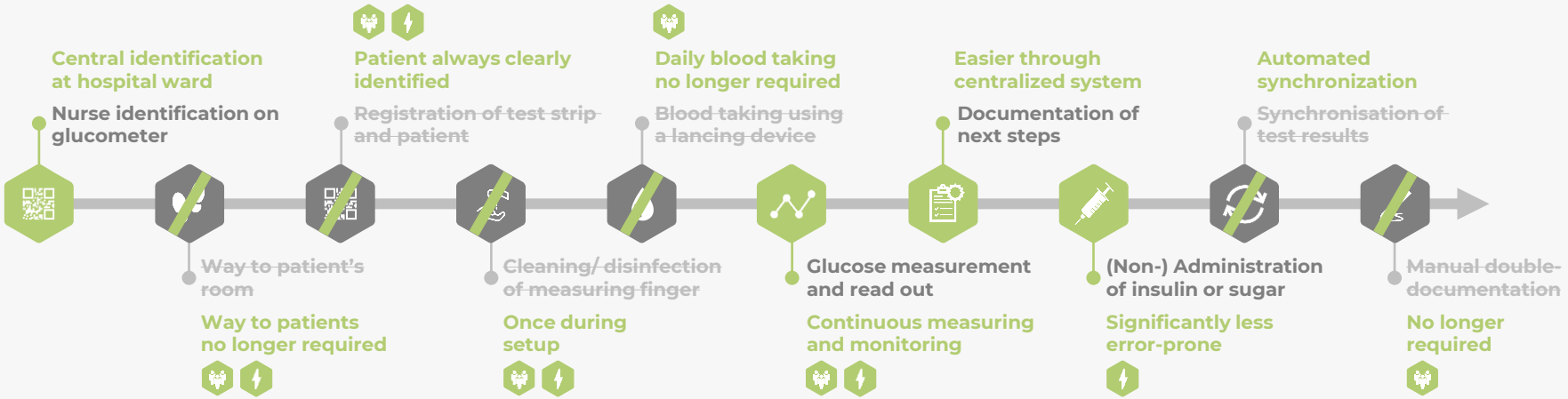
A central and connected diabetes care solution can significantly reduce medication error and labour costs.

Cost Reduction through Connected Diabetes Care

Connected Diabetes Care

Cost Reduction for Hospitals

Labour Cost Savings **Medication Error** Cost Savings



Source: Interviews with nurses

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In addition to lower labour costs, the cost saving potential through less medication errors is an attractive proposition for a central diabetes care solution.

Cost Saving Potential Through Less Medication Errors

Example UK **Diabetes Medication Errors**

37%

Of hospital inpatients with diabetes type 2 experience

Insulin Administration Errors[1)]

(40% for diabetes type 1 patients)

18%

Of hospital inpatients with diabetes experience a

Hypoglycemic Episode[1)]

4%

Of hospital inpatients with diabetes develop a

Diabetic Ketoacidosis[1)]

Estimated
Cost Savings Potential

£ 500 m

"Reduction of excess spend resulting from poor care" for diabetes inpatients.[2)]

Sources:
1) National Diabetes Inpatient Audit (2017)
2) Diabetes UK (2014)

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The case study offers valuable learnings that can be leveraged in any connected diabetes care project.

Learnings from the Case Study

1	**Market Potential**	Most of the competition has understood the potentials of connected diabetes care in B2C. However, though hospitals seeks for opportunities to save money, a viable solution is not in sight.	**Attractive**
2	**Admission Process**	As for any new product in the medical technology market, the admission process limits market access. This especially counts for connected devices. By excluding intensive care use cases market entry barriers are lowered.	**Open**
3	**GDPR Compliancy**	The introduction of new data protection rules has led to high levels of uncertainty in all industries. However, the underlying mindset has been the status-quo in the medication market for decades. If any, digitalization helps to manage the process.	**Manageable**
4	**E2E User Journeys**	Success in implementation depends on the consideration of edge cases; e.g.: the application during MRI/MRT or CT treatments. Design Thinking methodology helps to look at user journeys holistically which lowers duration and cost until go-to-market.	**Manageable e.g. Design Thinking**

Assessment

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