


TELEMEDICINE DAN e-HEALTH

HOSIZAH

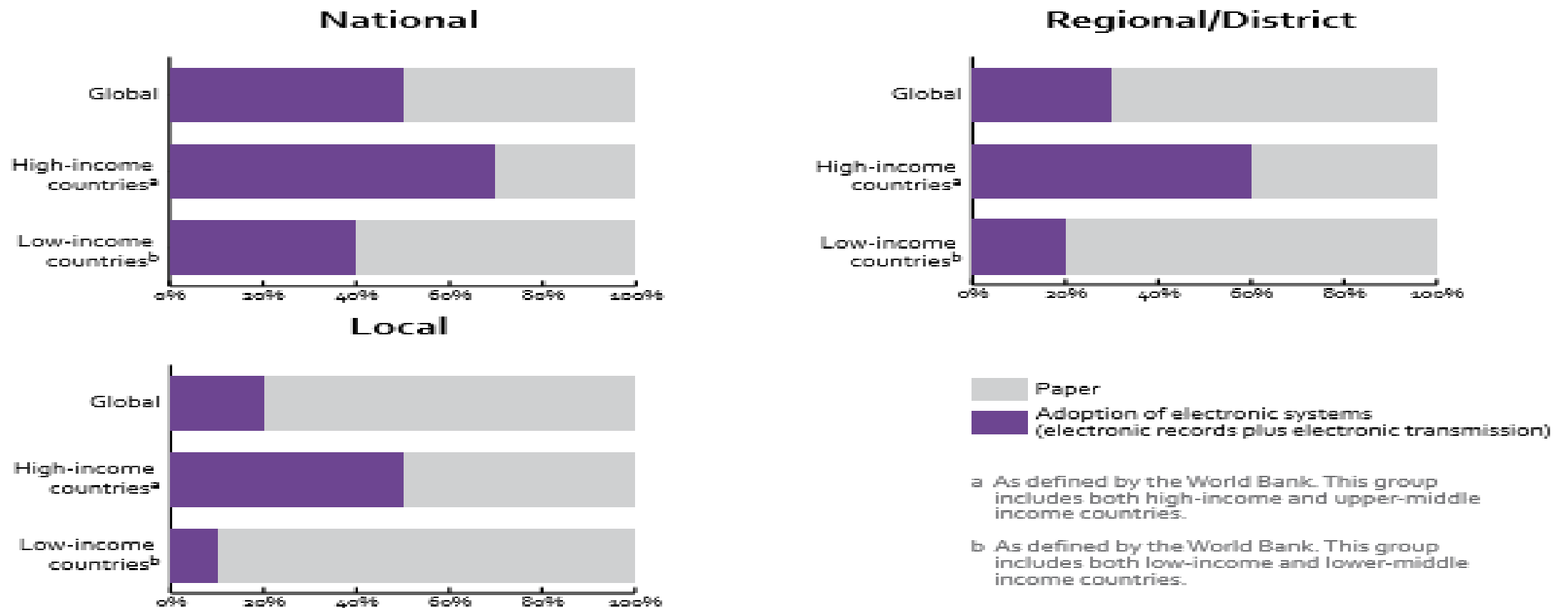
Prodi Studi D3 Rekam Medis dan Informasi Kesehatan

Universitas Esa Unggul Jakarta



PENGGUNAAN FORMAT KERTAS DAN ELEKTRONIK PADA DATA INDIVIDU PASIEN (SURVEY WHO, 2012)

Table 1. Use of paper and electronic formats for individual patient data, by health system level and income group



e-HEALTH

The use of information and communication technologies (ICT) for health (WHO)

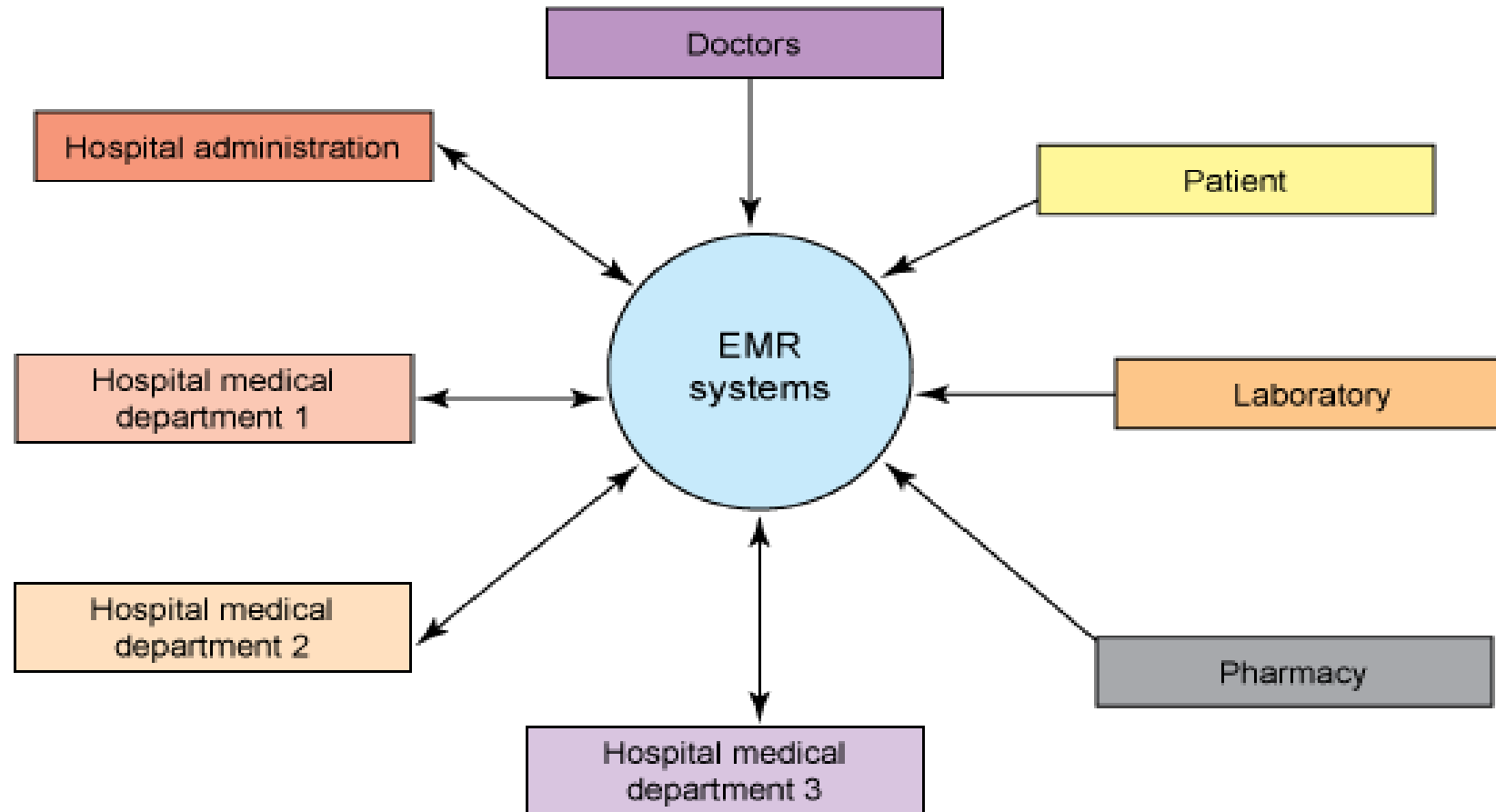
APLIKASI PENDUKUNG e-HEALTH

1. Electronic Medical Records atau Electronic Health Records (EMR/EHR)
2. Telemedicine
3. Mobile Health (mHealth)
4. Surveillance System
5. Consumer Health Informatics
6. eLearning for Health Sciences and Medical Research

EMR

- *Electronic Medical Records* = Rekam Medis Elektronik
- an electronic record of health-record information on an individual that can be created, gathered, managed, and consulted by authorized clinicians and staff within one healthcare organization
- Rekam Medis Terkomputerisasi yang digunakan untuk mencatat, menyimpan, dan mempertukarkan berbagi informasi kesehatan individu **antar penyedia layanan kesehatan, dalam sebuah fasilitas pelayanan kesehatan** (RS, Puskesmas, Klinik).

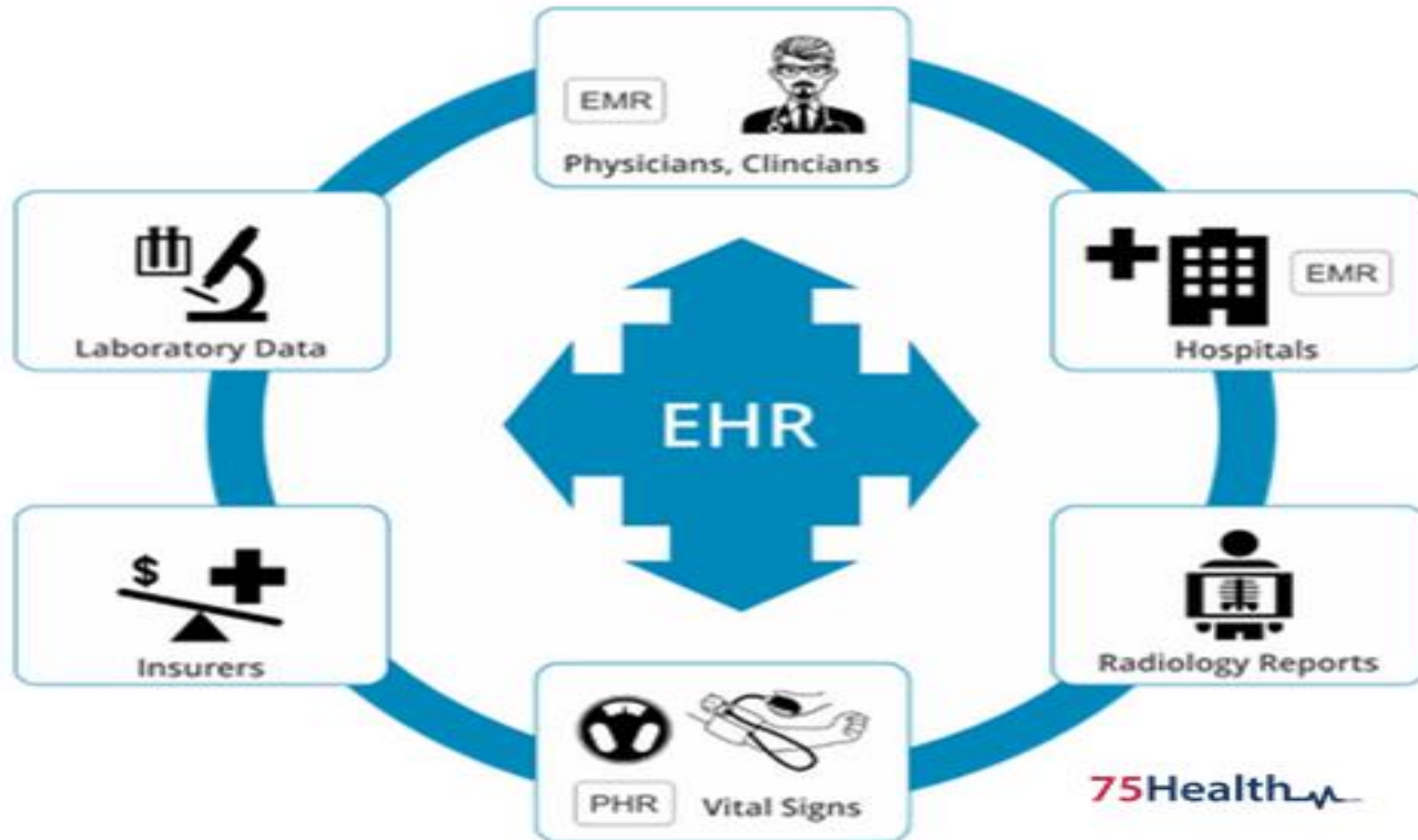
EMR



EHR

- *Electronic Health Records* = Rekam Kesehatan Elektronik
- an electronic record of health-record information on an individual that conforms to nationally recognized interoperability standards and that can be created, gathered, managed, and consulted by authorized clinicians and staff within across more than one healthcare organization
- Rekam Kesehatan Terkomputerisasi yang digunakan untuk mencatat, menyimpan, dan memberikan akses dari berbagai ringkasan informasi pasien **antar organisasi kesehatan dan penyedia layanan kesehatan lainnya (lintas area atau letak geografi).**

EHR



EHR

Contoh Informasi yang dipertukarkan dalam EHR antara lain:

- Data Demografi
- Riwayat Medis
- Obat-obatan dan alergi
- Imunisasi
- Ringkasan pasien pulang, dan
- Ringkasan informasi lainnya

KEUTAMAAN ADOPSI EHR

- 1. Improve quality, safety, efficiency, and reduce health disparities**
- 2. Engage patients and their families in their healthcare**
- 3. Improve care coordination**
- 4. Improve population and public health**
- 5. Ensure adequate privacy and security protections for personal health information**

IMPLEMENTASI EHR DI SARYANKES

Hasil survey Capgemini (jurnal AHIMA) Januari 2005

- ✓ **90%** pimpinan dari sarana pelayanan kesehatan merencanakan untuk menerapkan EHR dalam enam bulan yang akan datang.
- ✓ **> 50%** responden mengatakan sudah melakukan diskusi internal atau rapat yang membahas tentang penerapan EHR dan para pimpinan telah mengembangkan analisis keuangan terhadap dampak penerapan EHR.
- ✓ **> 70%** responden setuju bahwa penerapan EHR akan memberikan keuntungan finansial.
- ✓ **Modal atau investasi awal** merupakan *barrier* utama dalam penerapan EHR.
- ✓ Kendala-kendala lain dalam penerapan EHR meliputi: (1) *Physician resistance*, (2) *Lack of technology standards*, (3) *Staff workload*

EHR:CHANGE IN HIM DEPARTMENT

- **Department without Walls**
- **No handling of paper charts, no filing of loose sheets, and no photocopying of records**
- **Coding of diagnoses and procedures is already being performed successfully online.**

THE EHR'S IMPACT ON HIM FUNCTIONS

Function	Paper Health Record	EHR
Filing records	Manual	Function eliminated as move to EHR
Analysis (or deficiency analysis)	Manual assessment	Function should be minimal because of automated rules
Assembly of paper record	Manual	Staff may be redeployed for document preparation, indexing, imaging, quality control
Coding ICD-10, ICD-9-CM	Use of books or encoders. Paper documents are the source of information	Computer-assisted coding → availability of computer-aided coding applications

THE EHR'S IMPACT ON HIM FUNCTIONS

Function	Paper Health Record	EHR
Form and template design	Function includes standardization of data elements, placement (format), logical flow for data capture	Data dictionary will encompass all medical documentation
Ongoing record review	Manual	Function should decrease with use of template, alerts, and reminders.
Record completion process	Manual	Rules will be in place for automated monitoring of unsigned reports, monitoring of reviewed results, and missing reports

THE EHR'S IMPACT ON HIM FUNCTIONS

Function	Paper Health Record	EHR
Data reporting and interpretation	Ad-hoc and routine reporting	Data interpretation and data mining skills will be new focus. Healthcare organizations will need staff that understand coded data and classification systems for efficient data mining, accurate reporting and interpretation as well as development of metadata definitions
Document identification	Often manual: a key component of filing paper	Process expands from the hybrid state to all documents in the EHR. There should be monitoring to ensure correct posting of electronic documents

THE EHR'S IMPACT ON HIM FUNCTIONS

Function	Paper Health Record	EHR
Master Patient Index (MPI) maintenance	Manual or electronic, including card file and online systems; may be limited to HIM applications	Pictures of patients may be included in the EHR to ensure identification
Release of information to patients	Manual	HIM staff will continue to assist patients to access records through Web site as well as in paper for those without computer access.

Appointments

Time	Name	Appointment Type
09:00 AM	Noble, James	Consult
09:30 AM	Casper, Carolyn	Exam - New Patient
10:00 AM	Harris, Richard	Follow Up
10:30 AM	Meril, Leslie	Exam - Est. Patient
10:30 AM	Moss, Pete	Consult
10:45 AM	Copeland, Elizabeth	Consult
11:00 AM	Derek, Martin	Exam - New Patient
01:00 PM	Paltrow, Mary	Consult
01:15 PM	Gold, Alan	Exam - Est. Patient
01:30 PM	Dipiero, Drew	Consult
01:30 PM	Glass, Tyler	Exam - Est. Patient
02:15 PM	Thompson, Brian	Exam - Est. Patient
02:30 PM	Carter, James	Consult
03:30 PM	Abner, Darlene	Follow Up
04:00 PM	Brown, Kevin	Exam - Est. Patient
04:15 PM	Newsome, Gina	Exam - Est. Patient
04:30 PM	Newsome, Jenna	Exam - Est. Patient

Mail Status

Normal	11
Rx	2
Transcription	1

Clinical Summary

Noble, James

Demographics



Address: 4516 West Huron Street
Chicago, IL 60607
Email: jnoble@gmail.com
DOB: 04.05.1962
Age: 50y
Patient ID: 88501

Primary Ins: Aetna U.S. Healthcare - Master

Pharmacy Directions
CV/S/Pharmacy #8671
510 College Mall Rd
Bloomington, IN 47401 P (812) 336-7306
F (812) 335-9347

User Defined Fields

Name	Value
Injury	Shoulder pain
Employer Name	WBI
Employer Fax	201-867-5309
Insurance Carrier	GEICO
Adjuster Fax Num...	201-555-8735
Diagnosis	727.3
Position	Truck Driver
CareTracker ID#	36817221

Dictations

Appt Time	Completed
06.20.2012 09:00 AM	Completed

Alert

Tests

Description	Date
MRI	On Order
MRI	11.17.2011

Diagnosis

Diagnosis	Status	Date	ICD-9	Notes
ACL Tear		06.20.2012	844.2	
Lumbago		11.17.2011	724.2	

Vitals

Smoking Status

Status	ID	Date
Never smoker	4	06.18.2012

Procedures

Procedure	Date	CPT	Type	Status
Knee Arthroscopy/Surg	06.20.2012	29881	Internal	Performed

Rx History

Status	Date	Drug	Strength	Instructions
<input checked="" type="checkbox"/>	06.18.2012	Keflex	250 MG	1 tab po BID
<input checked="" type="checkbox"/>	11.04.2010	CeleBREX	100 MG	1 tablet by mouth in the AM
<input checked="" type="checkbox"/>	04.13.2006	OxyCODONE HCl	20 MG	1 tab po q4h prn pain

Non-Drug Allergies

Description	Reaction	Notes
Latex	Severe rash	
Shellfish	Hives	

Family History

Relationship	Deceased	Notes
Sister	No	JRA
Maternal Grandmother	Yes	Osteoarthritis

Surgeries

Description	Date	Surgeon	Notes
Arthroscopy	12.18.2011	Armstrong	N/A

Appointments

Date	Time	Doctor	Reason	Type	Location	Notes
06.20.2012	09:00 AM	Mr. Armstr	Consult		CDC 8464	

Current encounter: 6/20/2012 9:00:00 AM

Transfer Encounter

Noble, James | All | Messages | Flow Sheet | Rx | Desktop | Message Ctr | Scan Place | Forms

Chart Notes	Radiology Reports	History	Digital X-Rays	Correspondence Received	Consult Letters Sent	Orders	Injections
Op-Reports	Discharge Summaries	PT Assessments	Charge Capture	SRS PACS	Surgery Documents	Surgery	DASH

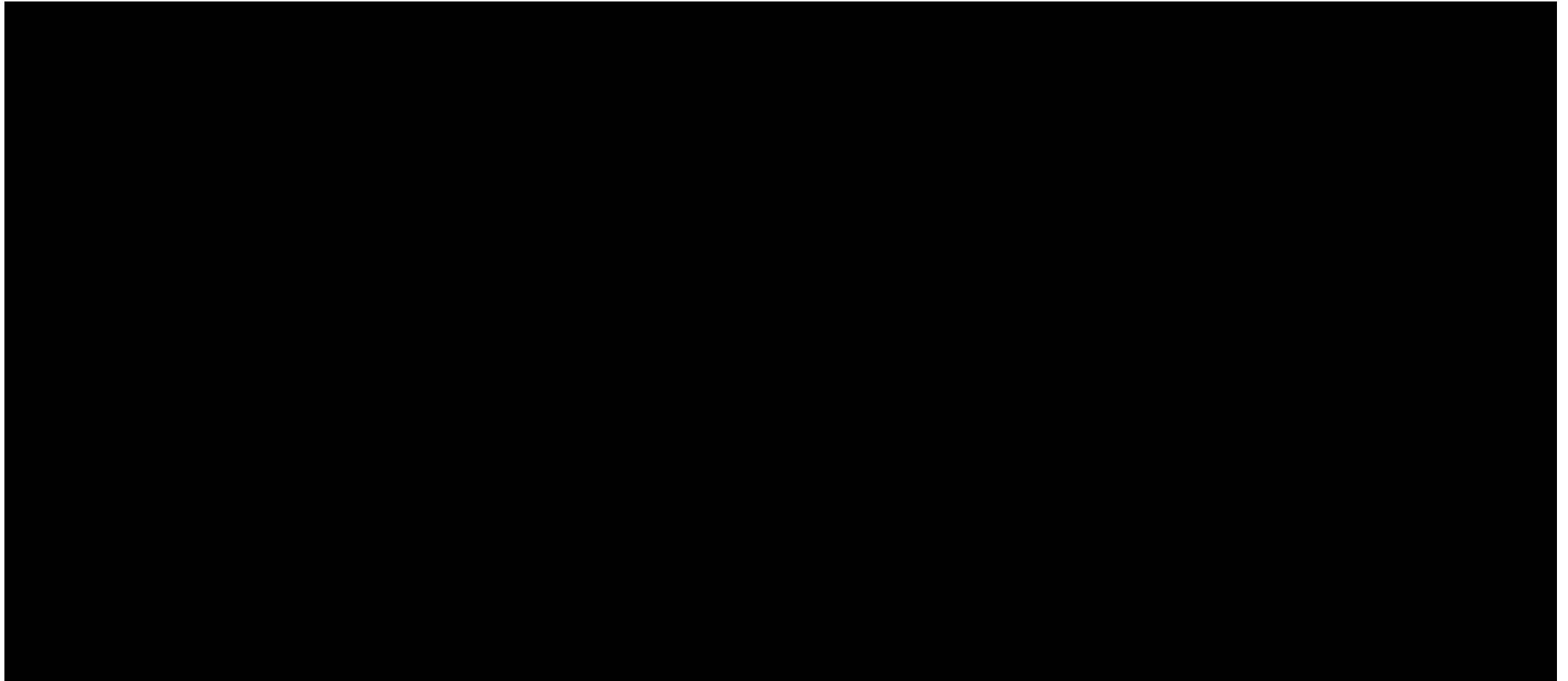
THE EHR'S IMPACT ON HIM FUNCTIONS

Function	Paper Health Record	EHR
Retrieving records	Manual	Function eliminated except for historical files maintained in paper or on microfilm
Statistics	Manual	Function will include increase use of dashboard and other types of automatically generated statistical reports

TELEMEDICINE

Telemedicine adalah penggunaan teknologi informasi dan komunikasi yang digabungkan dengan kepakaran medis untuk memberikan layanan kesehatan, mulai dari konsultasi, diagnosa dan tindakan medis, tanpa terbatas ruang atau dilaksanakan dari jarak jauh

TELEMEDICINE



TELEMEDICINE

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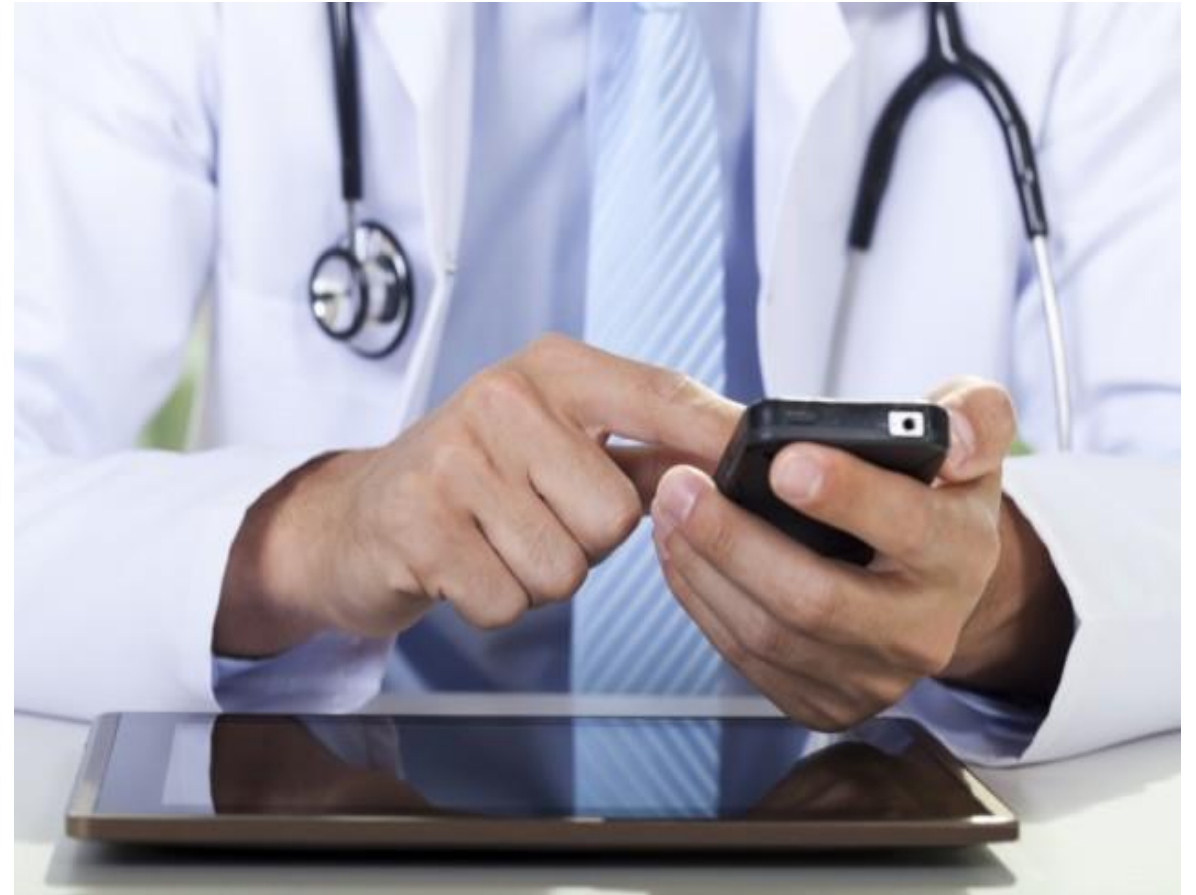
MANFAAT TELEMEDICINE

1. Mempercepat akses pasien ke pusat-pusat rujukan.
2. Mudah mendapatkan pertolongan sambil menunggu pertolongan langsung dari dokter-dokter pribadi.
3. Pasien merasakan tetap dekat dengan rumah dimana keluarga dan sahabat dapat memberikan dukungan langsung.
4. Menseleksi antara pasien-pasien yang perlu dibawa ke rumah sakit dan pasien yang tidak perlu perawatan di rumah sakit akan tetap tinggal di rumah

mHealth

Mobile Health

Penggunaan teknologi mobile seperti ponsel atau telepon genggam untuk pengumpulan data individu dan layanan informasi interaktif



mHealth

Contoh mHealth:

1. Real-time monitoring untuk kesehatan individu (monitoring DM, hipertensi dll)
2. Dukungan pengobatan, konsultasi kesehatan dan promosi kesehatan (sms reminder)
3. Dukungan diagnostik dan pengobatan serta komunikasi antar petugas kesehatan
4. Informasi kesehatan untuk praktisi, peneliti dan pasien
5. Pengumpulan Data untuk surveilans kesmas

PHR

Personal Health Records

Rekam Kesehatan Terkomputerisasi dibuat dan dikelola seorang individu yang proaktif dalam pengelolaan catatan kesehatannya sendiri.

PHR

PHR dapat menyimpan:

- Status alergi
- Efek samping obat
- Penyakit kronis
- Riwayat keluarga
- Riwayat sakit dan Rawat Inap
- Obat-obatan
- Diet dan olah raga
- Hasil tes yang pernah dilakukan.