

CGM Investor & Analyst Conference 2017

Growth opportunities in personal health records

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12th October, 2017
Innovationsforum, Koblenz



Agenda

Personal Health Records (PHR)

Emerging PHR markets

CGM strategy for PHR

Personal health records promotes better health

Personal health records (PHR) is used by patients to maintain and manage their health information in a private, secure, and confidential environment.

PHRs:

- Are managed by patients
- Can include information from a variety of sources, including health care providers and patients themselves
- Can help patients securely and confidentially store and monitor health information, such as diet plans or data from home monitoring systems, as well as patient contact information, diagnosis lists, medication lists, allergy lists, immunization histories, and much more
- Are separate from, and do not replace, the legal record of any health care provider
- Are distinct from portals that simply allow patients to view provider information or communicate with providers

Properly designed and implemented, PHRs can help patients manage their health information and become full partners in the quest for good health.

High profile initiatives with low impact so far



- Launched 2007
- Cloud-based storage of health information from many sources in one location
- Free to consumers – business model based on advertising, sponsoring and data



- Launched 2008
- Similar concept and business model as HealthVault
- Service shut down in 2012



- Launched HealthKit in 2014 to aggregate data from fitness apps and healthcare providers
- Followed up with ResearchKit in 2015
- Acquired health data startup Gliimpse in 2016

Barriers to PHR success

- **Not fun or engaging.** People don't really want a place to store data, per se
- **Does not solve any pressing problems for consumers.** Can it help them better manage their health and/or the health of a loved one? Will it help them make appointments? Will it save them money on their health insurance bill, their next doctor visit? Can it help them automatically get a prescription refill? etc.
- **Not trustworthy.** Consumers are not willing to trust corporations with their personal health data
- **Too cumbersome to use.** User interface may be OK but the process for bringing in data isn't simple
- **Does not involve doctors.** In order to get ongoing and broad adoption of something in healthcare, one needs to lead with the clinicians
- **No partnership with insurance.** The fundamental driver of most behavior in healthcare is the reimbursement scheme
- **No advertising opportunity.** You can't sell advertising to patients whose records you handle

Some countries have overcome the barriers

- Introduced in 2003
- The official portal for the public Danish healthcare
- Enables patients and healthcare professionals to access to personal health data anytime anywhere
- The portal has 1.4 million unique visitors per month out of a population of about 5.6 million
- Essentially the ‘backbone’ of the Danish national eHealth infrastructure providing an almost 100 percent coverage of EHRs at hospitals and in primary health care

Austrian ELGA is a national EHR

The screenshot shows the homepage of the Austrian Health Portal (GESUNDHEIT.GV.AT). The top navigation bar includes links for HOME, INHALTE A-Z, SERVICES, GESUNDHEITSSYSTEM, LEXIKON, UBER UND, ELGA (circled in red), and HILFE. The main content area features a welcome message and several health-related articles. On the right side, there is a sidebar with sections for Search, Current Topics, and a Special Tip. The ELGA section is highlighted with a red circle and an arrow pointing to it.

- Access portal
- Health information
- ELGA information
- Login to ELGA
- ELGA portal
- Objection and withdrawal of objection
- Protocol
- ELGA operation
- Authorization control
- Administration of ELGA documents

CGM has also overcome the barriers through MGS



- **Fun and engaging** ☐ Maybe not yet!
- **Solves pressing problems for consumers** ☐ Fast and paperless money back, doctor search, medication check etc.
- **Trustworthy** ☐ Absolute privacy protection (CGM LIFE)
- **Easy to use** ☐ Automatic information from provider systems (CGM LIFE)
- **Involves doctors** ☐ Full workflow integration in doctors' daily software
- **Partnership with insurance** ☐ Joint ownership with leading insurance companies
- **No advertising** ☐ Subscription-based business model (B2B2C)

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The large European countries are still missing PHR

- Countries with a mature infrastructure and usage of PHR are Denmark, Sweden, Finland, Estonia and Slovakia
- The classification of Germany and Austria as 'yellow' is partially based on expectations (TI/eGK/ePA and ELGA)
- Switzerland has a clear national roadmap for the introduction of a federated, strictly decentralized PHR
- Notable countries with a weak starting point are France and Italy



Source: Institut für Angewandte Versorgungsforschung (2016)

PHR is included in the German eHealth law

Termine des E-Health-Gesetzes		2016	2017	2018	2019		2016	2017	2018	2019	2016	2017	2018	2019	
Aufgabe	Termin	Quartal					2016	2017	2018	2019		2016	2017	2018	2019
		1	2	3	4										
Versicherterstammdatenmanagement (VSDM)	Datum														
Abschluss der Maßnahmen zur Einführung Versicherterstammdatenmanagement Norm: § 291 Abs. 2 b S. 6 (sanktioniert)	30.06.2016	●													
Prüfpflicht der Versicherterstammdaten für Leistungserbringer Norm: § 291 Abs. 2 b S. 14 (sanktioniert)	01.07.2018				●										
Qualifizierte Elektronische Signatur (QES)	Datum														
Verfügbarkeit des Heilberufsausweises für alle Ärzte zur Signatur der Arztbriefe Norm: § 201 f Abs. 4	31.12.2016	●													
Sichere Verfahren zur Übermittlung medizinischer Dokumente	Datum														
Veröffentlichung der Festlegungen für sichere Verfahren zur Übermittlung medizinischer Dokumente über die Telematikinfrastruktur im Internet Norm: § 291 b Abs.1 e S. 1	31.12.2016	●													
Veröffentlichung der für das Zulassungsverfahren erforderlichen Festlegungen im Internet Norm: § 291 b Abs.1 e S. 4	31.03.2017	●													
Notfalldatenmanagement (NFDM)															
Vergütungsregelung für Notfalldatenmanagement zwischen den Bundesmantelvertrags-Parteien Norm: § 87 Abs. 2 a	30.09.2017		●												
Maßnahmen zur Einführung Notfalldatenmanagement abgeschlossen Norm: § 291 b Abs. 1 S. 9 (sanktioniert) Sanktion: § 291 b Abs. 1 S. 11	31.12.2017			●											
E-Medikationsplan (ArzneimitteltHERapiesicherheit – AMTS Stufe 0)															
Festlegung des Inhalts und der Struktur des Medikationsplanes Norm: § 31 a Abs. 4 S. 1	30.04.2016	●													
Termine des E-Health-Gesetzes															
Vergütungsregelung zum papierbasierten Prozess mit Wirkung zum 01.10.2016 Norm: § 31 a Abs. 1 S. 2 und § 87 Abs. 2 a S. 21	30.06.2016	●													
Verpflichtung Medikationsplan in Papierform Norm: § 31 a Abs. 1 S. 1	01.10.2016	●													
Die KBV und der GKV prüfen, inwieweit pa- piegebundene Verfahren zur Organisation der Versorgung durch elektronische Kommunikationsverfahren ersetzt werden können Norm: § 87 Abs. 1 S. 6 und 7	31.12.2016	●													
Fortschreibung Inhalt und Struktur mit einheitlicher Abbildung für den Elektronischen Medikationsplan und ArzneimitteltHERapiesicherheit (AMTS)	30.04.2017		●												
Abschluss Vereinbarung nutzungsbezogene Zuschlüsse Elektronische Medikationsplan zwischen den Bundesmantelvertrags-Parteien Norm: § 291 a Abs. 7 b S. 3	01.10.2017			●											
Abschluss der Maßnahmen zur Einführung Elektronischer Medikationsplan Norm: § 291 b Abs. 1 S. 10 (sanktioniert) Sanktion: § 291 b Abs. 1 S. 11	31.12.2017				●										
Versicherter hat den Anspruch auf Aktualisierung des Elektronischen Medikationsplans beim Arzt und Apotheker Norm: § 31 a Abs. 3 S. 3	01.01.2019					●									
Anwendungen der Versicherten (AdV)															
Notwendigkeit zur Bereitstellung einer sicheren Umgebung zur Wahrnehmung der Rechte des Versicherten für das Notfalldatenmanagement Norm: abgeleitet aus § 291 b Abs. 1 S. 9	01.01.2018				●										
Stationäre und mobile Endgeräte der Versicherten															
Konzept zur Anbindung von Geräten des Ver- sicherten an die Telematikinfrastruktur Norm: § 291 b Abs.1 S. 13	31.12.2016		●												
Bericht an das Bundesministerium für Gesundheit (BMG) Norm: § 291 b Abs.1 S. 14	31.03.2017			●											
E-Patientenakte (ePA)															
Abschluss der Maßnahmen zur Einführung einer Patientenakte Norm: § 291 a Abs. 5 c S. 1	31.12.2018														
E-Patientenfach (ePF)															
Abschluss der Maßnahmen zur Einführung eines Patientenfachs Norm: § 291 b Abs. 1 S. 12	31.12.2018														
Nutzungsvoraussetzungen der Telematikinfrastruktur für weitere Anwendungen des Gesundheitswesens und der Gesundheitsforschung															
Veröffentlichung der erforderlichen Voraussetzungen zur Nutzung der Telematikinfrastruktur für Anwendungen nach § 291 a Abs. 7 S. 3 im Internet. Norm: § 291 b Abs. 1 b S. 3	30.06.2016														
Veröffentlichung der Einzelheiten des Bestätigungsverfahrens und der dazu erforderlichen Prüfkriterien im Internet. Norm: § 291 b Abs. 1 b S. 5	30.09.2016														
Interoperabilitätsverzeichnis (IOPVZ) und Informationsportal															
Vorlage der Geschäfts- und Verfahrensordnung Norm: § 291 e Abs. 3	31.12.2016														
Aufbau eines elektronischen Interoperabilitätsverzeichnisses Norm: § 291 e Abs. 1	30.06.2017														
Bericht an den Deutschen Bundestag Norm: § 291 e Abs. 12	31.12.2017														
Telemedizin: Videosprechstunde															
Prüfung des Bewertungsausschusses Norm: § 291 g Abs. 4	30.09.2016														
Festlegung der Anpassung des Einheitlichen	31.03.2017														



Open market structure expected in Germany

- Panel discussion attended by health politicians from CDU, SPD, the Green Party and FDP
- There was clear agreement that PHR (ePA) is the core element of networking in health care
- A national monolithic PHR on the model of some other European countries found no support



„Personal health records have existed for years“

„Many insurances already promote and support PHR and that represents healthy competition“

Dr. phil. Katja Leikert (MdB, CDU)

„We need a uniform framework and interoperability. Then it ultimately does not matter who provides the PHR – a health fund or private operator“

Dirk Heidenblut (MdB, SPD)

Delayed but with continued strong political support

- The German ePA continues to be a core concern in health policy for the coming legislature
- The original ePA deadline in the eHealth law is 2019
- This appears now to have been shifted to 2021

KBV discussion forum 04.10.2017

„By the end of 2021, every legally insured person should have a transversal electronic patient record (ePA).“

*Oliver Schenk, Department Manager
Federal Ministry of Health (BMG)*

„In the new legislative period there will be a second part of the eHealth law. Part of the reform will include electronic patient records (ePA)“

*Stefan Bales, Ministerial Council
Federal Ministry of Health (BMG)*



CompuGroup
Medical

French eHealth strategy published in 2016

The National Strategy is structured around four pillars:

- Developing the use of big data in health through the creation of information and communication technology tools aimed at assisting healthcare professionals and monitoring patients during treatment;
- Promoting joint initiatives between healthcare professionals, patients and the industry by increasing calls for tenders that focus on the eHealth sector, and creating “living labs” that allow companies to test their innovations in real-life settings;
- Cutting red tape and improving access to care through telemedicine services; and
- Strengthening the security of health information systems.

The Ministry also announced a €2 billion investment, including €750 million for the development of digital tools.

The Ministry will soon create a new “Strategic Council” to monitor the plan.

Stratégie nationale e-santé 2020

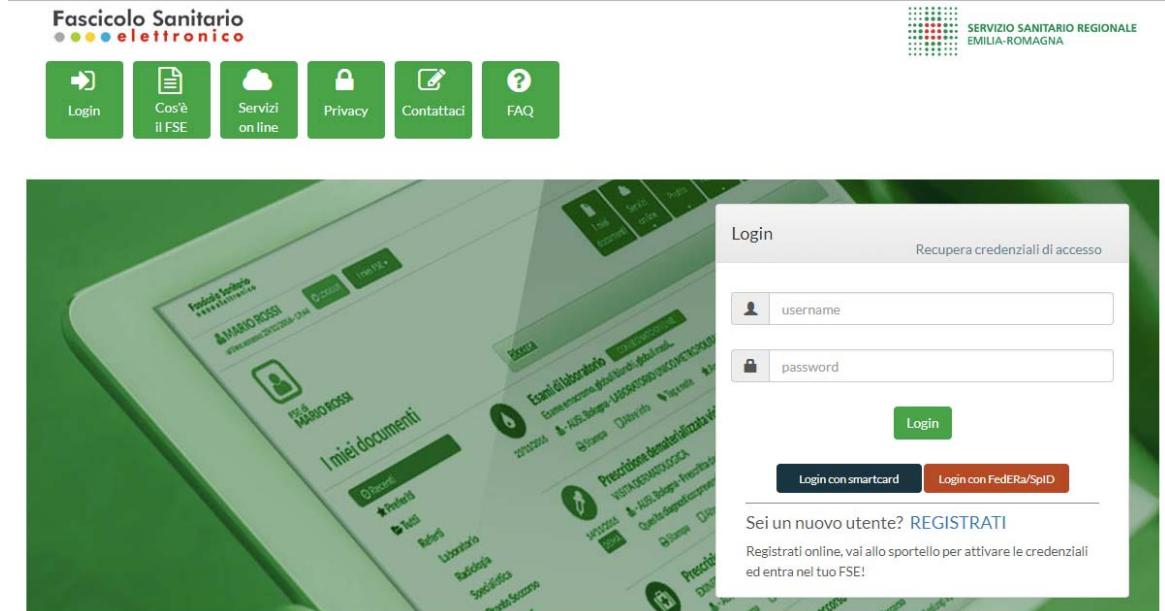


MINISTÈRE
DES AFFAIRES SOCIALES
ET DE LA SANTÉ



Italy has so far regional EHRs

- Regional autonomy has caused a proliferation of heterogeneous EHRs not interoperable with each other
- First law on EHR in 2012
- Italian Federated Electronic Health Record (Fascicolo Sanitario Elettronico - FSE)
- Provider documents and patient consent only (no real PHR)
- Integration of primary care physicians and hospitals by each region
- Interoperability is lacking



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CGM strategy for PHR

Strategy built on existing strengths and geographical focus

Competitive advantages

- Unique technology
 - CGM LIFE
- Services that are genuinely useful to consumers
 - eServices
 - CGM LIFE App
 - ClickDoc
- Ability to involve doctors
 - Own provider base
 - Extended reach through partner program and DOC4LIFE
- Flagship references
 - MGS
 - Telematics Infrastructure

Geographical focus

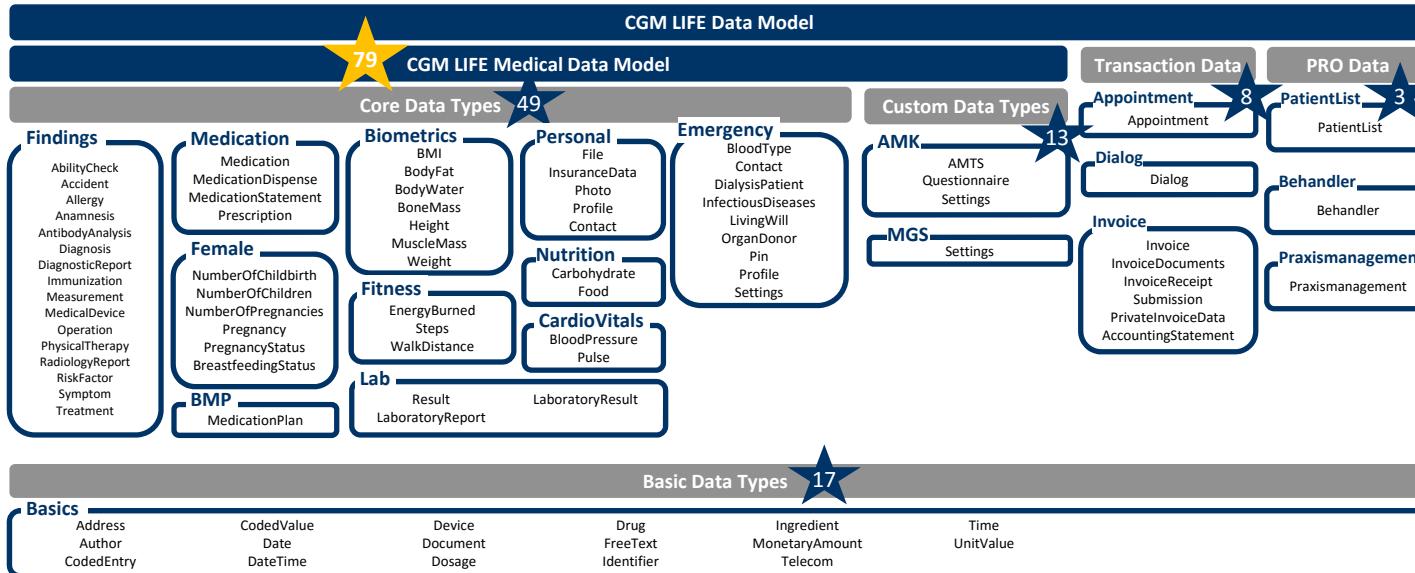
- Germany
- France
- (Italy)

Absolute privacy protection through CGM LIFE

- Every system participant (doctors, pharmacists, patients ...) has its own cryptographic keys that only he knows
- All data is encrypted for each patient individually and illegible for unauthorized persons – neither for the operator of the CGM LIFE servers where the data is stored
- All data is already encrypted inside the practice. In addition, there is a transport encryption for all protocol data
- All data is digitally signed and thereby protected against manipulation
- Even CGM is not theoretically able to read the information - ever



CGM LIFE has a full PHR data model



Genuinely useful consumer services - eServices

Patient-Services

- eAppointment
- eFinding
- eDialog
- ePrescription
- eInvoices
- eQuestionnaire
- eRecall
- eInvoice



Success

- > 8.900 Registered providers
- Registered patients 1.1mio
40% YOY growth
- Transactions >1mio.
(mainly appointments, renewal prescriptions)

Target Markets

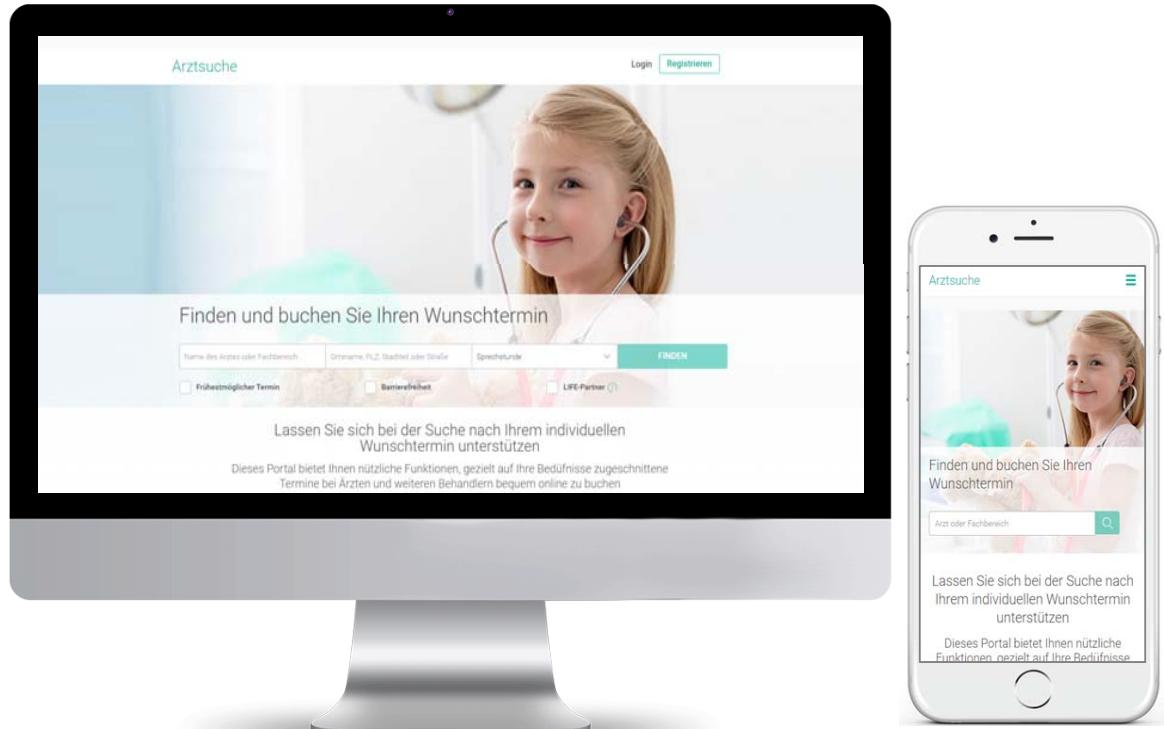
- Germany
- USA
- Austria
- CZ
- France
- FR
- Belgium
- IT
- Netherlands

Consumers can find the right doctor at the right time

simple & convenient search

search for:

- profession
- physician
- type of appointment
- location
- accessibility



Broad coverage for doctors' search

fast results ✓

available appointments ✓

show location & distance ✓

optional: patient feedback ✓

optional: status LIFE partner ✓

56 Zahnärzte in Berlin - Mitte gefunden

Die folgenden Terminvorschläge beziehen sich auf die Terminart "Sprechstunde" - Vorschläge für potenziell weitere Terminarten finden sie auf den Detailseiten der Suchergebnisse.

Filter

Name des Arztes, Terminart oder Fachbereich
Zahnarzt

Ortsname, PLZ, Stadtteil oder Straße
12345

Barrierefreiheit
 Privatsprechstunde
 Frühestmöglicher Termin
 Vorsorgeuntersuchung
 Life Partner

Zeitspanne
8:30 Uhr 17:30 Uhr

Entfernung
5 km

Geschlecht des behandelnden Arztes
 Weiblich Männlich

Gesprochene Sprachen
 Englisch Spanisch
 Russisch Türkisch

[Filter zurücksetzen](#)

Dr. med. dent. Tom Test ★★★★☆ (87)
0,9 km | Musterstraße 12, 12345 Berlin



Mo 01.08. Di 02.08. Mi 03.08. Do 04.08. Fr 05.08. Sa 06.08. So 07.08.
9:30 11:30 12:00 11:30 12:00 9:30
10:00 12:00 11:30 12:00
12:00

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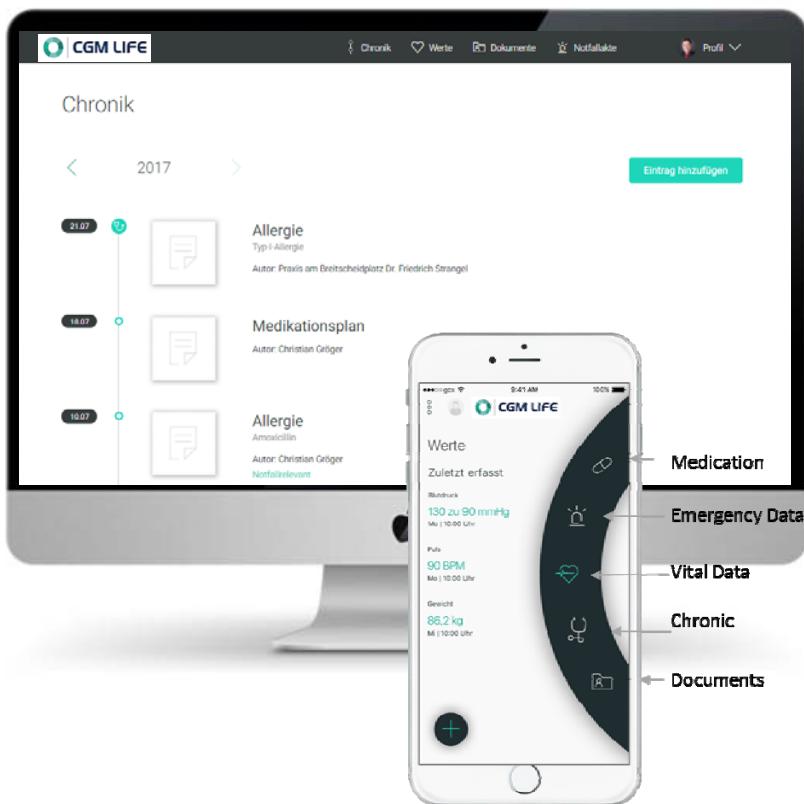
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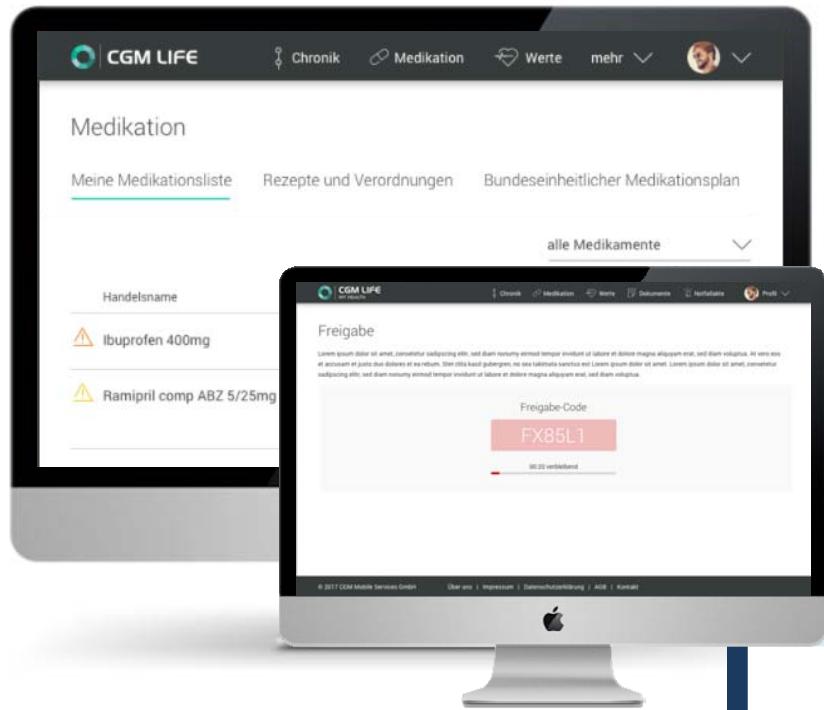
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9:30 11:30 12:00 11:30 12:00 9:30
10:00 12:00 11:30 12:00
12:00

CGM LIFE App for easy information management



Funktion	Web 1.0	iOS 2.0	Android 2.0
Chronic Selfmanagement Med.Documents View Med. Data with Provider-Validation (Allergie, Diagnose, Befund, Therapie, BMP)	X X	X	X
Medication BMP Scan and Share Reminder		X	X
Emergency Emergency Record with Data Input Flag Chronical Data & Documents as Emergency Data Print	X X		
Personal Documents Document Upload & View for Pass, Living Will, Contracts, Others	X		
Vital Data Weight, Pulse, Blood Pressure Pain, Mood, Blood Glucose	X X	X	
Account Profil Data, LIFE ID, Security Features, Login/Logout Finger Print	X X	X X	X X

Ever increasing feature set on the consumer App side



Innovation in 2017/2018 (selection)

Medication Management

Medication list, OTC enhancement, AMTS

Sharing Center

One-Time Token, including QR-Code

eEmergency

QR-Code Access, enhanced eEmergency Record

LIFE Data Model

AIS – Integration with Data-Sync and LIFE PHR enhancement to CDM

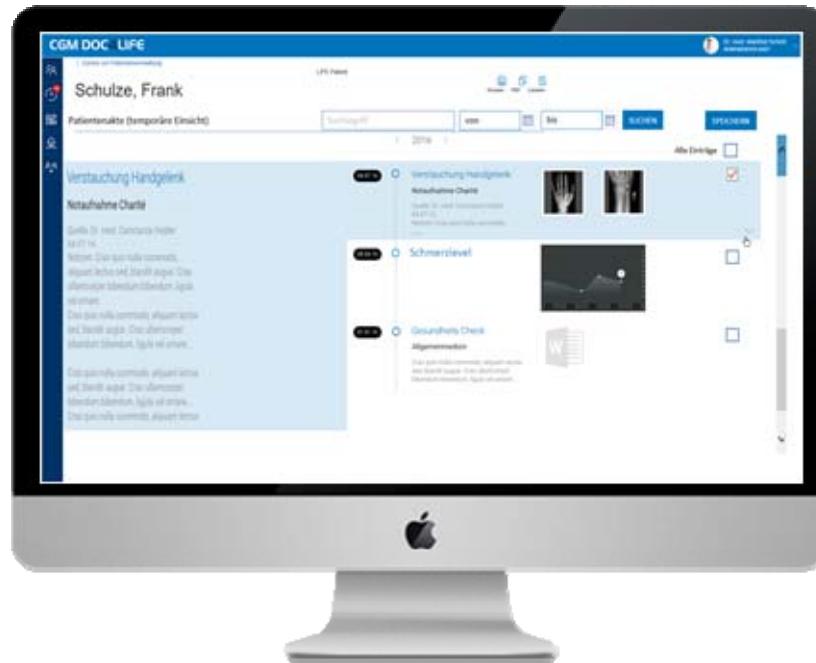
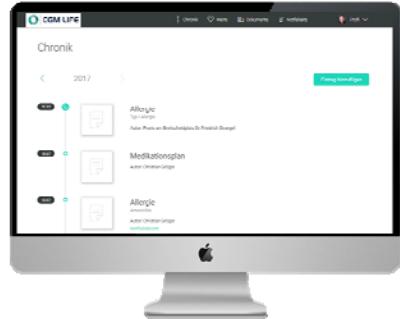
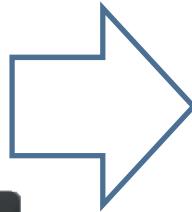


Patient-to-doctor exchange of diagnosis and findings

EHR summary for patient mobility



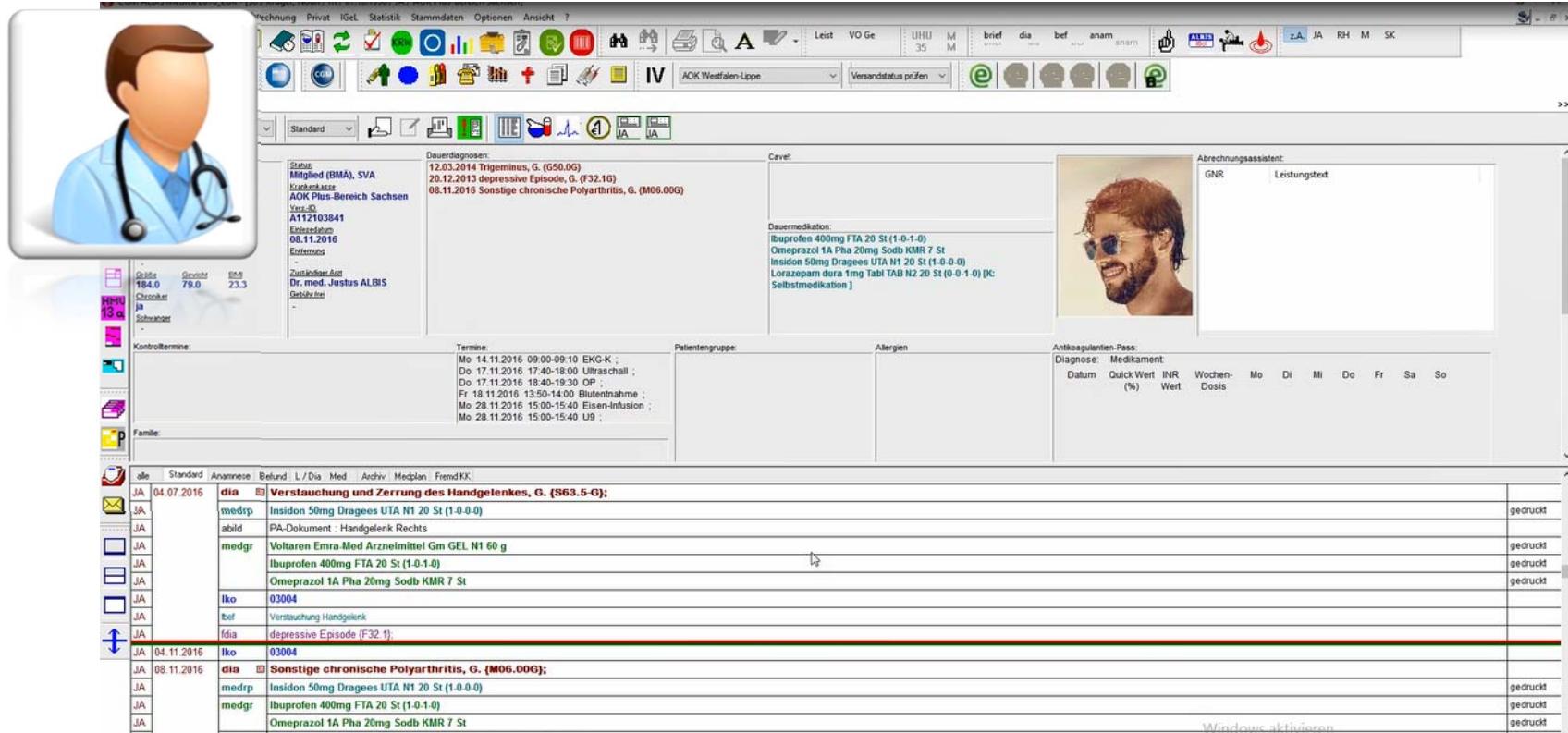
CGM LIFE App



CGM has a unique ability to involve doctors



Doctors use an Ambulatory Information System (AIS)



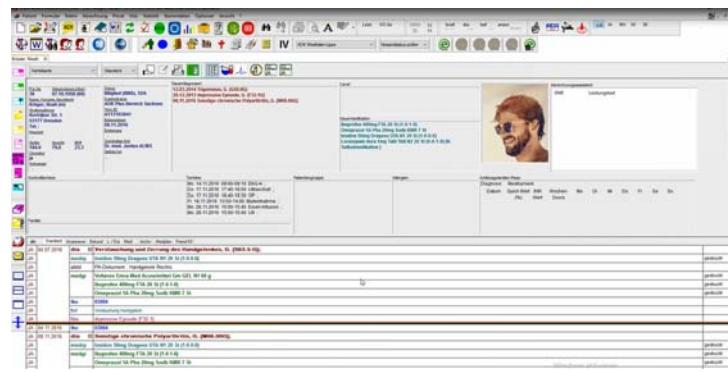
Doctor-patient communication directly in the AIS

Online
Appointments



Online Consent
Questionnaires

Patient portal
diaries



Electronic
invoicing



Medication
management

Medication plan
BMP with AMTS



Prescription
renewals



Diagnosis and
findings



Doctor-to-patient exchange of diagnosis and findings



Befundübermittlung für Patient Jorah, Mormont

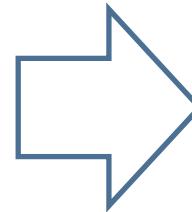
Bitte wählen Sie hier die zu übermittelnden medizinischen Informationen des Patienten aus

Auswahl medizinischer Informationen

Dauerdiagnose
 Dauermedikamente
 Loxiana 15mg Fta FTA N1 10 St
 Mcp - 1A Pharma 10 mg TAB N1 20 St (1-2-3-4)
Krankengeschichte-Cave
Krankengeschichte-Allergien
Krankengeschichte-Anamnese
Krankengeschichte-Dauertherapie
Krankengeschichte-Operationen
Krankengeschichte-Unfälle
Befunde
 29.08.2017 - Überkeit und Erbrechen
 29.08.2017 - Patienten-Anamnese:
Diagnosen
 29.08.2017 - Überkeit und Erbrechen (R11);
Allergie
Medikamente
 29.08.2017 - Mcp - 1A Pharma 10 mg TAB N1 20 St (1-2-3-4)(PZN: 10142451)
Anamnesen
Briefe
Laborwerte
Gänge

Übernehmen & Weiter Ältere Einträge Abbrechen

Optionen
Einträge von 06.06.2017 bis 29.08.2017 anzeigen



CGM LIFE App



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Medical

CGM LIFE partner program for added reach

<https://partner.cgmlife.com>

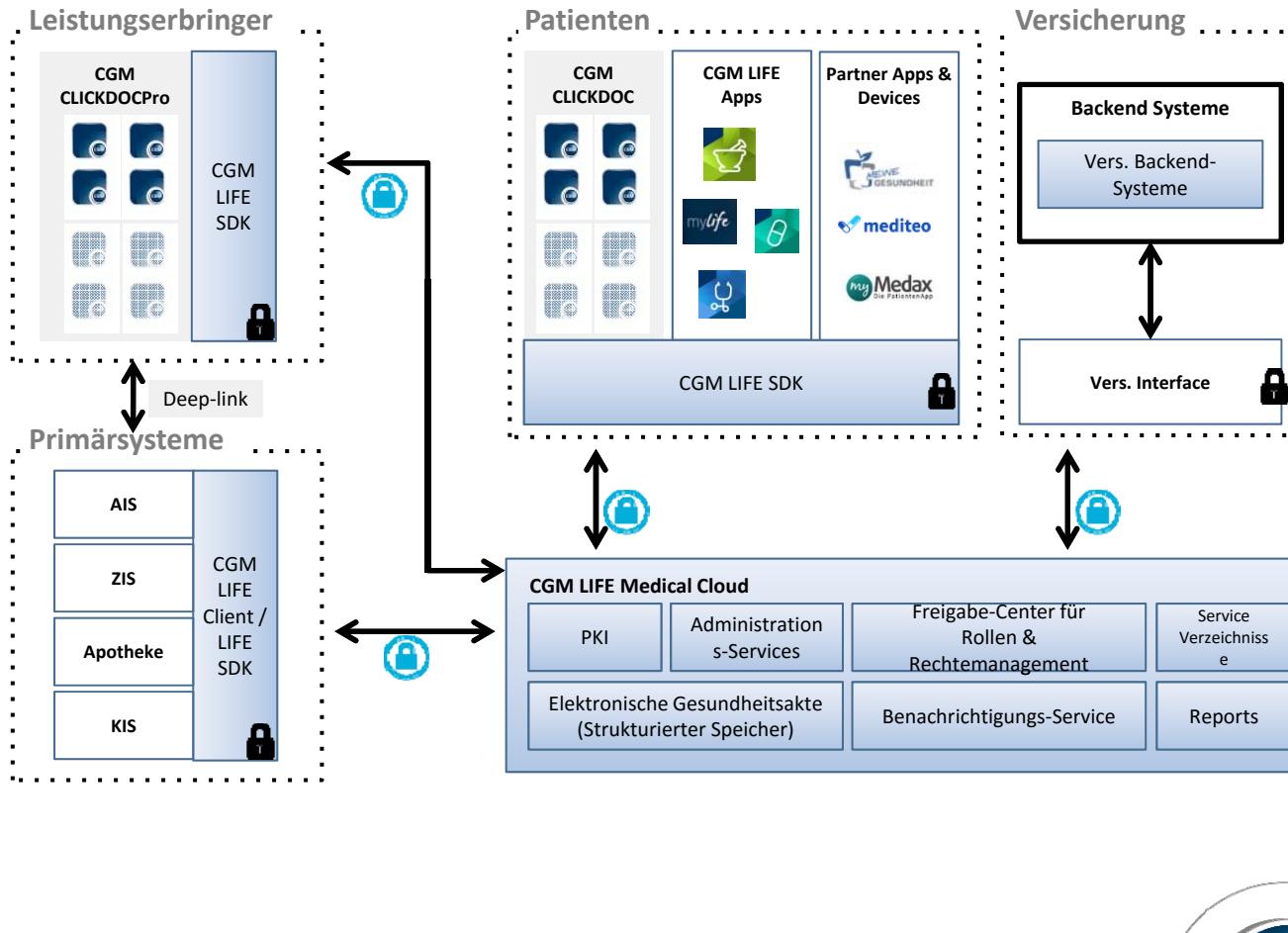


The screenshot shows the CGM LIFE Partner Portal homepage. At the top, there's a navigation bar with links for 'Home', 'Developer Documentation', 'Downloads', 'Partner Application Center', and 'Support'. A search bar and login/register buttons are also present. The main content area features a large image of a doctor holding a smartphone displaying medical icons. To the left, a blue box contains the text: 'CGM LIFE - The platform for innovative consumer health solutions with highest security standards'. Below this, under 'CGM LIFE for Partners', there's a section about the platform being consumer-centric and improving personal health. It includes a bulleted list of benefits such as secure medical cloud, connectivity to various systems, and added value services like eAppointments, eFindings, eRecipes, eDialog, and many more.

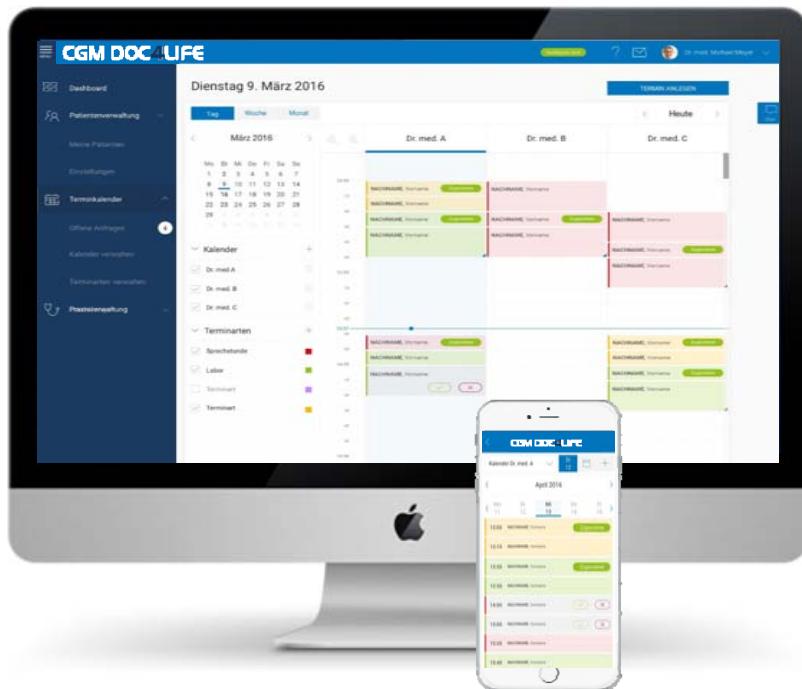
- Connect Consumer Apps and Devices with CGM LIFE Account as secure, high available structured Data storage (Medical Cloud)
- Integrate and development of Pro Applications in WebEdition
- Connection to Provider-Systems through Usage of Partner Applications
- Usage of catalogue and medication directories for Partner Application



CGM LIFE partner program open architecture



Stand-alone interface for non-CGM doctors



V.1.3 Function

Patient Administration

Overview of Patients
Search Function
Add/ Edit Patient Master Data

Calendar Administration

Calendar Overview of all Doctors in Practice
Add/Edit Calendars or Appointments
Manage appointment types

Practice Administration

Practice Profile Data
Manage Employees, User Accounts for Practice incl. Password Generation and Admin. of Subuser
Activate/ Deactivate Appointment-Wish-Function

Open Appointment Requests

Overview of Open Requests and Desired Appointments
Approve or Decline Appointments
Direct Messaging to Patient

Specialist Referral

Search Function for Medical Specialists
Refer Patient to Medical Specialist, Arrange or Book Appointments
Group Doctors, Create Favorite Selection
Time Blocks in Calendar for Doctors

Account

Profile Data, Role, Security Features, Login/Logout



Conclusion and summary

- Personal health records is a shared goal of most healthcare systems
- There is an emerging business potential for personal health records in European markets
- CGM is perfectly positioned to capture the coming PHR opportunities
 - Unique technology
 - Services that are genuinely useful to consumers
 - Ability to involve doctors
 - Flagship references



We will develop collaboration structures and business models similar to MGS



Thank you for your attention!

CompuGroup Medical SE

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