

IT-gestützte Behandlung von Patienten

Erfahrungsbericht über die Zusammenarbeit mit Patienten,
Ärzten, Unternehmen und Krankenhäusern

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K1 COMET-Zentrum

Oncotyrol ist ein K1-Zentrum für personalisierte Krebsmedizin
im Rahmen des COMET Programms
der Österreichischen Forschungsförderungsgesellschaft FFG



World-Direct eBusiness Solutions GmbH



100%ige A1 Telekom Austria Tochter

- › 70 Mitarbeiter
- › Hauptsitz: Sistrans, Innsbruck
- › Einheiten in Wien, Linz
- › > 700 Outsourcing-Projekte
- › Primär Mittelständische und Großkunden
- › Microsoft CRM Gold Partner

Geschäftstätigkeiten

- › Technisches Consulting
- › Entwicklung und Anpassung von webbasierten Applikationen
- › Design und Bedienführung
- › Technischer Betrieb



Funktionale Ziele

- Klinisches Krebsregister
- Leitlinienbasierte Diagnostik und Therapie
- Automatisiertes Tumorboard
- PatientInnensicherheit
- Einheitliche Behandlung
- Zwischen einzelnen Kliniken vergleichbare und evtl. austauschbare klinische Informationen
z.B. Survival, PatientInnenzufriedenheit

Nichtfunktionale Ziele

- Zertifizierung nach ISO 13485
- Usability
- Zielgruppe (im 1. Schritt) → Ärzte

Das Entwicklungsteam

4 Medical Doctors

10 IT Specialists

2 Ass. Prof. Medical Psychology
3 IT Specialists

1 Project Manager



 world-direct.at



←

→

http://oncotint.world-direct.at/OncologicalCase

Oncological Diseases

Patients

Back

Save

Welcome onco

Log off

saratiba

Michael Alexander Hofer

1960-02-28

Emergency contact

Clara Hofer: +43 123 456789

Patient data

Oncological Diseases

Patient Calendar

Observations

Complementary Medicine

Family History

Concomitant Diseases

Surgical Interventions

Allergies

Concomitant Drugs

Side Effects

Health insurance details

Print and Export

Oncological Diseases

Diagnosis

Basic Data

Stage & Assessment

Therapy

-

-

Date of primary diagnosis: 2013-10-11

Basic Data & Diagnosis

Stage & Assessment

Therapy

History

Basic Data

Date of primary diagnosis (YYYY-MM-DD)

2013

10

11

17

This is the patient's predominant oncological disease

☐

Line

1

Confining Physician

Dr. Andreas Kofler

Diagnosis

Topography

Morphology

C34.0 - Main bronchus

C34 - BRONCHUS AND LUNG

C34.0 - Main bronchus

incl.

Hilus of lung

Carina

C34.1 - Upper lobe, lung

incl.

Upper lobe, bronchus

Lingula of lung

C34.2 - Middle lobe, lung

incl.

Middle lobe, bronchus

C34.3 - Lower lobe, lung

incl.

Lower lobe, bronchus

C34.8 - Overlapping lesion of lung

C34.9 - Lung, NOS

incl.

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→

http://oncotint.world-direct.at/OncologicalCase

TNM System, 7th Edition - ...

⌂

★

⚙

Patients

⊗ Cancel

▶ Save Questionnaire

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Print and Export

TNM System, 7th Edition - Rectum

Step 1: Staging Questionnaire

Diagnosis

Basic Data

Stage & Assessment

Therapy

C20.9 - Rectum, NOS
8001/3 - Tumor cells, malignant

Date of primary diagnosis: 2013-10-11

Performed on

2013

10

11

📅

▲ T1 ... Size or direct extent of the primary Tumor (T)

	T	Size or direct extent of the primary Tumor (T)
☐	TX	Primary tumor cannot be assessed.
☐	T0	No evidence of primary tumor.
☐	Tis	Carcinoma in situ: intraepithelial or invasion of lamina propria.
☒	T1	Tumor invades submucosa.
☐	T2	Tumor invades muscularis propria.
☐	T3	Tumor invades through the muscularis propria into pericorectal tissues.
☐	T4a	Tumor penetrates to the surface of the visceral peritoneum.
☐	T4b	Tumor directly invades or is adherent to other organs or structures.

▲ ... Degree of spread to regional lymph Nodes (N)

	N	Degree of spread to regional lymph Nodes (N)
☐	NX	Regional lymph nodes cannot be assessed.
☐	N0	No regional lymph node metastasis.

←

→

http://oncotint.world-direct.at/Patient/PatientC

Patient Calendar

Patients

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Patient data

Oncological Diseases

Patient Calendar

Observations

Complementary Medicine

Family History

Concomitant Diseases

Surgical Interventions

Allergies

Concomitant Drugs

Side Effects

Health insurance details

Print and Export

1 Month

2013

10

10

October 201

41

42

T 10

F 11

S 12

S 13

M 14

T 15

W 16

T 17

F 18

S 19

S 20

M 21

Case Independent

C18.2 - Ascending colon | 800...

FOLFIRI-CET-LOAD

CETUXIMAB

CALCIUMLEVO...

5-FLUOROURA...

CETUXIMAB L...

IRINOTECAN

5-FLUOROURA...

Antiemesis for moderate eme...

Plasil

Fortecortin

Soldesam

Aloxi

Today

Individual closed day

Closed day

Filter displayed

Calendars

3 selected

Calendar event type filter

Select calendar event filter

Create new

Drag&drop icon on grid to schedule a new event

Event Package

Specific oncological treatment

Supportive therapy

Exams and follow ups

Import Template

Template event type filter

Select list event filter

filter

Search

Capecitabine

Cape 0.1.0

LABOR COLON DIAGNOSE

LABOR COLON DIAGNOSE 0.1.0

LABOR BEVAZIZUMAB

LABOR BEVAZIZUMAB 0.1.0

Therapie-Protokolle

The screenshot shows the 'Add new Treatment Protocol' form. It includes fields for Name, Acronym, Description, Duration (days), and Publication Link. There is also a section for 'Ideal Start Days' with checkboxes for Monday through Sunday. The form is titled 'Add new Treatment Protocol' and is part of the 'Treatment protocols' section.

The screenshot shows the 'Applicabilities' form. It includes a 'Create...' button and a list of 'Applicable ICD-O Topographies' and 'Applicable ICD-O Morphologies'. The form is titled 'Applicabilities' and is part of the 'Treatment protocols' section.

The screenshot shows the 'Calendar' form. It includes a 'Calendar' view with a grid for scheduling events. The form is titled 'Calendar' and is part of the 'Treatment protocols' section. It also includes a 'Filter displayed' section and a 'Create new' section.

The screenshot shows the 'Calendar' form with a detailed view of the calendar grid. The grid displays events for '2 BEACOPP + 2 ABVD for Hodgkin lymphoma'. The form is titled 'Calendar' and is part of the 'Treatment protocols' section. It also includes a 'Filter displayed' section and a 'Create new' section.

Therapie-Protokolle

The screenshot shows a web browser window with the URL <http://oncotint.world-direct.at/TP/TreatmentProtocol>. The page title is "Add new Treatment Protocol". The interface includes a sidebar with navigation links: "Treatment protocols", "Package templates", "Main Data", "Applicabilities", "Calendar", and "Versions". The main content area contains a form with the following fields:

- Name:** BEACOPP INTENSIFIED
- Acronym:** (empty)
- Description:** (empty)
- Duration (days):** (empty)
- Publication Link:** (empty)
- Ideal Start Days:** A list of days with checkboxes: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday. All checkboxes are currently unchecked.

The bottom of the browser window shows a taskbar with the "CTC Abfrage" application icon.

Therapie-Protokolle

The screenshot displays the 'Applicabilities' section of the Oncotint web application. The main interface shows a sidebar with navigation options: Treatment protocols, Package templates, Main Data, and Calendar. The 'Applicabilities' section is currently active, displaying a table with columns for 'Applicable ICD-O Topographies', 'Applicable ICD-O Morphologies', 'Applicable Stages', and 'Applicable Lines'. The table currently shows 'No entries available'.

A 'Create...' dialog box is open, allowing the user to define the applicability criteria. The dialog includes the following fields:

- Applicable ICD-O Topographies:** A text input field containing the value 'C71.0, C71.1, C71.2, C71.3, C71.4, C71.5, C71.8, C71.9'.
- Applicable ICD-O Morphologies:** A dropdown menu with the placeholder text 'Please type to search...'.
- Applicable Stages:** A section with a 'Check all' button and an 'Uncheck all' button.
- Applicable Lines:** A list of checkboxes for various ICD-O codes and descriptions.

The 'Applicable Lines' list includes the following items:

- ☐ 000 - UNKNOWN
- ☐ 0000/0 - Unknown
- ☐ 800 - NEOPLASM
- ☐ 8000/3 - Neoplasm, malignant
- ☐ 8001/3 - Tumor cells, malignant
- ☐ 8002/3 - Malignant tumor, small cell type
- ☐ 8003/3 - Malignant tumor, giant cell type
- ☐ 8004/3 - Malignant tumor, spindle cell type
- ☐ 8005/3 - Malignant tumor, clear cell type
- ☐ 959 - MALIGNANT LYMPHOMA, NOS
- ☐ 9590/3 - Malignant lymphoma, NOS

The dialog box has 'Save' and 'Cancel' buttons at the bottom right.

Therapie-Protokolle

The screenshot displays the 'Oncotint Protocol Calendar' web application. The main interface includes a sidebar with navigation links: 'Treatment protocols', 'Main Data', 'Calendar', 'Package templates', 'Applicabilities', and 'Versions'. The central area is titled 'Calendar' and shows a calendar for 'month 1' with columns for 'week 1' and 'week 2'. A 'Filter displayed' section on the right allows filtering by 'Calendar event type filter' with options: 'Specific oncological treatment', 'Surgery', 'Systemic therapy', and 'Radio therapy'. Below this is a 'Create new' section with a 'Drag&drop icon on grid to schedule a new event' instruction. The 'Event Package' section lists 'Specific oncological treatment' and 'Supportive therapy' with corresponding icons. The 'Exams and follow ups' section also lists items with icons. The 'Import Template' section shows a 'Template event type filter' with the same options as the main filter. A search bar is present below the templates. The bottom right corner lists several templates: 'Capecitabine Cape 0.1.0', 'LABOR COLON DIAGNOSE LABOR COLON DIAGNOSE 0.1.0', 'LABOR BEVAZIZUMAB LABOR BEVAZIZUMAB 0.1.0', and 'CTC Abfrage CTC Abfrage 0.1.0'. A modal window titled 'Add new Event Series for 'Systemic therapy' Events' is open in the foreground, showing fields for 'Event series name' (Prednison), 'Event series description', 'Show in 'Medications' column of Treatment Protocols List' (checkbox), 'Drug agent', 'Dose calculation method', 'Protocol dose', 'Unit', 'Maximal absolute daily dose', 'Route of administration' (oral), and 'Intake modality' (before meal). The modal has 'Save' and 'Cancel' buttons at the bottom right.

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Therapie-Protokolle

The screenshot displays the 'Treatment protocols' section of the Oncotint application. The main area is a calendar grid for 'month 1', showing treatment events for '2 BEACOPPint + 2 ABVD for Hodgkin Lymphoma'. The calendar is organized into two weeks, with days 1 through 15. Various treatment events are scheduled, including 'LABOR LYMPHOM FOLLOW UP', 'INSTRUMENTELLE DIAGNOS...', 'BEACOPP INTENSIFIED', and 'Antiemesis for moderate eme...'. Each event is represented by a colored icon (red, blue, or orange) and a text label. The interface includes a sidebar on the left with navigation options like 'Treatment protocols', 'Main Data', 'Calendar', 'Package templates', 'Applicabilities', and 'Versions'. On the right, there are filters for 'Calendar event type filter' and 'Template event type filter', both set to 'Specific oncological treatment'. Below the filters, there are sections for 'Create new', 'Event Package', 'Specific oncological treatment', 'Supportive therapy', 'Exams and follow ups', and 'Import Template'. The bottom of the screen shows a list of templates, including 'Capecitabine', 'LABOR COLON DIAGNOSE', 'LABOR BEVAZIZUMAB', and 'CTC Abfrage'.

http://oncotint.world-direct.at/TP/ProtocolCalendar/

Treatment protocols

Welcome onco Log off saratiba

Calendar

1 Month

month 1

week 1 week 2

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

2 BEACOPPint + 2 ABVD for...

LABOR LYMPHOM FOLLOW UP

LABOR LYMPH...

INSTRUMENTELLE DIAGNOS...

INSTRUMENTE...

BEACOPP INTENSIFIED

Prednison

Vincristin

Adriablastin

Cyclophospha...

Etoposid

Bleomycin

Procarbazin

Antiemesis for moderate eme...

Plasil

Fortecortin

Filter displayed

Calendar event type filter

Specific oncological treatment
Surgery
Systemic therapy
Radio therapy

Create new

Drag&drop icon on grid to schedule a new event

Event Package

Specific oncological treatment

Supportive therapy

Exams and follow ups

Import Template

Template event type filter

Specific oncological treatment
Surgery
Systemic therapy
Radio therapy

Search

Capecitabine
Cape 0.1.0

LABOR COLON DIAGNOSE
LABOR COLON DIAGNOSE 0.1.0

LABOR BEVAZIZUMAB
LABOR BEVAZIZUMAB 0.1.0

CTC Abfrage
CTC Abfrage 0.1.0



Erfahrungen

- Know your enemy ;-)
 - Wir sind keine Mediziner
 - Mediziner sind keine IT-Experten
 - Strukturiertes Anforderungsprozess
 - Stell die richtigen Fragen
 - Transparenz
- Nütze die Zeit
 - Gute Vorbereitung auf Termine
 - Keine Übererfüllung von Anforderungen
- Agilität ist gefragt
 - SCRUM
 - Iteratives Vorgehen, Prototyping
 - Continuous Integration
 - Regelmäßige Datenintegrationen



Erfahrungen

- Stell dich gut mit der Krankenhaus-IT
 - Du bist ein „Fremdsystem“
 - Mach ihnen (zumindest in der Anfangsphase) keine unnötige Arbeit
- Dokumentation
 - Wichtig für Zertifizierung
 - Anforderungsprozess, Umsetzungsprozess, Software-Lebenszyklus
 - Dokumentation von Datenquellen
- Sei offen
 - Schnittstellen, Schnittstellen, Schnittstellen
 - Niemand gibt gern doppelt ein
 - Kataloge – strukturierte Erfassung



Kataloge

Tumorausbreitung	ICD 0 und Histologie
Tumorstaging	Ann Arbor, TNM
Labor/Pathologie/Untersuchungen	LOINC
Medikamente/Chemotherapeutika	ATC/DDD
Chirurgische Eingriffe	ICD 9 CM
Medikamentennebenwirkungen	CTCAE
Anamnese	ICD 10
Statuserhebung	ICD 10

Patient-reported outcomes (PROs) in clinical practice and research





Evaluation of oncological treatments strategies

1. How long do patient live? – Survival
2. How much does it cost? - Pharmacoeconomics
3. How do patients experience their disease and treatment? – Quality of Life (QoL)



Patient-reported Outcomes

- PROs are an important study endpoint within clinical trials (FDA, EMA)
- Assessment of PROs within oncological routine is important for symptom monitoring and management
- Early detection of treatment needs
- Enhancing patient participation in the treatment process
- PROs provide useful information for clinical decision making
- Drug Safety Monitoring, Pharmacovigilance
- Cost-utility studies (HTA)
- Quality Assurance



Advantages of PRO monitoring in clinical routine

(Velikova et al. 2002,2004; Detmars et al. 2002; Aaronson et al. 2002 etc.)

- Systematized screening of (potential) problems
- improvement of symptom management
- Improve treatment planning through individual evaluation of treatment steps
- Parameters for Clinical Decision Making
- Focusing of the individual treatment contact
- Information gain for the care team through better knowledge about the patient's subjective experience
- Improve communication, active involvement of patients
- better / faster interventions through standardized indications
- through more active involvement of individual patient data better compliance
- Ensuring continuity of care through the collection of structured information on the individual patient situation
- Long term: longitudinal database with high data quality
- Time-consuming and costly



Computer-based Health Evaluation System – CHES

PC-Software für die Erfassung, die Auswertung und die graphische Präsentation von psychosozialen und medizinischen Daten

- Individuelle Adaptierung der Erhebungsinstrumente, der graphischen Ergebnispräsentation und der Befundberichte
- Adaptives „Flag-System“ für die Identifikation von klinisch relevanten Beeinträchtigungen/Problemen
- Graphische Verknüpfung von PRO Daten mit Krankheits-/Behandlungsverlauf
- Einfache Integration von medizinischen/psychoonkologischen Interventionen in die graphische Befunddarstellung
- Erfassung von PRO Daten auch außerhalb der Klinik (Web-Interface, iPad App)
- Datenimport/export (CIS-HL7, SPSS, tab-separated files),
- Studienmonitoring-Plugin
- Computer-adaptives Testen
- Client – Server als auch Weblösung, Datensicherheit (SSL), MySQL Datenbank



CHES Fragebogentypen

Frank Newman
Date of Birth: 06.11.1953, Social security number: 4578

EORTC QLQ-C30 English 1.2 **Done**

We are interested in some things about you and your health. Please answer all of the questions yourself by circling the number that best applies to you. There are no "right" or "wrong" answers. The information that you provide will remain strictly confidential.

Do you have any trouble doing strenuous activities, like carrying a heavy shopping bag or a suitcase?

Not at all A little Quite a bit Very much

Do you have any trouble taking a long walk?

Not at all A little Quite a bit Very much

Do you have any trouble taking a short walk outside of the house?

Not at all A little Quite a bit Very much

Do you need to stay in bed or a chair during the day?

Not at all A little Quite a bit Very much

Back 3 of 30 questions answered Next

Test Patient Quolie-31 (1.0) **Beenden**

Auf der unten abgebildeten Thermometerskala ist der denkbar beste Gesundheitszustand bei 100 und der denkbar schlechteste bei 0. Bitte geben Sie an, wie Sie Ihre Gesundheit einschätzen, indem Sie eine Zahl auf der Skala ankreuzen. Bitte berücksichtigen Sie Ihre Epilepsie als Teil Ihrer allgemeinen Gesundheit, wenn Sie diese Frage beantworten.

Für wie gut oder schlecht halten Sie Ihre Gesundheit?



3 von 31 Fragen beantwortet

Test Patient Quolie-31 (1.0) **Beenden**

In diesem Fragebogen stellen wir Fragen zu Ihrer Gesundheit und zu Ihren täglichen Aktivitäten. Bitte beantworten Sie jede Frage, indem Sie die entsprechende Zahl (1,2,3,...) ankreuzen. Zögern Sie bitte nicht, jemanden um Unterstützung zu bitten, wenn Sie Hilfe beim Lesen oder Ausfüllen des Fragebogens brauchen.

Wie schätzen Sie Ihre Lebensqualität im großen und ganzen ein?

Lebensqualität könnte nicht besser sein

Lebensqualität könnte nicht schlechter sein

10 9 8 7 6 5 4 3 2 1 0

1 von 31 Fragen beantwortet

Test Patient Quolie-31 (1.0) **Beenden**

In diesen Fragen geht es darum, wie Sie sich FÜHLEN und wie es Ihnen in den vergangenen 4 Wochen gegangen ist. (Bitte kreuzen Sie in jeder Zeile das Kästchen an, das Ihrem Befinden am ehesten entspricht). Wie oft in den vergangenen 4 Wochen...

Wie war Ihre LEBENSQUALITÄT in den letzten 4 Wochen (d.h., wie ist es Ihnen gegangen)?

Sehr gut: hätte kaum besser sein können

Ziemlich gut

Gut und schlecht zu etwa gleichen Teilen

Ziemlich schlecht

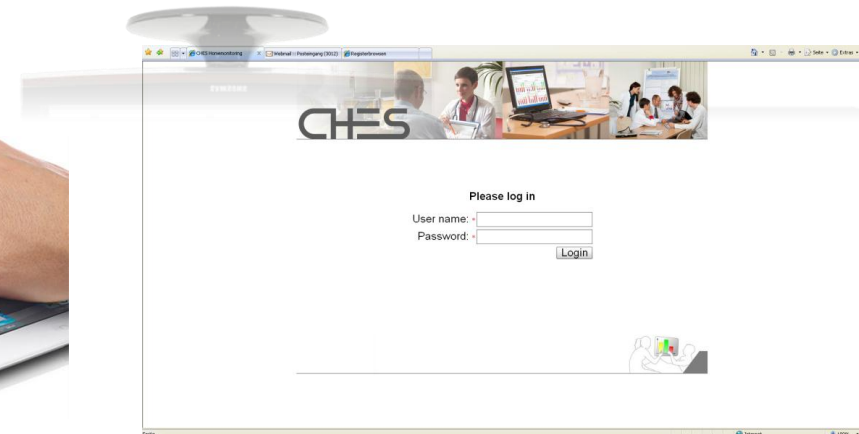
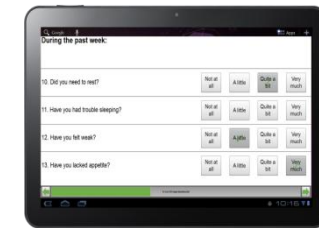
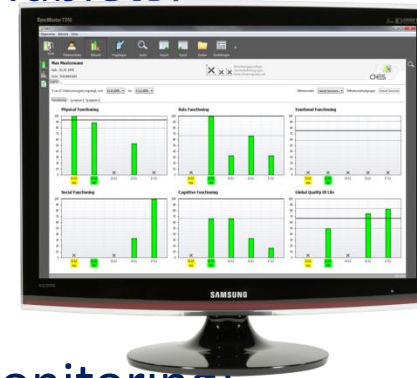
Sehr schlecht: hätte kaum schlechter sein können

3 von 31 Fragen beantwortet

CHES - Eingabemodalitäten

Verschiedenste Erhebungsmöglichkeiten:

- PC
- Tablets (iPads, Slates, Android-Tablets)
- Terminal
- Smartphones
- In der Klinik
- Zu Hause via Internet (Homemonitoring)

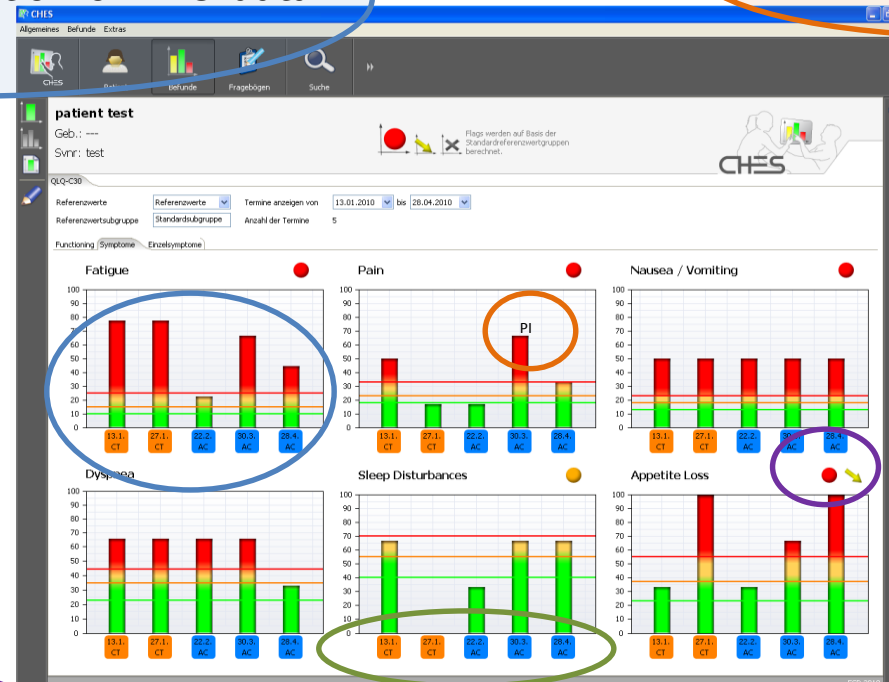


CHES

Patientenprofil Längsschnitt

Longitudinal presentation of PRO data

Medical interventions



Flag-system based on reference values

Course of symptoms and/or treatment



Patient-reported outcomes (PROs)

in der Forschung

EORTC QLQ-TC26

testicular cancer field study

CHES.EORTC

EORTC QoQ Testicular Cancer (TC26) Field Study

Login for Researcher

user

password

login

EORTC

Quality of Life

Anmeldeseite

Test		Patient Record ID: 3_31	
		Date of Birth:	01.01.2000
Add Data: Common Diagnoses , Clinical Data , Characteristics			
Patient Record ID:	3_31	Patient Initials:	test
Date of Birth:	01.01.2000	Study Center:	Bioscience
Study Arm:			
Pre-treatment			
Surgery:	☐ No ☒ Yes, Date:		
Type of Surgery:			
Oncotherapy:	☐ No ☒ Yes, Start Date: End Date:		
Oncotherapy Regimen:			
Radiationtherapy:	☐ No ☒ Yes, Start Date: End Date:		
Dose:			
Site:			
Psychoneurology:	☐ No ☒ Yes, Start Date: End Date:		
Other Treatment:	☐ No ☒ Yes, Start Date: End Date:		
Description:			
Treatment Intention (for pre-treatment):			

Patient ID	Initials	Date of Birth
1_m	test	14.12.2000
2_m	test	04.10.2000
3_m	test	01.01.2000
4_m	test	01.01.2000
5_m	test	01.01.2000
6_m	test	01.01.2000
7_m	test	01.01.2000
8_m	test	01.01.2000
9_m	test	01.01.2000
10_m	test	01.01.2000
11_f	test	01.01.2000
12_f	test	01.01.2000
13_f	test	01.01.2000
14_f	test	01.01.2000
15_f	test	01.01.2000
16_f	test	01.01.2000
17_f	test	01.01.2000
18_f	test	01.01.2000
19_f	test	01.01.2000
20_f	test	01.01.2000
21_f	test	01.01.2000
22_f	test	01.01.2000
23_f	test	01.01.2000
24_f	test	01.01.2000
25_f	test	01.01.2000
26_f	test	01.01.2000
27_f	test	01.01.2000
28_f	test	01.01.2000
29_f	test	01.01.2000
30_f	test	01.01.2000
31_f	test	01.01.2000
32_f	test	01.01.2000
33_f	test	01.01.2000
34_f	test	01.01.2000
35_f	test	01.01.2000
36_f	test	01.01.2000
37_f	test	01.01.2000
38_f	test	01.01.2000
39_f	test	01.01.2000
40_f	test	01.01.2000
41_f	test	01.01.2000
42_f	test	01.01.2000
43_f	test	01.01.2000
44_f	test	01.01.2000
45_f	test	01.01.2000
46_f	test	01.01.2000
47_f	test	01.01.2000
48_f	test	01.01.2000
49_f	test	01.01.2000
50_f	test	01.01.2000
51_f	test	01.01.2000
52_f	test	01.01.2000
53_f	test	01.01.2000
54_f	test	01.01.2000
55_f	test	01.01.2000
56_f	test	01.01.2000
57_f	test	01.01.2000
58_f	test	01.01.2000
59_f	test	01.01.2000
60_f	test	01.01.2000
61_f	test	01.01.2000
62_f	test	01.01.2000
63_f	test	01.01.2000
64_f	test	01.01.2000
65_f	test	01.01.2000
66_f	test	01.01.2000
67_f	test	01.01.2000
68_f	test	01.01.2000
69_f	test	01.01.2000
70_f	test	01.01.2000
71_f	test	01.01.2000
72_f	test	01.01.2000
73_f	test	01.01.2000
74_f	test	01.01.2000
75_f	test	01.01.2000
76_f	test	01.01.2000
77_f	test	01.01.2000
78_f	test	01.01.2000
79_f	test	01.01.2000
80_f	test	01.01.2000
81_f	test	01.01.2000
82_f	test	01.01.2000
83_f	test	01.01.2000
84_f	test	01.01.2000
85_f	test	01.01.2000
86_f	test	01.01.2000
87_f	test	01.01.2000
88_f	test	01.01.2000
89_f	test	01.01.2000
90_f	test	01.01.2000
91_f	test	01.01.2000
92_f	test	01.01.2000
93_f	test	01.01.2000
94_f	test	01.01.2000
95_f	test	01

CRF und Patientenliste

[illegible]

Fehlende Daten - Überblick

9/21/2011 EORTC QLQ-C30

We are interested in some things about you and your health. Please answer all of the questions yourself by clicking on the answer that best applies to you.

There are no "right" or "wrong" answers. The information that you provide will remain strictly confidential.

1. Do you have any trouble doing strenuous activities, like carrying a heavy shopping bag or a suitcase?	Not at all	A little	Quite a bit	Very much
2. Do you have any trouble taking a <u>long</u> walk?	Not at all	A little	Quite a bit	Very much
3. Do you have any trouble taking a <u>short</u> walk outside of the house?	Not at all	A little	Quite a bit	Very much
4. Do you need to stay in bed or a chair during the day?	Not at all	A little	Quite a bit	Very much
5. Do you need help with eating, dressing, washing yourself or using the toilet?	Not at all	A little	Quite a bit	Very much

2 of 30 questions answered

Lebensqualitätsfragebogen



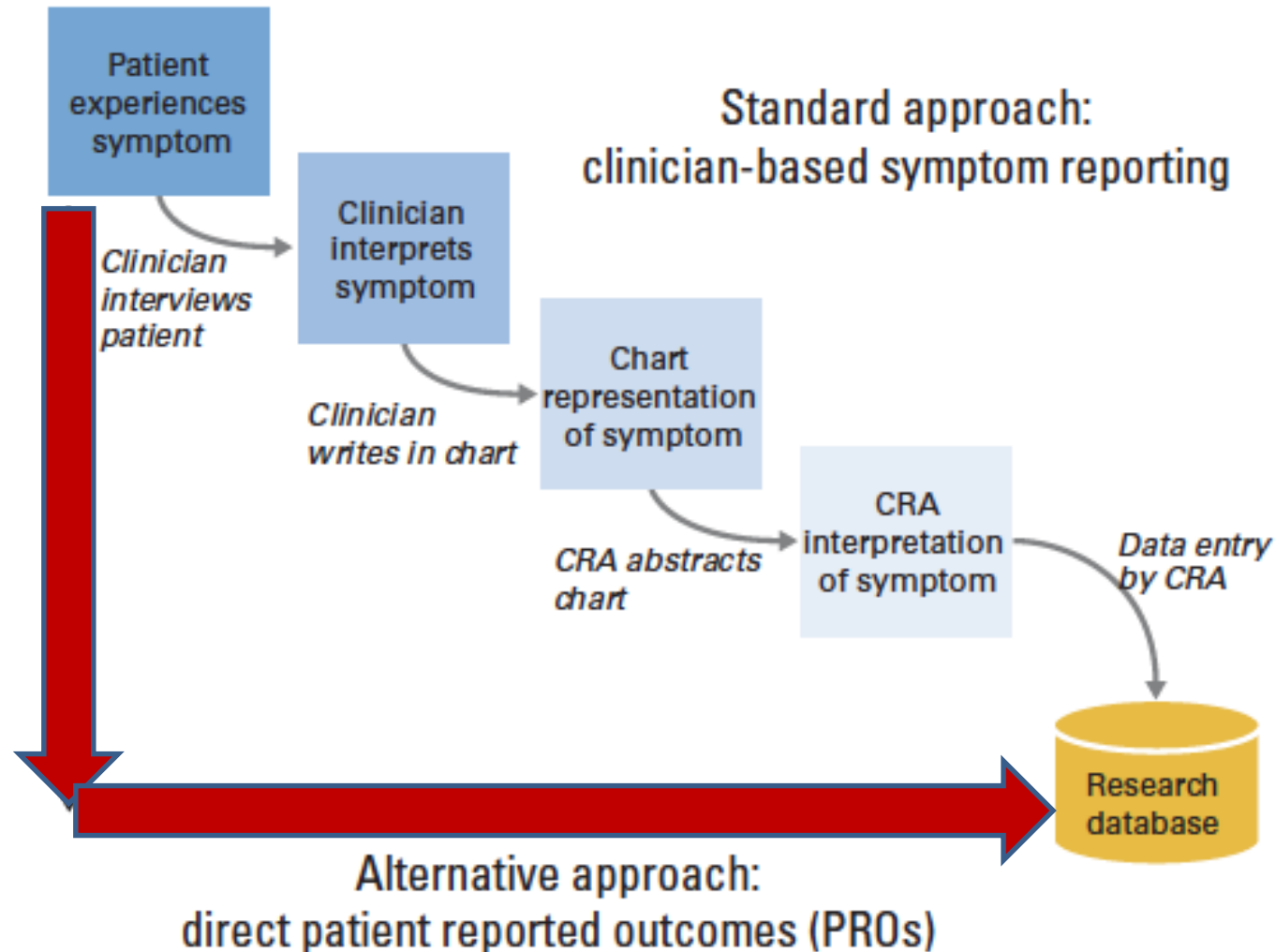
Patient-reported outcomes (PROs)

in der Pharmakovigilanz

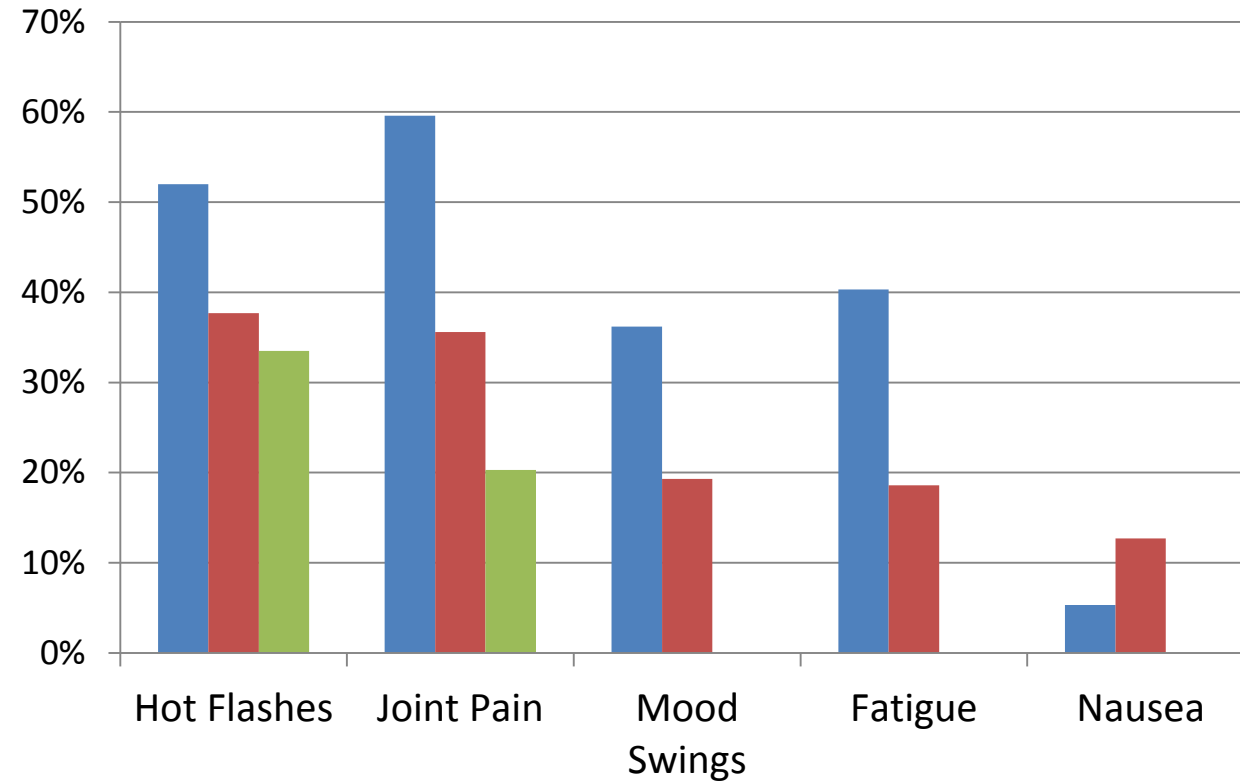
Adverse Event (AE)



Adverse Event Identification



PROs ergaben unterschiedliche (meist höhere) Symptomprävalenzen verglichen mit den Behandlerfremdratings

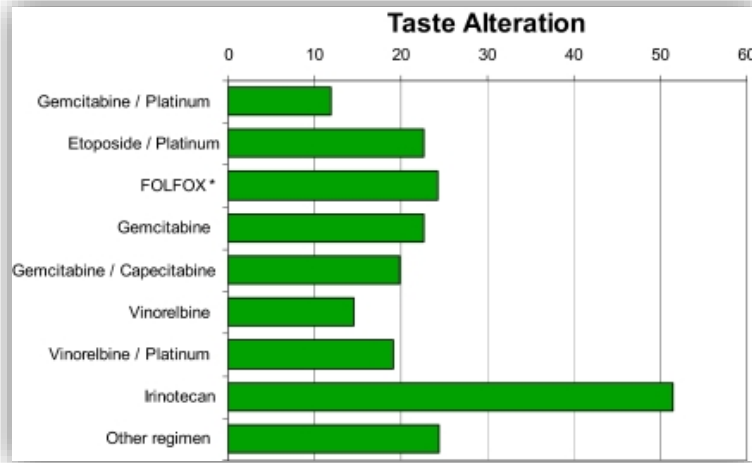




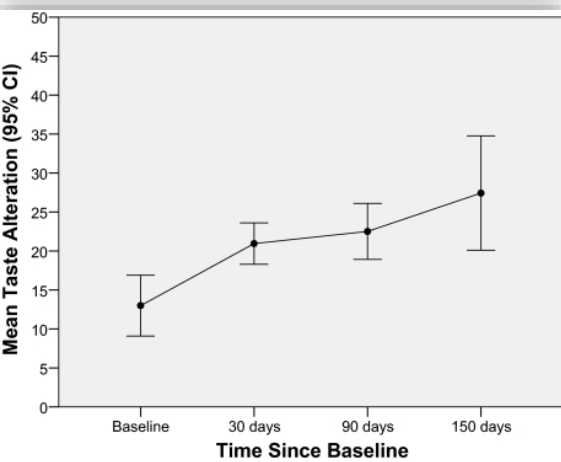
Patient-reported outcomes (PROs)

in der klinischen Praxis

Geschmacksstörungen bei ChemotherapiepatientInnen



Beispiel für eine wissenschaftliche Analyse der Daten, die am BKH Kufstein in der klinischen Routine erhoben wurden



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Symptom Management and Supportive Care

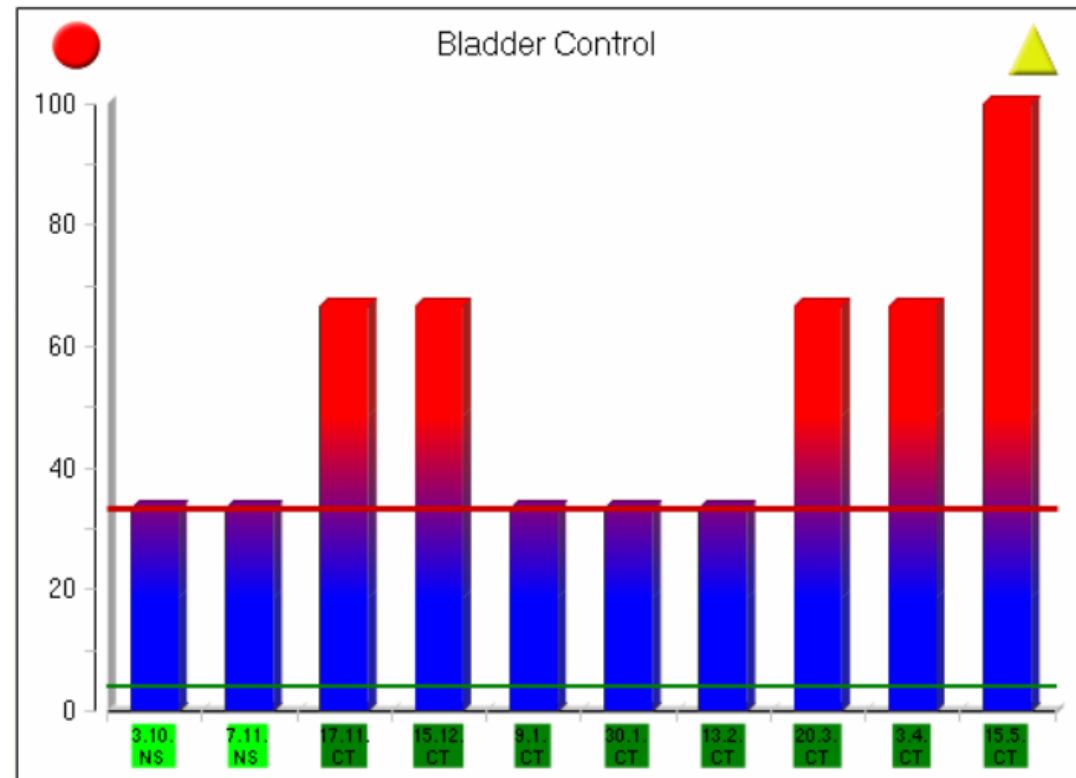
Taste Alterations in Cancer Patients Receiving Chemotherapy:
A Neglected Side Effect?

AUGUST ZABERNIGG,^a EVA-MARIA GAMPER,^b JOHANNES M. GIESINGER,^b GERHARD RUMPOLD,^b
GEORG KEMMLER,^b KLAUS GATTRINGER,^a BARBARA SPERNER-UNTERWEGER,^b BERNHARD HOLZNER^b

Patient example

Brain tumour patient in aftercare:

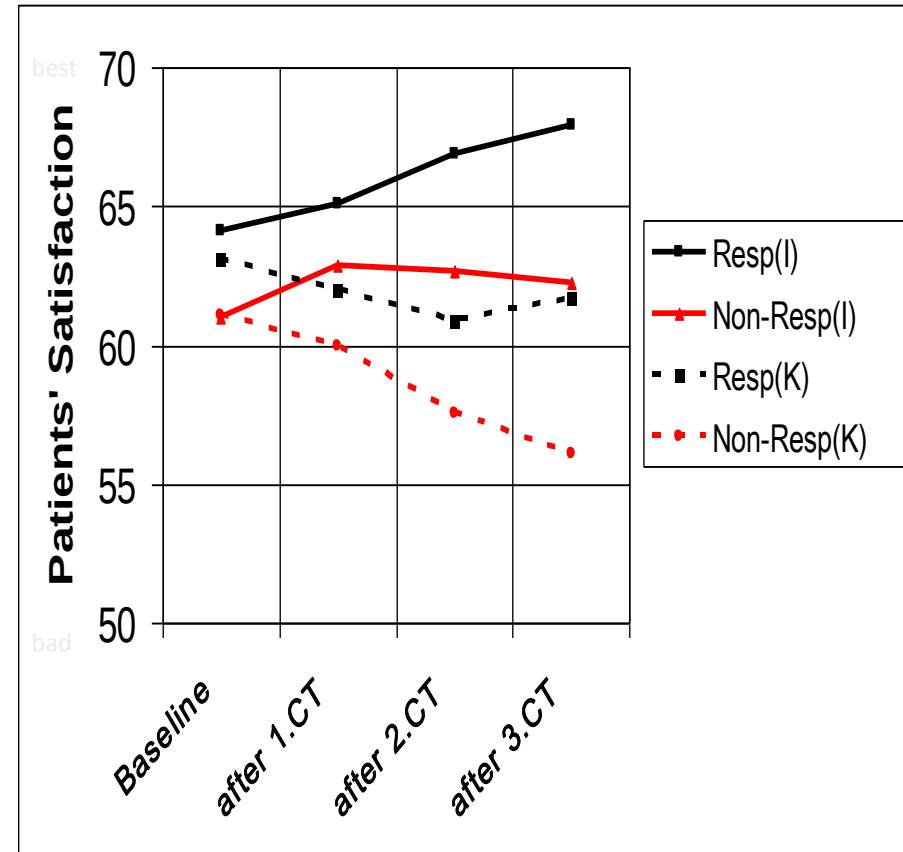
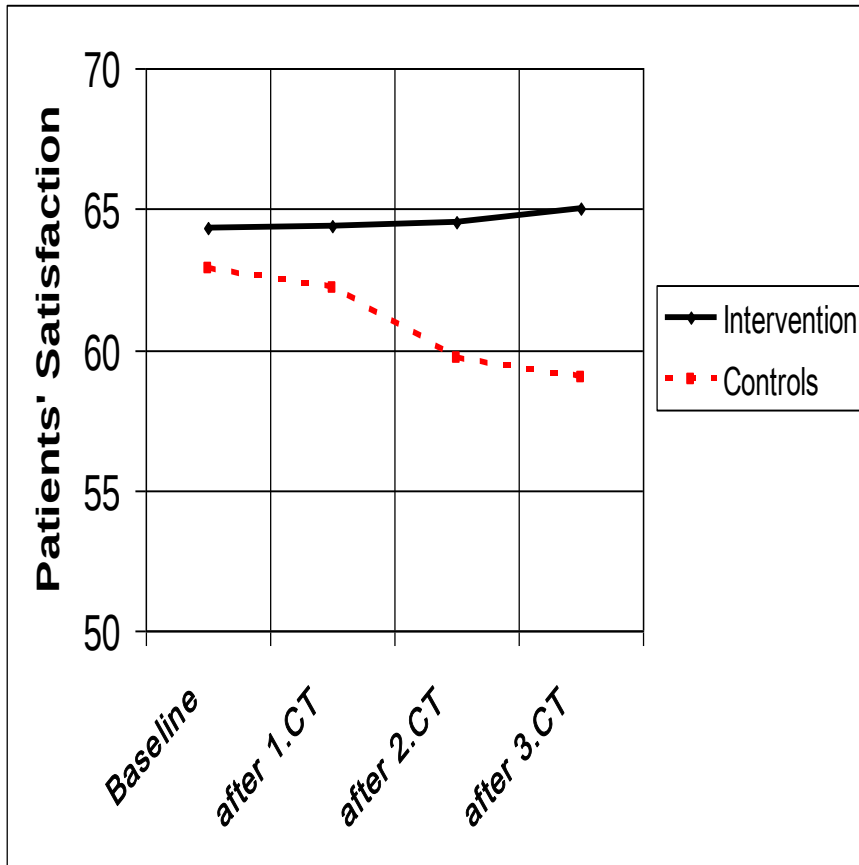
- Bladder Control as an unrecognized problem



Clinical Routine

Patients' Satisfaction: Intervention- vs. Control group

Co-variate: tumor status



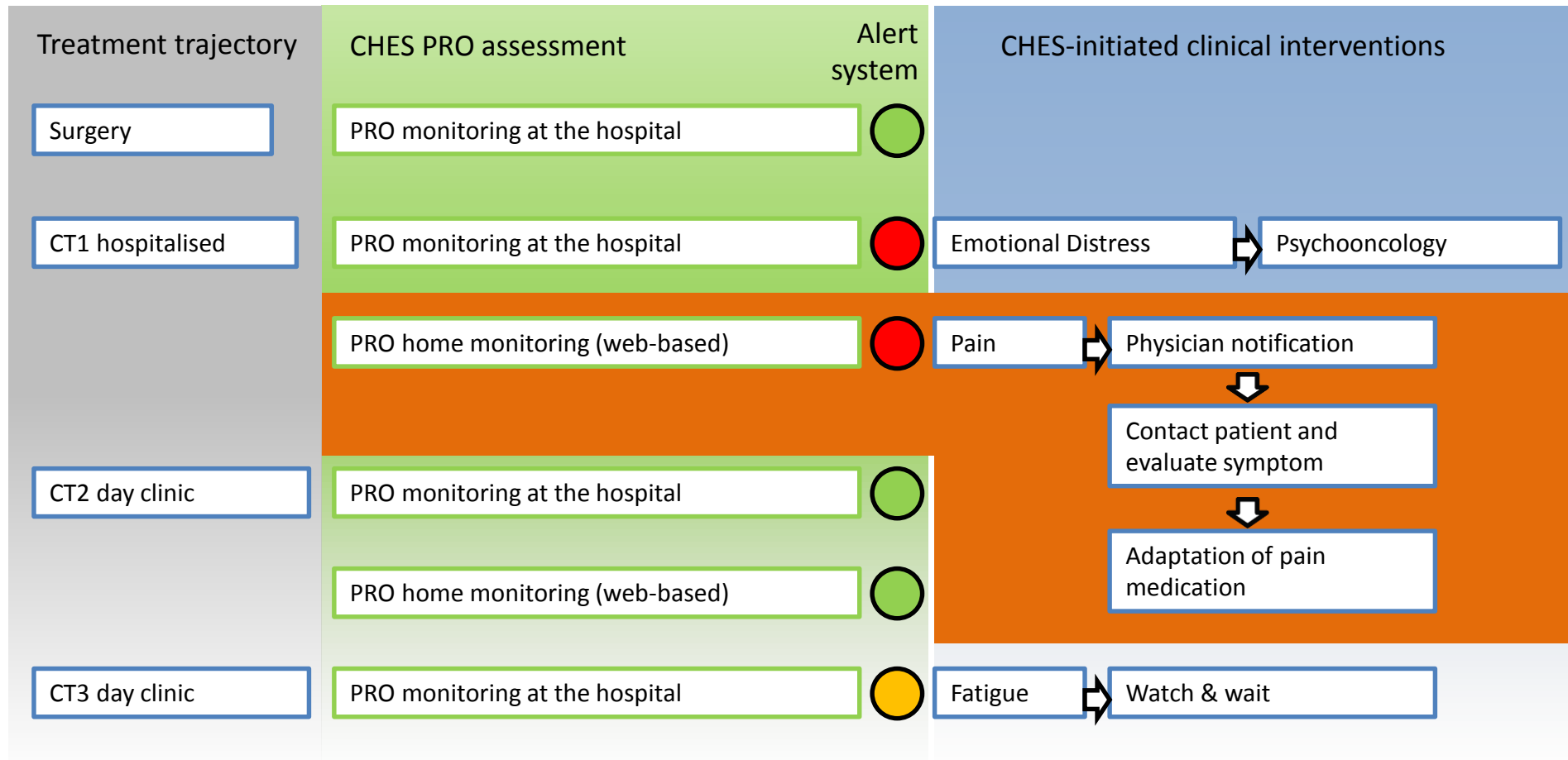


Patient-reported outcomes (PROs)

Homemonitoring von somatischen und psycho-sozialen Symptomen
und Behandlungs-nebenwirkungen bei onkologischen Patienten
(ONKO-TEL)

ePRO's

Integrated in the clinical procedure



Erste Ergebnisse

680 Erhebungszeitpunkte

	zu Hause MW	Klinik MW	p
Physical Functioning	76.8	80.0	<.001
Role Functioning	59.3	63.4	.002
Social Functioning	69.9	74.1	<.001

→ **via Home-Monitoring berichten PatientInnen**
höhere Belastungen

Nausea/Vomiting	11.4	8.6	.005
Dyspnea	23.8	21.3	.036
Sleep Disturbances	31.1	27.0	.013
Appetite Loss	20.8	16.4	.004
Constipation	27.8	18.5	<.001
Taste	23.1	16.9	<.001



Patient-reported outcomes (PROs)

Und Health Technology Assessment (HTA)

The electronic PORPUS (<https://ches.at/e-porpus/>)



CHES Homemonitoring - Windows Internet Explorer

https://ches.at/e-porpus/

Favoriten CHES Homemonitoring

Google

Seite Sicherheit Extras



Patient ORiented Prostate Utility Scale (PORPUS)

Der PORPUS ist ein Fragebogen zur Bestimmung von [Lebensqualität](#) und [Utility](#) mit Berücksichtigung prostatakrebspezifischer Gesundheitszustände.

Lebensqualität (PORPUS-P) und Utility (PORPUS-U) lassen sich durch Beantwortung der 10 Fragen dieser elektronischen Version des PORPUS auf einfache und schnelle Art ermitteln.

Sprache:

[Mehr über PORPUS](#) [Über uns / Impressum](#)

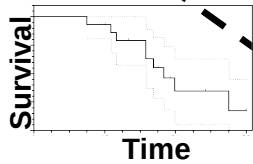


Fertig Internet 125%

Phase I

Phase II

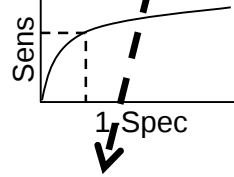
Tyrol. Ca. Registry
→ Incidence and mortality data



Epi. studies
→ Predictive and prognostic functions

$$f(x) = \dots$$

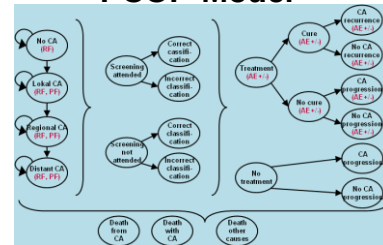
OT-Area 2/3 Clinical and diagnostic data



Individual men
→ Individual risk profiles and preferences



PCOP-Model



+



Advice to individual men and their physicians

To assess technologies and answer core HTA questions:

1. Is it effective and efficient?
2. Can it be modified?
3. Is there a suited subpopulation?



PCOP Model – Outputs

Time horizon 120 years (1440 months, extrapolated life table), 1 Mio trials, seeding

	No screening	One-time screening at 55y	One-time screening at 65y	One-time screening at 75y	Interval screening every 4y, 55-75y
Lifetime risk of PCa diagnosis (%)	18.9	19.2	21.5	30.7	35.6
Lifetime risk of PCa diagnosis by screening (%)	-	1.4	7.1	19.9	30.4
Lifetime risk of irrelevant PCa diagnosis (Overdiagnosis) (%)	-	0.3	2.6	11.8	16.7
Lifetime risk to die from PCa (%)	3.7	3.5	3.0	3.1	2.2
Lifetime gained vs. no screening (Days)	-	8.5	15.6	9.2	29.4
Quality adj. lifetime gained vs. no screening (QALDs)	-	5.0	1.8	-17.7	-34.4
Lifetime cost per man (EUR)	3830	3938	4421	6158	6775
Discounted ICUR (EUR per QALY gained) discount rate =3%	-	63447	dominated	dominated	dominated



Patient-reported outcomes (PROs)

Verwendung und Nutzen in der klinischen Praxis, in der
Wissenschaft und in der Qualitätssicherung