



# NOKLUS Diabetes

formerly known as FastTrak

A structured documentation tool

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# Background

- Based on an existing app, "FastTrak"
  - A framework for structured clinical documentation
  - Originally planned for clinical studies in Pfizer Norway
  - Used in different settings, including vascular surgery clinics, nursing homes, occupational health clinic, clinical studies, paper tracking for clinical studies
- Main focus and selling point
  - day-to-day documentation needs for clinical professionals in an outpatient diabetes clinic
  - and NOT data collection for NDV
- Incidentally, it also...
  - Collects all variables for NDV

# Keeping focus...

- Where will work for NDV be done?
  - NDV has around 3 FTEs, which means...
  - we leave > 99% of the work involved in a successful diabetes register to others!
- Our success depends on
  - Somebody else, and hence ...
  - Our ability to
    - Solve "somebody else's problem", which means to...
    - Meet the everyday needs of the clinical professions involved in diabetes care



# The 70% failure rate

- Creating new software is very risky
  - Reducing risk is important
- NOKLUS diabetes is
  - A scaled down version of the application FastTrak, with some additional features
  - We hope for better odds by building on something proven to work in similar settings
  - But, it is still too early to judge, we may still fail...

# Design overview

- FastTrak has 5 components
  - A single Win32 executable file, written in Delphi
  - A structured but flexible EAV (entity, attribute, value) database with plenty of metadata, running on Microsoft SQL Server
    - All data access through an API layer in stored procedures
  - A form designer, based on an ASP web survey tool from [www.classapps.com](http://www.classapps.com)
  - XHTML report templates with embedded ASP-like macros (e.g. `<%=Patient.Name%>`)
  - A third party visual report designer, coincidentally called FastReport, from [www.fastreport.ru](http://www.fastreport.ru)

# Design considerations

- Flexibility, a "triple edged" sword
  - in the right places => viable software
  - in the wrong places => chaos
  - in unnecessary places => extra work
- Problem is deciding which is which...
  - Knowledge about what changes and what doesn't can come from domain experience.
  - It can be helpful to be a physician



# There is rigidity in...

- The "execution engine" of the framework
  - This is a Win32 executable that needs to be recompiled for changes
- What the forms look like
  - but not what they contain
- The problem list
- The medication list
- The drug allergy list

# There is flexibility in the...

- Subpopulation selection, like...
  - Patients with HbA1c > 7%
  - Pregnant women
- Contents of the forms
  - XML specification from survey tool
- Report templates
  - XML files in a certain directory structure
- Production of summary notes
  - RTF via clipboard to the main EPR
- Clinical decision support
  - Scripted via T-SQL stored procedures

*Changes to any or all of these components may be updated/downloaded at any time, without alerting other users, or even closing the down the application.*



# Integration with EPR system

- Simple integration with two hospital EPRs
  - Reads and stores patient demographics automatically when patient changes in EPR
  - Reads labdata from external systems when patient is loaded into FastTrak
  - Writes structured RTF (Rich Text Format) back via clipboard as manual process

*It is important to note that DIPS has 70% of the market for hospital EPR systems in Norway, and the rest is shared by Siemens and TietoEnator. Integration work should not be overwhelming.*

# Implementation status

## ■ FastTrak installations in general

### □ First installation

- Denmark 2002, vascular surgery

### □ Largest installation

- 500+ users at 8 nursing homes in the city of Bergen, adding 300+ forms every day.

## ■ NOKLUS Diabetes installations

### □ First installation

- Stavanger, april 2008

### □ Second installation

- Bodø, yesterday