The Global Language of Business

Tracking instruments with RFID – GS1 standards

GS1 Healthcare Webinar

Dr. Bo Danielsen, head of the School of Oral Health Care at the University of Copenhagen in Denmark, President of the Danish Society of Periodontology, Vice president of the Danish Association for Dental Health Without Borders

January 14, 2021

Welcome and thank you for attending!

- Welcome to our January 2021 webinar.

  Thank you to our guest speaker Dr. Bo Danielsen, head of the School of Oral Health Care at the University of Copenhagen in Denmark

- Some housekeeping for today:
  - All attendees will be in listening-only mode
  - If you have questions during the presentation, please type them into the questions area and these will be monitored then answered at the end of the call
- After the webinar:
  - Within a week, the recording will be posted to: http://www.gs1.org/healthcare/hpac_webinars
  - All previous webinars are also posted to this location, so please feel free to use this resource and share the link

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GS1 Healthcare Webinars

Create a forum for the global clinical provider environment for thought leaders and adopters of GS1 Standards in healthcare. The final goal: improve patient safety, cost efficiency and staff productivity through the implementation of GS1 standards.

A forum for sharing and discussion

- The practical realities of implementation of GS1 Standards in the care giving environment in regard to the impact on clinical care and patient interaction

Identification of projects and case studies

- Supporting the adoption of GS1 Standards in healthcare providers and retail pharmacies
- For publication, presentation and sharing

A source of expertise and advice

- To those involved in GS1 standards development, the wider Healthcare stakeholder community and senior executives/decision-makers to gain their buy-in and support for implementation of GS1 Standards

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Specific GS1 Healthcare Activities

Webinars

- Bimonthly webinars open to all stakeholders interested in learning about GS1 standards implementation in the care giving environment.
- http://www.gs1.org/healthcare/hpac_webinars

Awards

- At each global GS1 Healthcare Conference
- Provider Implementation Best Case Study Award
- Provider Recognition Award
- The prize: travel & accommodation to attend the next GS1 Healthcare conference
- http://www.gs1.org/healthcare/hpac

GS1 Healthcare holds global conferences each year. Due to the pandemic we moved in 2020 to a Virtual Event.
The next GS1 Healthcare Virtual Event is scheduled from April 20–23, 2021.
We expect significant Healthcare Provider participation on the agenda.

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Presenting today

Dr. Bo Danielsen

- Dental degree; MBA; master in information technology & learning
- Accreditated Assessor at dental educations in several countries in Europe and beyond
- Head of the School of Oral Health Care at the University of Copenhagen in Denmark,
- President of the Danish Society of Periodontology
- Vice president of the Danish Association for Dental Health Without Borders

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Question 1

Background and interest of audience:

- Dental / Medical
- Manufacturer or Supplier
- Solution Provider / IT-Developer
- GS1

Tracking instruments with RFID – GS1 standards

Bo Danielsen

January 14th, 2021

School of Oral Health Care
School of Oral Health Sciences

KØBENHAVNS UNIVERSITET

The story behind our tracking instruments at our dental clinics

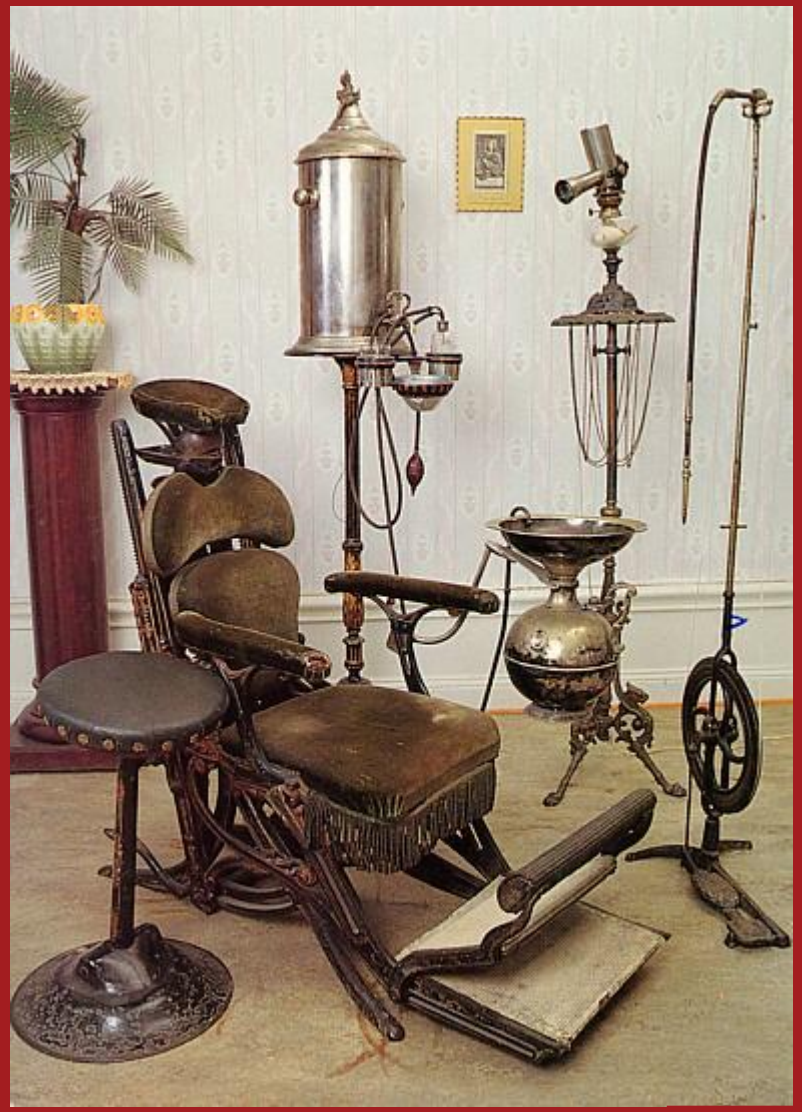
Our experiences

How we use tracking of our dental instruments to;

1. *improve patient safety*
2. *enable documentation of infection control*
3. *improve visibility and control over stock levels*
4. *reduce inventory costs*
5. *document utilization of instruments and their lifetime*
6. *support effective maintenance*
7. *reduce time needed for manual checking of instruments*
8. *allow clinicians/students to monitor their utilization of instruments*

And how we see this technology;

9. *opens up for digitalizing of more functions in the dental clinic*



Compact i5

Added tags

Embedded tags

Radio-frequency identification (RFID)

Studies on sterilization at dental clinics have shown a failure to achieve sterility in a significant proportion of clinics examined as a result of either appliance failure or improper handling. Therefore, it is important to check the apparatus and procedures used for sterilization

Centers for Disease Control and Prevention. Guideline for Disinfection and Sterilization in Healthcare Facilities (2008)

NATIONAL INFECTION HYGIENE GUIDELINES FOR DENTAL CLINICS

DK

Instruments flow in a dental clinic at the School of Oral Health Care, Copenhagen

Instrument used in a patient

Instrument predisinfected

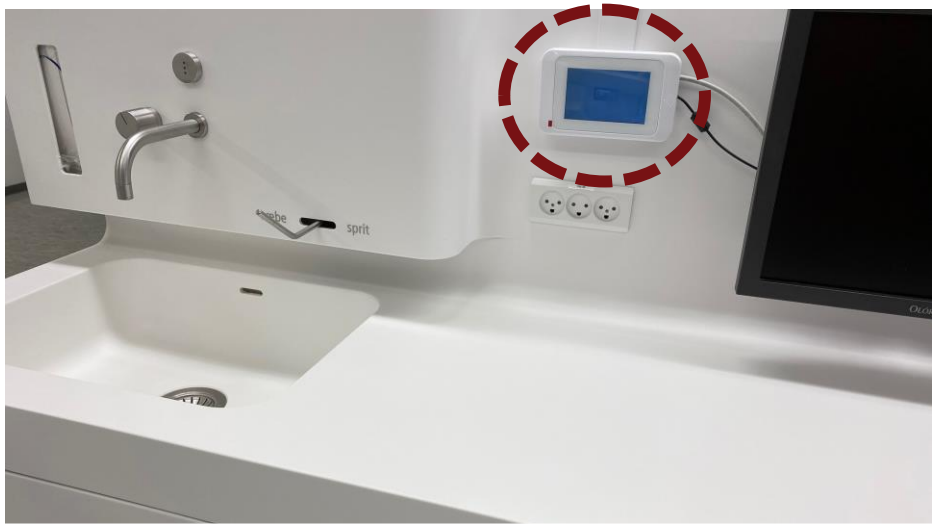
Instrument disinfected

Instrument sterilised

Instrument stored

Scanning of instruments

LM DENTAL
CHECK-OUT
SNAVSET
Items detected: 7
Maintenance
Please select activity
CPH pilot I



LM
feel the difference
Test User007
Items detected: 7
Clinical use
Please select activity

Instruments flow in a dental clinic at the School of Oral Health Care, Copenhagen

Instrument used in a patient

Instrument predisinfected

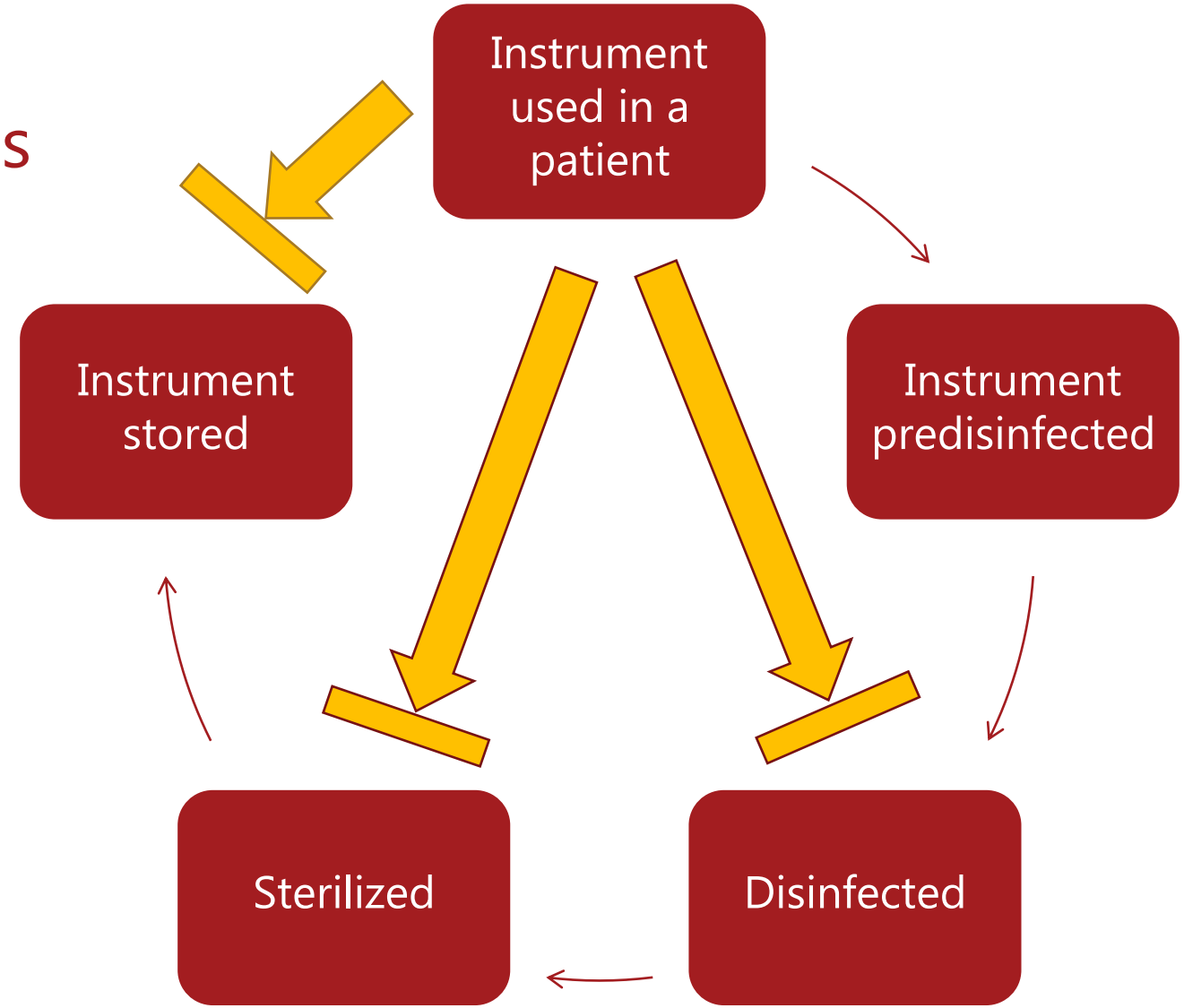
Instrument disinfected

Instrument sterilised

Instrument stored

Instruments cycle

Only clockwise movements



Alarm to prevent back flow

Alarm to prevent incorrect advancement

Tracking instruments flow for patient safety

Instrument used in a patient

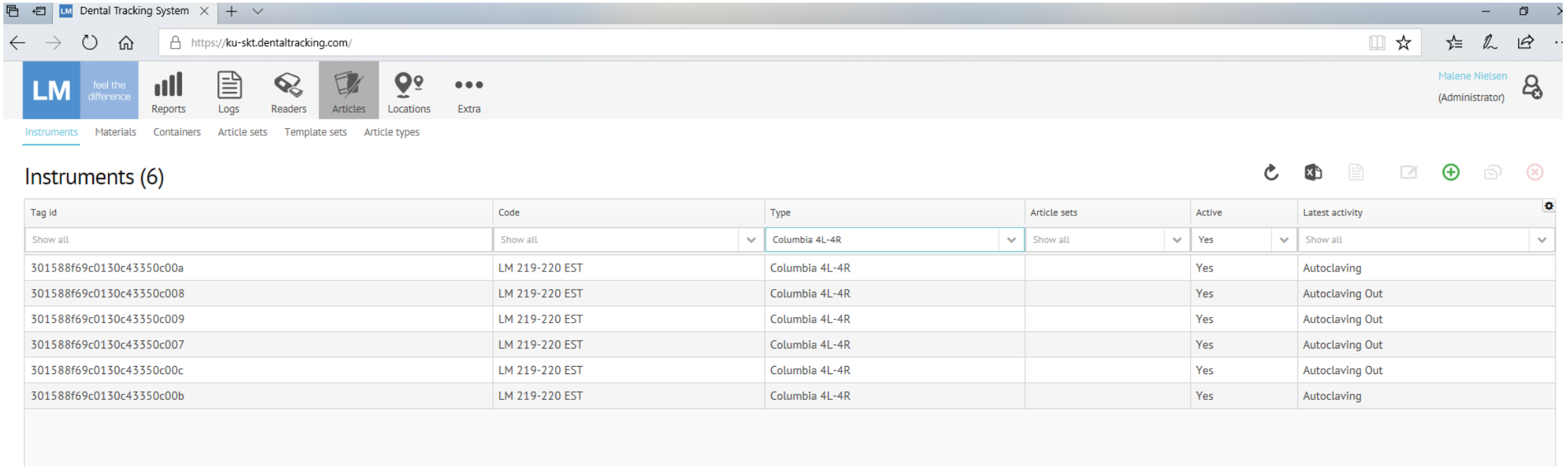
Instrument predisinfected

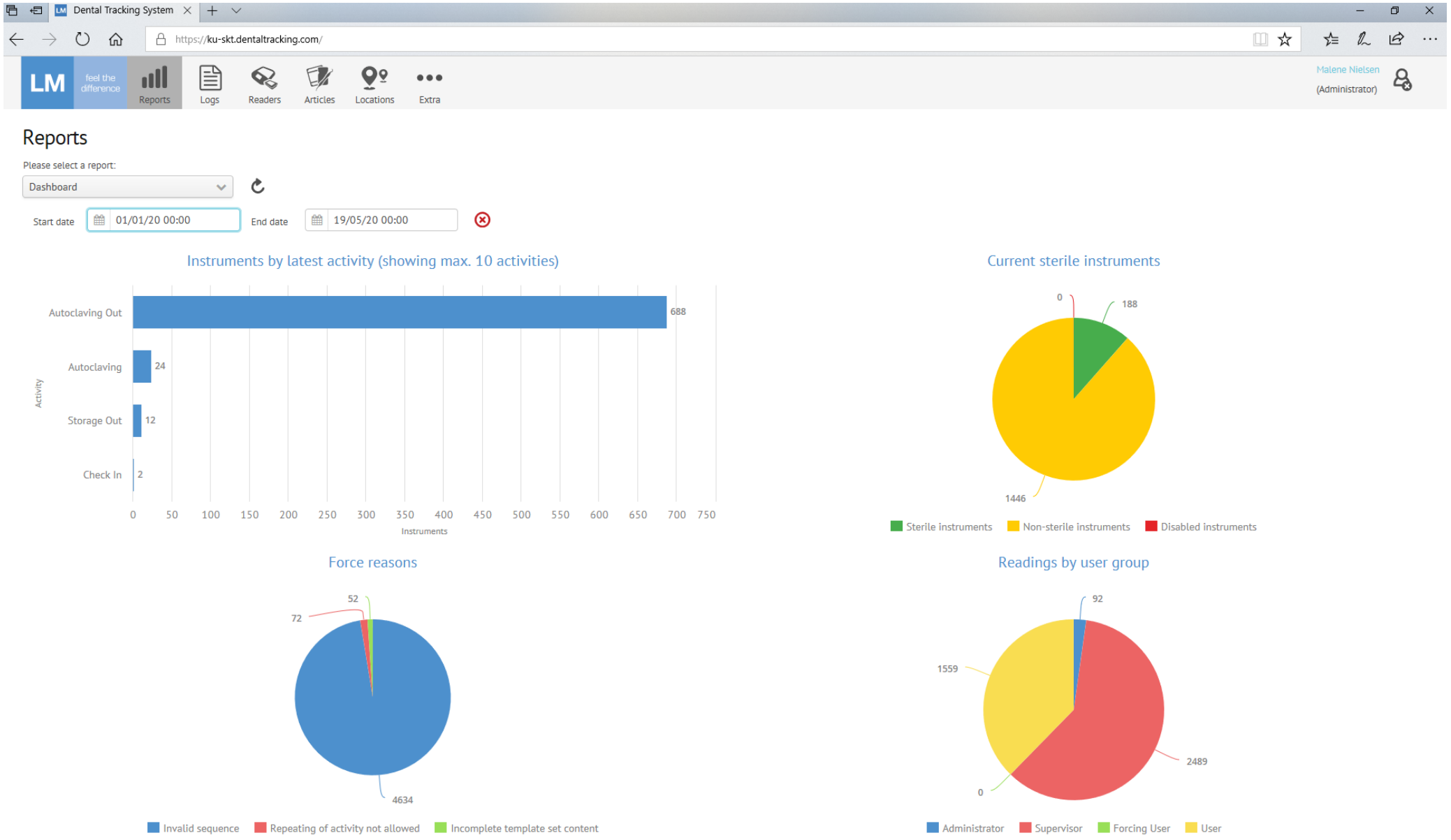
Instrument disinfected

Instrument sterilised

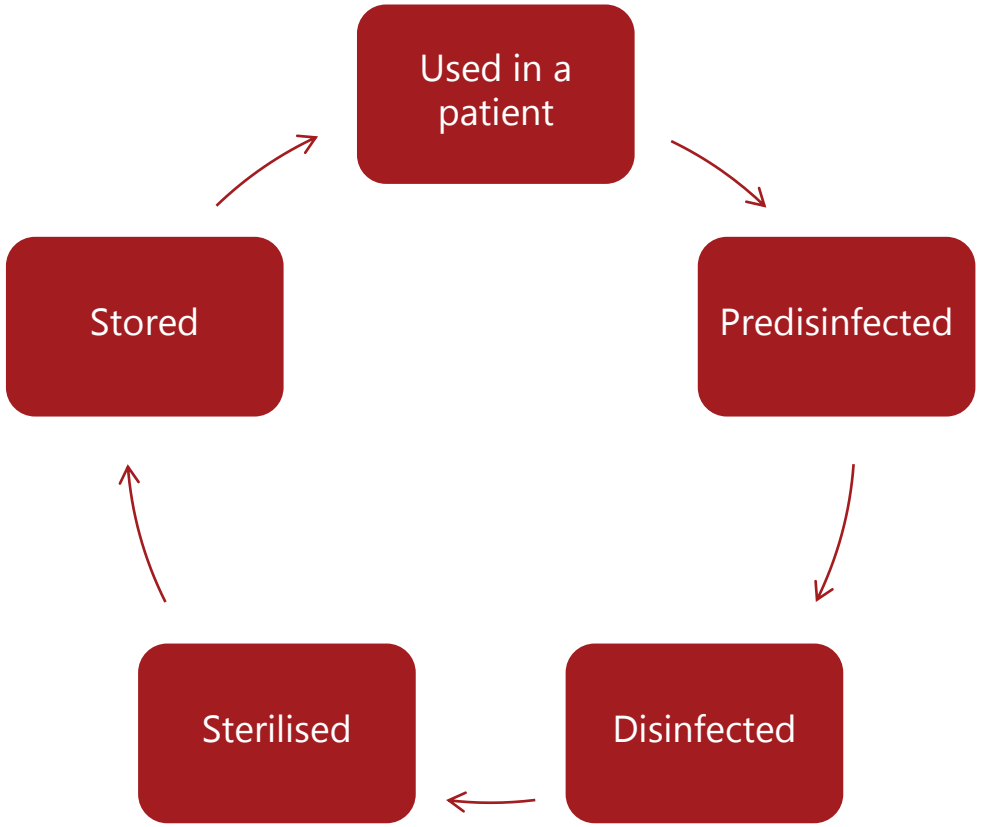
Instrument stored

LM DENTAL
CHECK-OUT
LM
Test User008
Items detected: 7
Maintenance
Please select activity
CPH pilot I


Dental Tracking System
https://ku-skt.dentaltracking.com/
LM
feel the difference
Reports
Logs
Readers
Articles
Locations
Extra
Malene Nielsen
(Administrator)
Instruments
Materials
Containers
Article sets
Template sets
Article types
Instruments (6)
Tag id
Code
Type
Article sets
Active
Latest activity
Show all
Columbia 4L-4R
Yes
301588f69c0130c43350c00a LM 219-220 EST Columbia 4L-4R Yes Autoclaving
301588f69c0130c43350c008 LM 219-220 EST Columbia 4L-4R Yes Autoclaving Out
301588f69c0130c43350c009 LM 219-220 EST Columbia 4L-4R Yes Autoclaving Out
301588f69c0130c43350c007 LM 219-220 EST Columbia 4L-4R Yes Autoclaving Out
301588f69c0130c43350c00c LM 219-220 EST Columbia 4L-4R Yes Autoclaving Out
301588f69c0130c43350c00b LM 219-220 EST Columbia 4L-4R Yes Autoclaving


Dental Tracking System
https://ku-skt.dentaltracking.com/
LM
feel the difference
Reports
Logs
Readers
Articles
Locations
Extra
Malene Nielsen
(Administrator)
Reports
Please select a report:
Dashboard
Start date
01/01/20 00:00
End date
19/05/20 00:00
Instruments by latest activity (showing max. 10 activities)
Autoclaving Out
688
Autoclaving
24
Storage Out
12
Check In
2
Activity
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750
Instruments
Current sterile instruments
0
188
1446
Sterile instruments
Non-sterile instruments
Disabled instruments
Force reasons
52
72
4634
Invalid sequence
Repeating of activity not allowed
Incomplete template set content
Readings by user group
92
1559
2489
0
Administrator
Supervisor
Forcing User
User

Instruments life in a dental clinic is now recorded in a log file



Improvements in clinic management

After predetermined numbers of cycles an alarm can “sent” instruments for planned maintenance

The frequency of use of the different instruments can be analysed and lifecycle estimates can be calculated to improve inventory management and investment

Different operators preference of instruments can be detected

Loss of instruments can be identified

Anti-theft alarm can be installed

Instruments life in a dental clinic

Instrument used in a patient

Instrument predisinfected

Instrument disinfected

Instrument sterilised

Instrument stored

Inventory with tracking system makes it easy

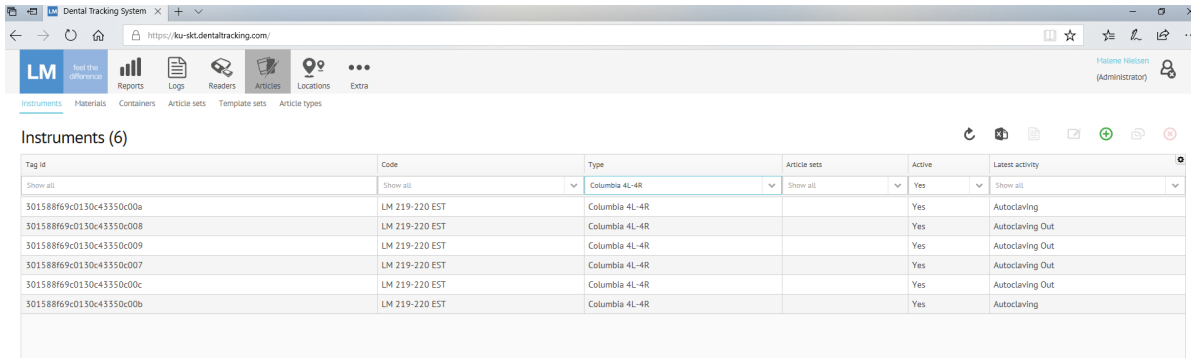
- to get an overview of numbers
- to get knowledge on location
- to better plan of acquisition of new instruments

Reduced inventory and thus economic savings and less space for inventory

Documentations with tracking system

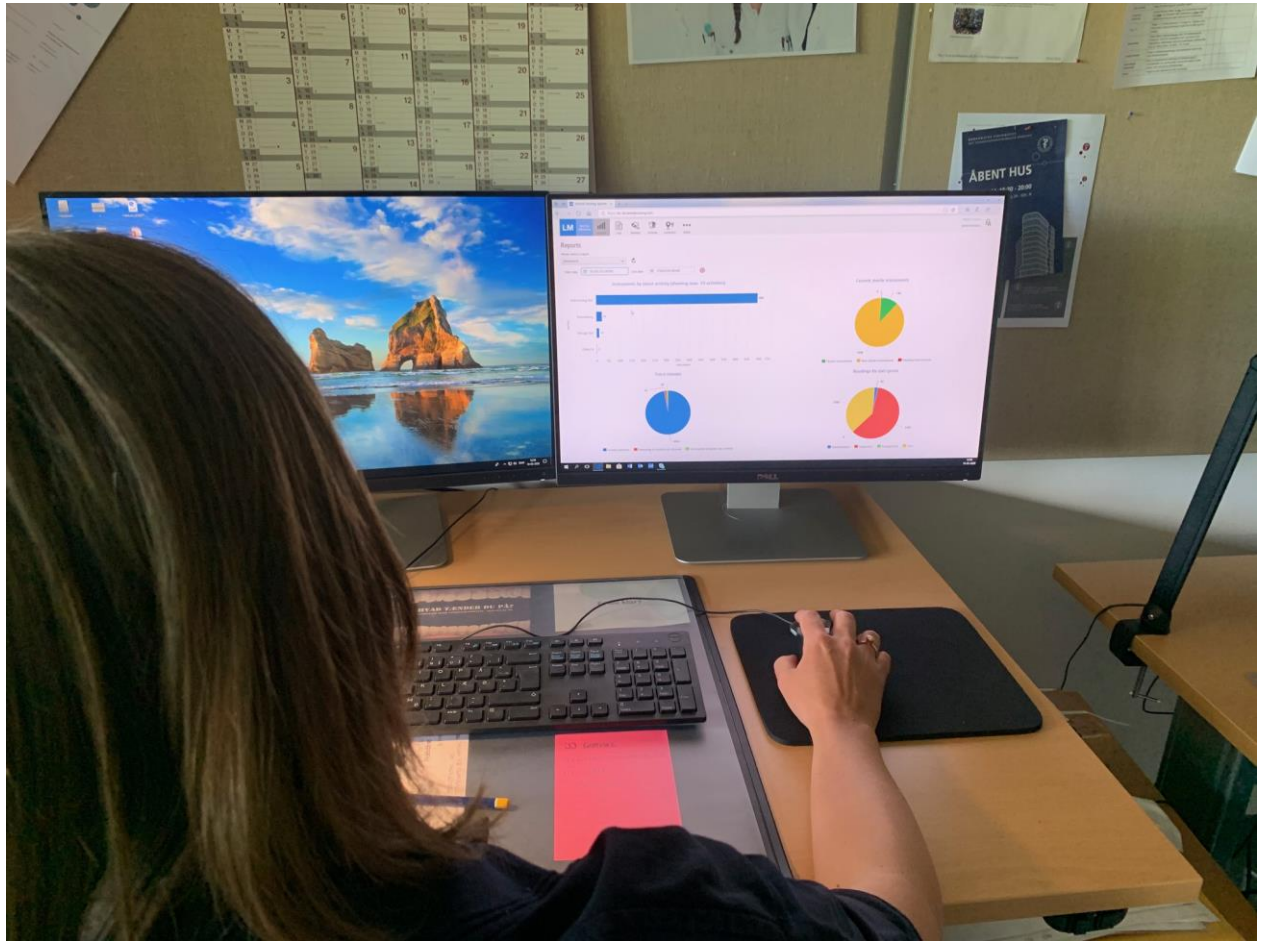
- for utilisation – lifetime analysis

- to identify instruments that might not be used rightly
- to identify instruments of poor quality

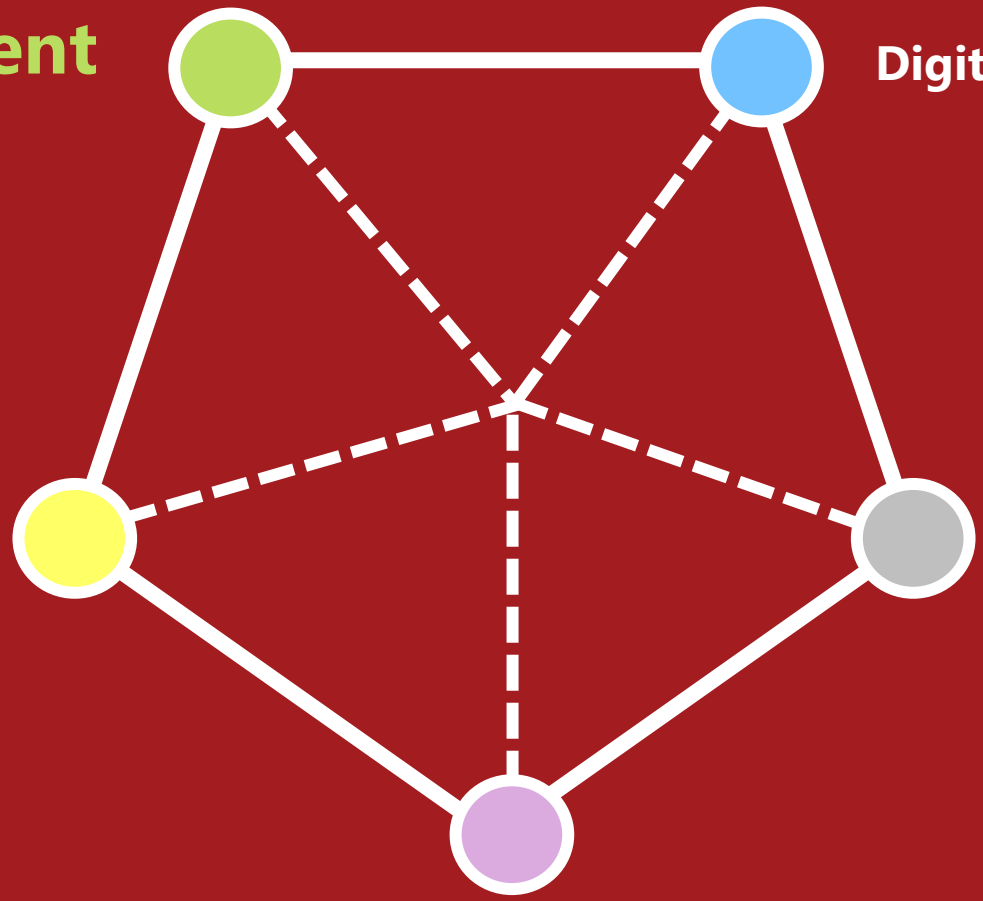


Support effective maintenance

Student studying data on her own utilization of instruments in her clinical practice



Model for digital formation and digital skills development in our educations



Data management

Data Governance

- Data asset
- Data governance
- Data steward
- Data Ethics and legal issues

Data Architecture

- Data architecture
- Data flows

Data modeling and Design

Database & Storage Management

- Data maintenance
- Database administration
- Database management system

Data Security

- Data access
- Data erasure
- Data privacy
- Data security

Reference and Master Data

- Data integration
- Master data management
- Reference data

Data Integration and Inter-operability

- Data movement (Extract, transform, load)
- Data Interoperability

Documents and Content

- Document management system
- Records management

Data Warehousing and Business Intelligence

- Data analysis and Data mining
- Data warehouse and Data mart

Metadata

- Metadata management and discovery
- Metadata publishing and registry

Data Quality

- Data cleansing
- Data integrity, enrichment and data quality assurance
- Secondary data

Steps in the digital transformation

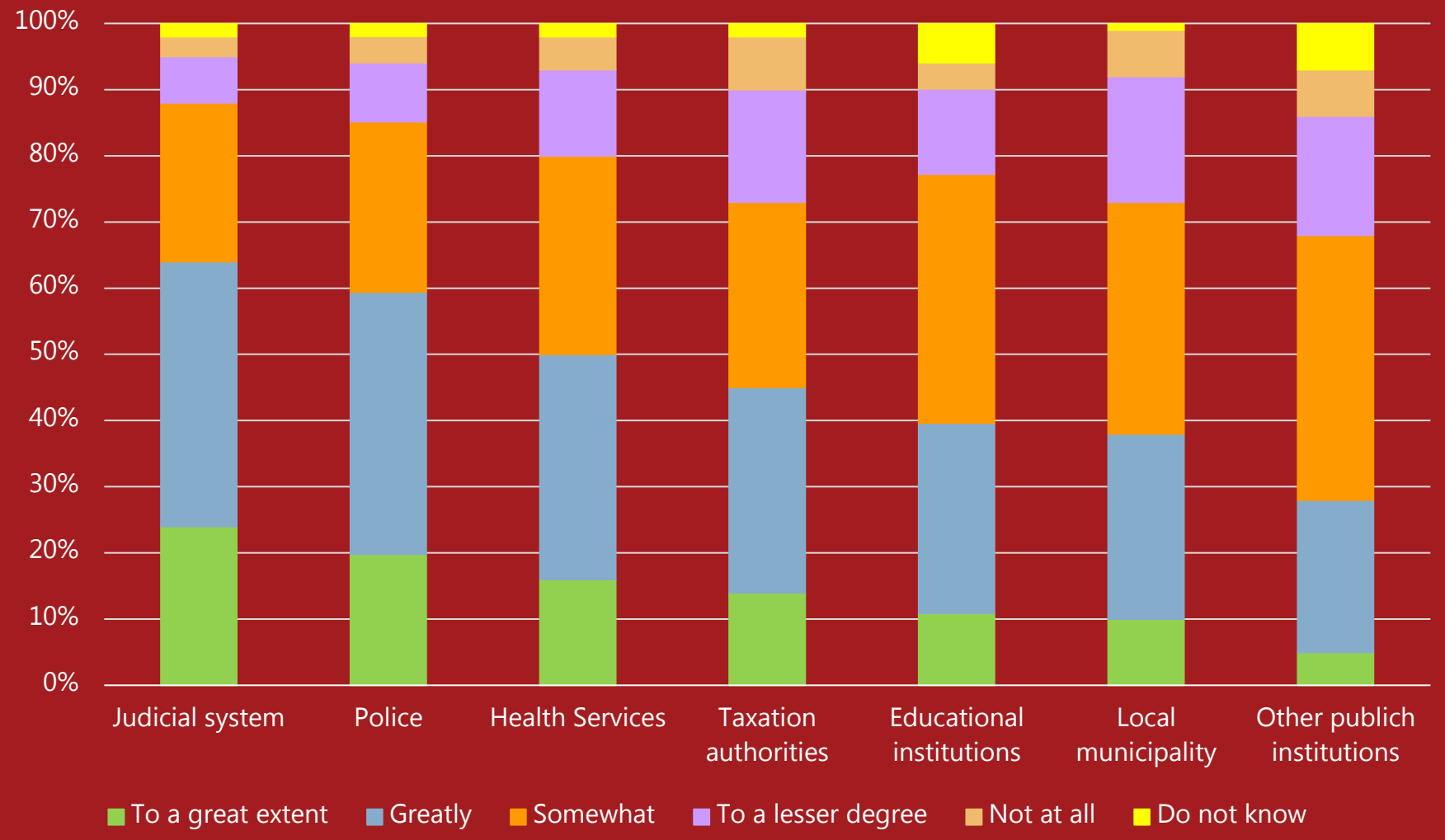
Tracking of instruments in the clinical practice opens for tracking of more functions

Legal, ethical and economical implications

- Who is owner of their own data?
- What can be done with other persons data?
- Who should have the value of the use of data?

Trust in Digitalization in the Danish Population

To which degree do you trust that your personal information and data are handled properly by



A representative sample of 18+ years old Danes
N=1002

Made by Epinion in February 2020

LM DENTAL
Thank you for your attention !
I would be happy to answers any questions

GS1 Healthcare webinar:
Questions and contact details

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