MAGEN DAVID ADOM IN ISRAEL
מגן דוד אדום בישראל
זה עניין של חיים

Using technology and the power of the crowd to improve emergency response

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MDA – Magen David Adom

National blood service

National EMS (Emergency Medical Service)

National Red Cross society

Auxiliary arm to the IDF medical corps
in war times, part of civil protection mechanism

Operational Activity - 2016

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2,000,000 Emergency calls

679,082 Dispatches

1 every 16sec

1 every 46sec

500+ Medicycles

~1,000 Ambulances

2 Helicopters

Average response time

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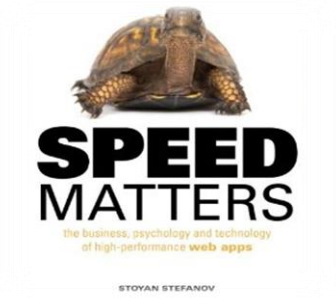
Call answering → Telephony FA + Data collection → Dispatching → Scene arrival

Call answering	Telephony FA + Data collection	Dispatching	Scene arrival
3.42 sec	1:30 min		Medicycle – up to 5 min Ambulance – up to 10min

Shift average call answering time

Challenges



1. Shorter “Time to Patient”.
2. Faster Identification of Life threatening conditions and OHCA.
3. Shorter Time to Initiation of CPR in OHCA.
4. Shorter “Call to PCI” time.
5. Shorter “Call to TPA” time.
6. Precise localization of casualties / patients / medical personnel.
7. Crowd Sourcing / risk communication
8. Better Operational Picture /Situational awareness tools.

What do we Know (1)

- "Early cardiopulmonary resuscitation (CPR) by bystanders has been shown to be associated with increased survival after OHCA. "Herlitz J, et al. Resuscitation 2005

- "Survival was 2.2% among those who received no bystander CPR, 4.9% among those who received bystander CPR from lay people and 9.2% among those who received bystander CPR from professionals." Herlitz J, et al. Resuscitation 2005

Wha

DISPATCHER-ASSISTED CPR:
WHAT YOU NEED TO KNOW

Each year, EMS providers assess more than 380,000 Americans with sudden cardiac arrest (SCA). Yet just 11% of those who experience SCA outside of hospitals survive it.

Bystanders who witness an SCA victim collapse can play a vital role in increasing the likelihood that patient survives. By helping callers recognize the cardiac arrest in progress, 9-1-1 dispatchers can provide instructions for compression-only CPR when indicated, thus improving the chances of survival.

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"**The provision of instruction for virtually all cardiac arrests is a standard of care**. Meeting this standard requires early identification, ongoing training, and continuous improvement.

Meeting this standard saves lives.

Not meeting this standard results in deaths that are preventable". AHA guidelines 2015

Stop Stroke© Acute Care Coordination Medical Application: A Brief Report on Postimplementation Performance at a Primary Stroke Center

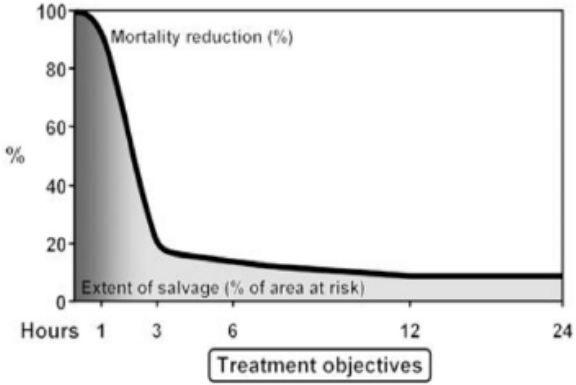
Robert L. Dickson, MD, FAAEM, FACEP, FACEM,* Dineth Sumathipala, MBBS,† and Jennifer Reeves, RN-MSN‡

- Communicating vital signs and medical history of suspected stroke patients using the App shortened DTN time in ~60min.

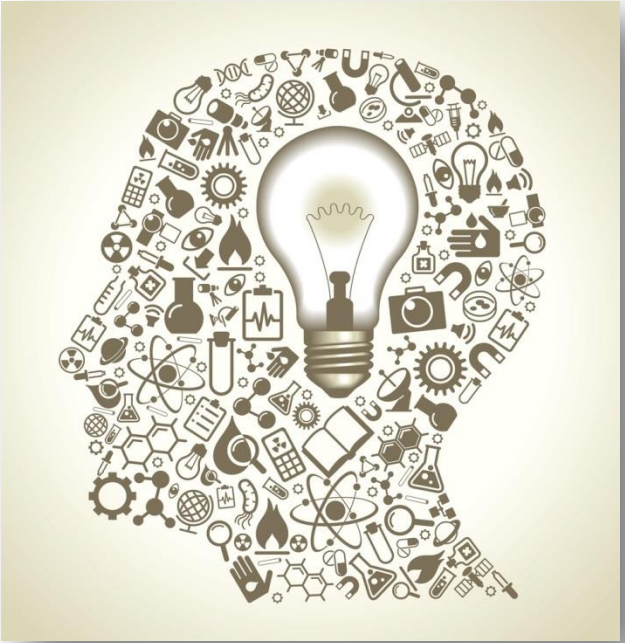
Impact of call-to-balloon time on 30-day mortality

Richard W Varcoe1, Tim C Clayton2, Huon H Gray3, Mark A de Belder4, Peter F Ludman5
on behalf of the British Cardiovascular Intervention Society (BCIS) and the National Institute for Cardiovascular Outcomes Research (NICOR)

- "An S-T segment elevation myocardial infarction (STEMI) is a severe heart attack that kills heart muscle every minute it is left untreated".



What has been done?



Decision Support Tools

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Data gathering tools / instruction modules

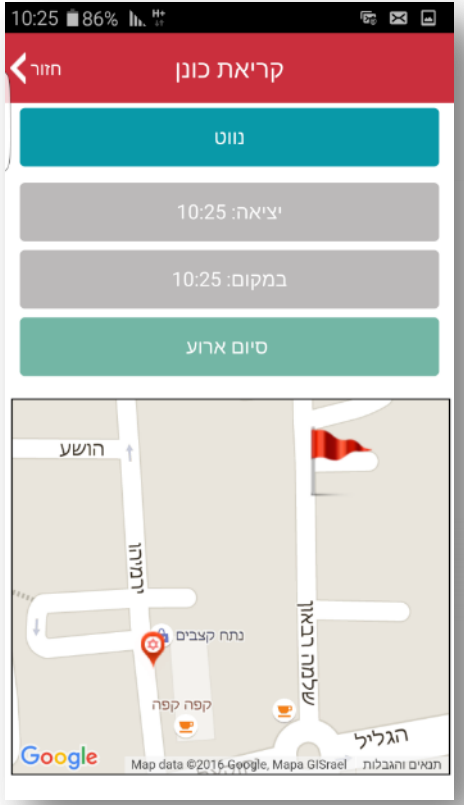
- Call
- SMS, whatsApp.
- GPS
- “My MDA”
- Vehicle mounted cameras.
- Medical emergencies instruction modules
- MCI module

Automated Resources Identification & Allocation

Supervision / online support

Life Guardians

- Doctors
- Nurses
- Paramedics
- Medics
- FA providers
- Automatic dispatch via smartphone app



Mobile Applications

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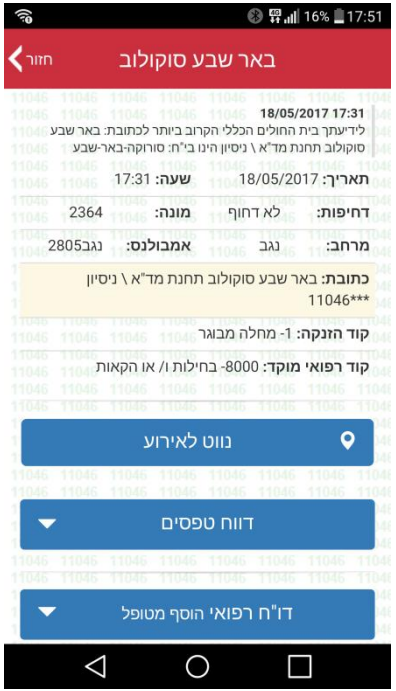
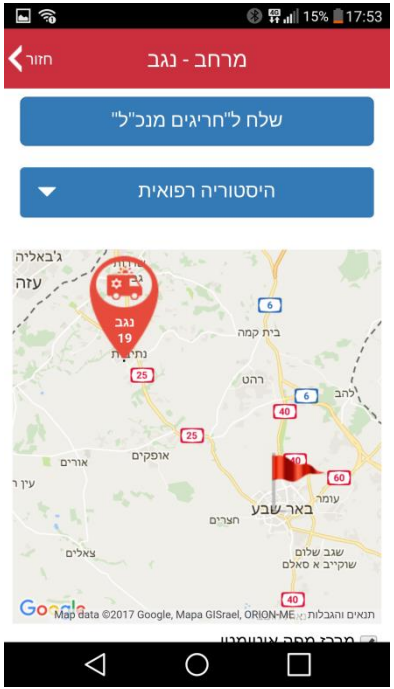
Ambulance Teams/ First Responders





Management

Emergency landings

ACS App

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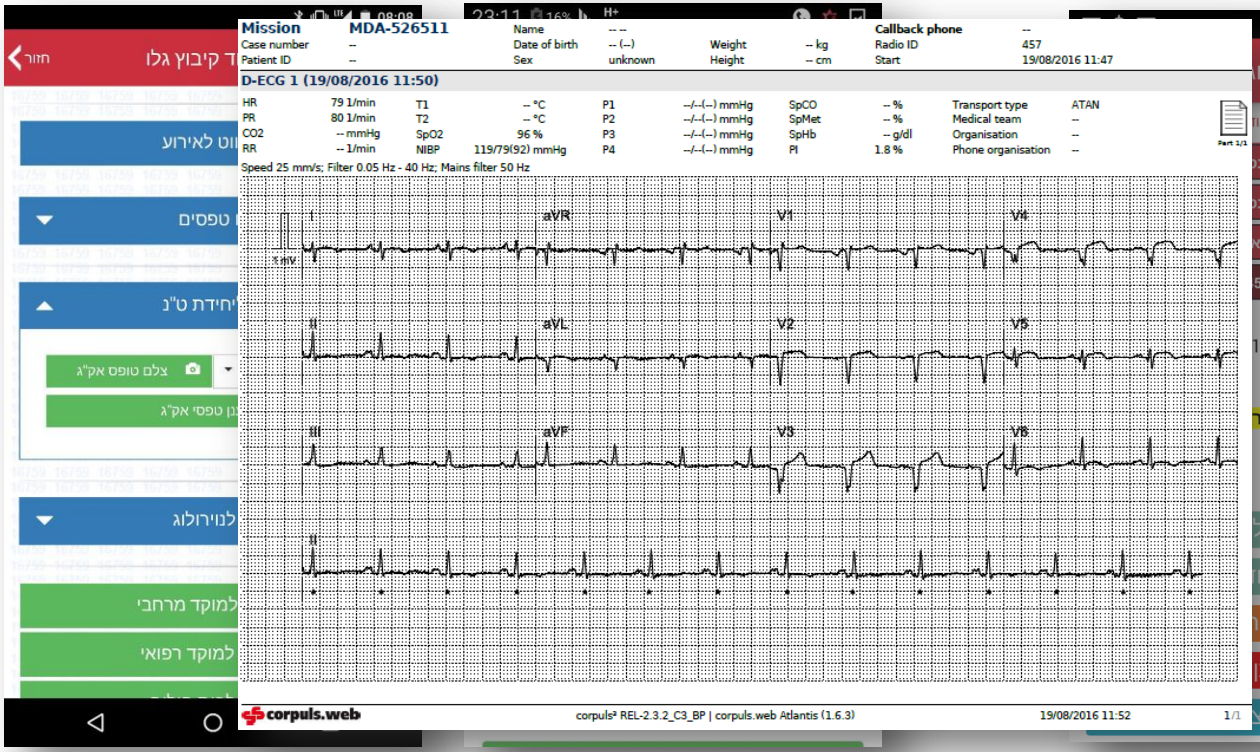
Ambulance Teams

ICCU interface



Stroke App

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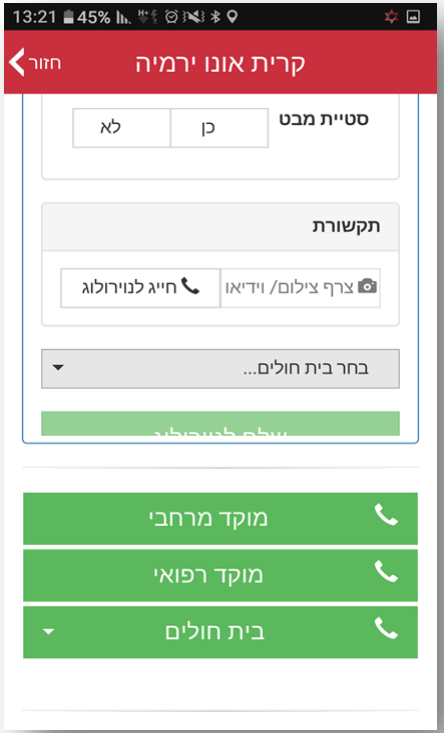
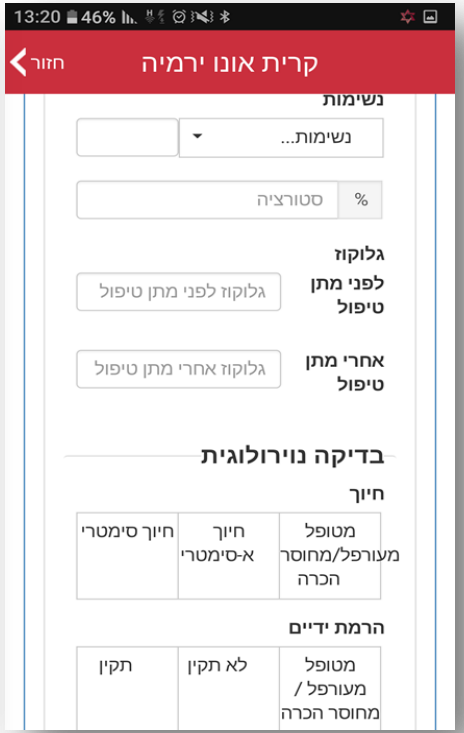
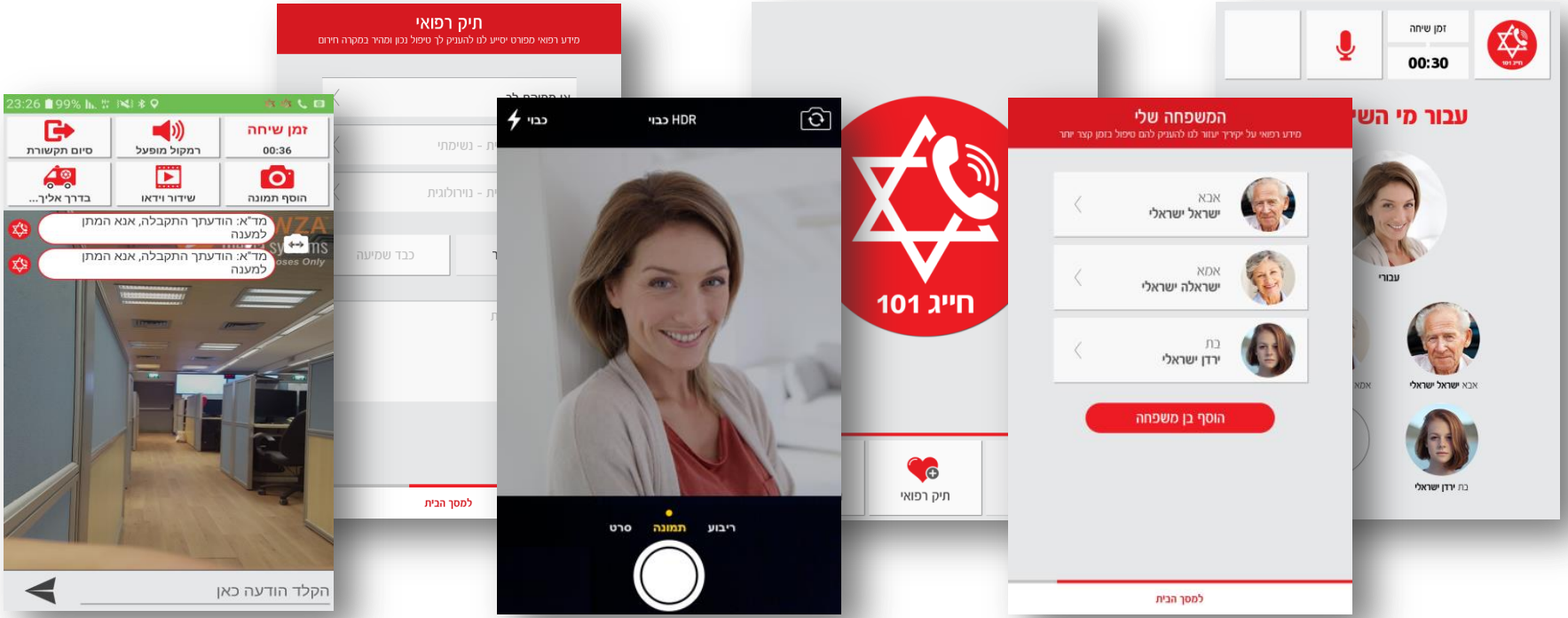


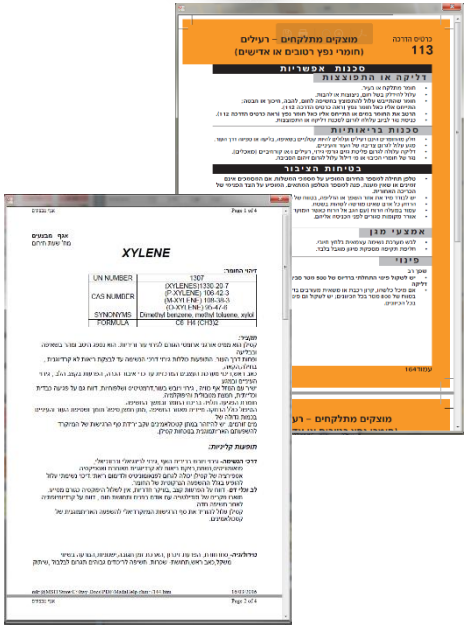


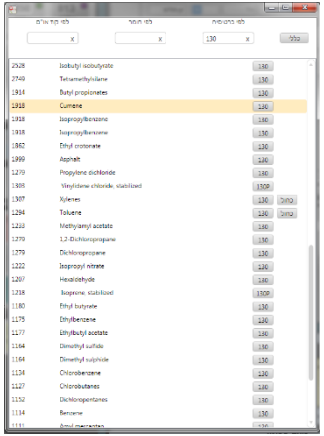
My MDA

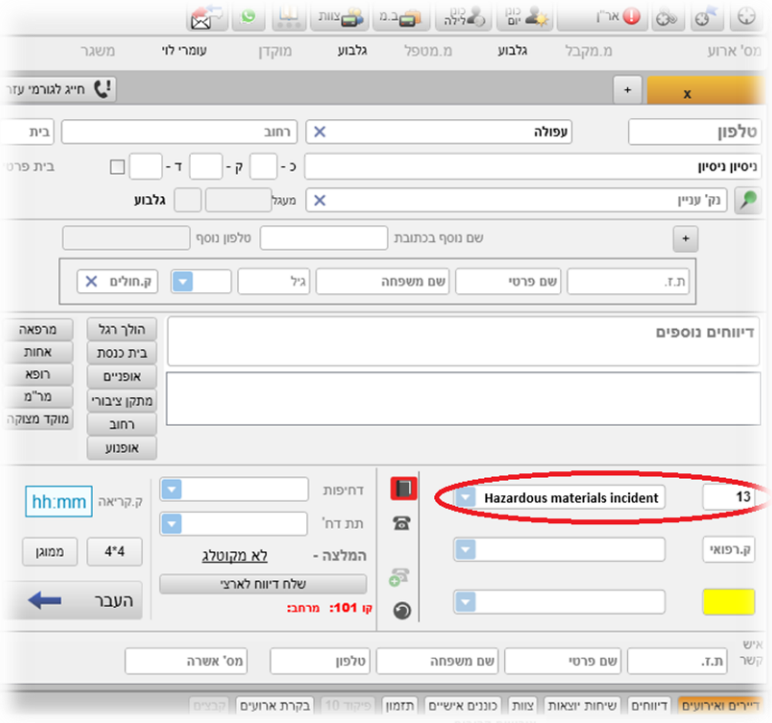

תיק רפואי
מידע רפואי מפורט יסייע לנו להעניק לך טיפול נכון ומהיר במקרה חירום
זמן שיחה
00:36
רמקול מופעל
סיום תקשורת
הוסף תמונה
שידור וידאו
בדרך אליך...
מד"א: הודעתך התקבלה, אנא המתן למענה
מד"א: הודעתך התקבלה, אנא המתן למענה
הקלד הודעה כאן
כבוי
HDR כבוי
ריבוע
תמונה
סרט
חייג 101
תיק רפואי
המשפחה שלי
מידע רפואי על יקירך יעזור לנו להעניק להם טיפול בזמן קצר יותר
אבא
ישראל ישראלי
אמא
ישראלה ישראלי
בת
ירדן ישראלי
הוסף בן משפחה
למסך הבית
זמן שיחה
00:30
עבור מי ה
עבורי
אבא ישראל ישראלי
בת ירדן ישראלי

Mobile Applications - vehicles

Hazardous materials incident







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