The Icelandic Model for Emergency Medical Dispatching

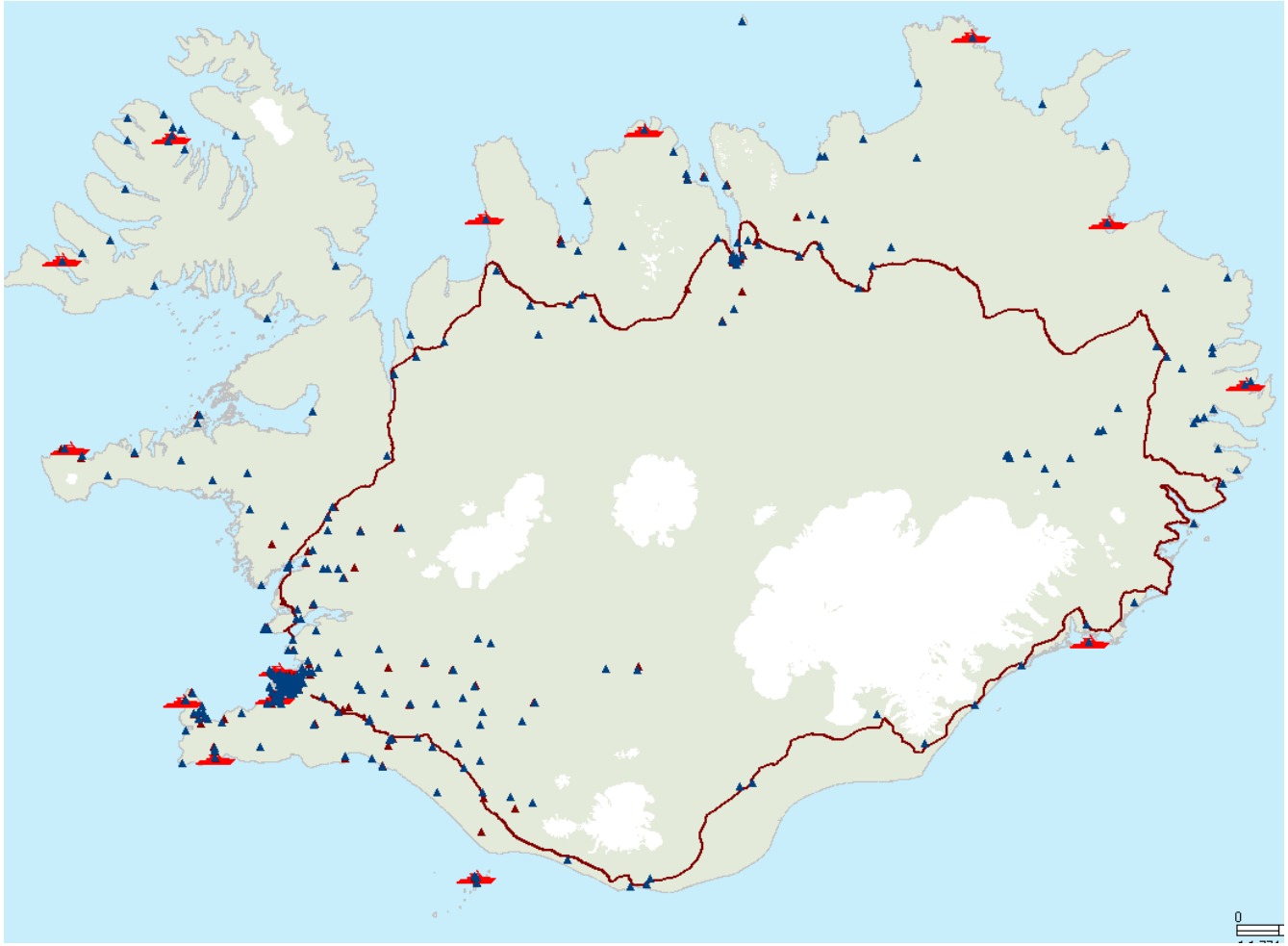
Oslo, 1 April 2009

Jón Baldursson, MD, FACEP

In keeping with our origins

.... we used to have 156 emergency phone numbers in Iceland!

How many did you say?



330 000 people

103 000 km²

History

- 1995 Law by Alþingi
- 1 January 1996: Kick off
- 2000 Police Communications Ctr.
- 2003 SAR dispatch
- 2004 Maritime Control Ctr.
- 2005 Coast Guard Command
- Rescue Coordiantion Ctr.
- Tetra communications
- New law on 112 passed in 2008

The emergency number for

- the whole country
- all emergencies
- all emergency response agencies

  –ONE 112 center for the whole country

Company Profile

- Main center in Reykjavík
- Sattellite unit in Akureyri
- Staff training
- Continuing education
- Technical equipment and software
- Stress debriefing, psychological aid

Shareholders

- National treasury 74%
- City of Reykjavik 11%
- The National Power Company 8%
- Reykjavik Energy 8%

Neyðarlínan - Organisation

- Emergency dispatch 16
- Maritime Control Ctr. 1
- Tetra 5
- Office 5
- Employees total 25

112 Emergency Dispatch

- Call-taking, dispatching and logging for police, ambulance, fire, rescue and other response agencies
- Monitoring of geophysical meters
- Monitoring of transport of valuables
- Reception, logging and reporting of notifications to child protection committees

Modes of Dispatching

- Tetra calls and messages
- Voice messages
- SMS messages
- Telephone calls

2008 statistics

- 257 597 calls processed

- 191 410 emergency incidents

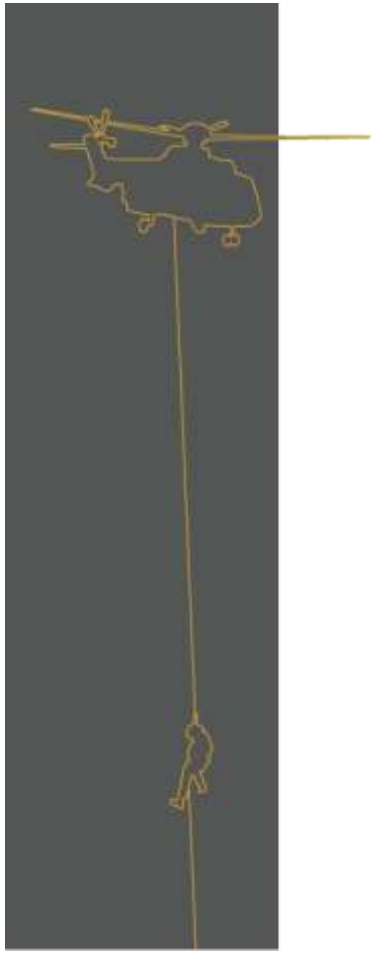
- Police 67%
- EMS 16%
- Fire 3%

- EMS 31 600
  - Capital region 24 000

Statistics

- Average time to answer 3.8 sec.
- 95% answered within 8 sec.
- 80% of F1 dispatching processed in 90 sec. or less time

112 Center Reykjavík



Adjacent: Police communications, Coast Guard Command, JRCC

The National Rescue Center

- 112 Emergency Dispatch
- National Police Communications Center
- Joint Rescue Coordination Center

Also in the building

- Headquarters
  - Icelandic Coast Guard HQ
  - Icelandic Association for Search and Rescue – ICE-SAR
  - The Capital District Fire and Rescue Service
- Offices
  - 112 Neyðarlínan
  - National Police Civil Defense Department

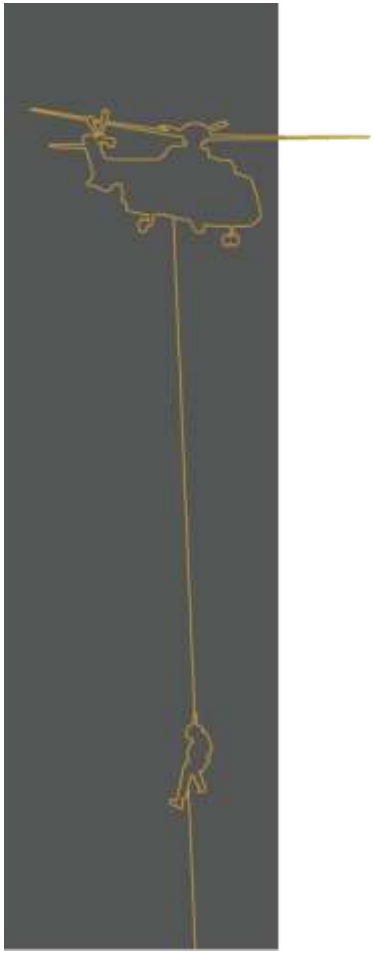
Responding Agencies

MBL photo Júlíus

Responding Agencies

MBL photo Júlíus

Emergency Response Agencies



- 5 police stations
- 46 fire brigades
- 40 ambulance services
  - 77 units
- 49 hospitals and primary care centers
- 99 SAR teams
- Local physicians
  - In the rural areas
- The Icelandic Coast Guard

Other Agencies

- “Læknavaktin”
  - 1770
- The Icelandic Red Cross
  - 1717 ”hjálparlínan”
- Child Protection

- Alerts to over 40 goverment agencies
- Over 300 emergency and recue units in all

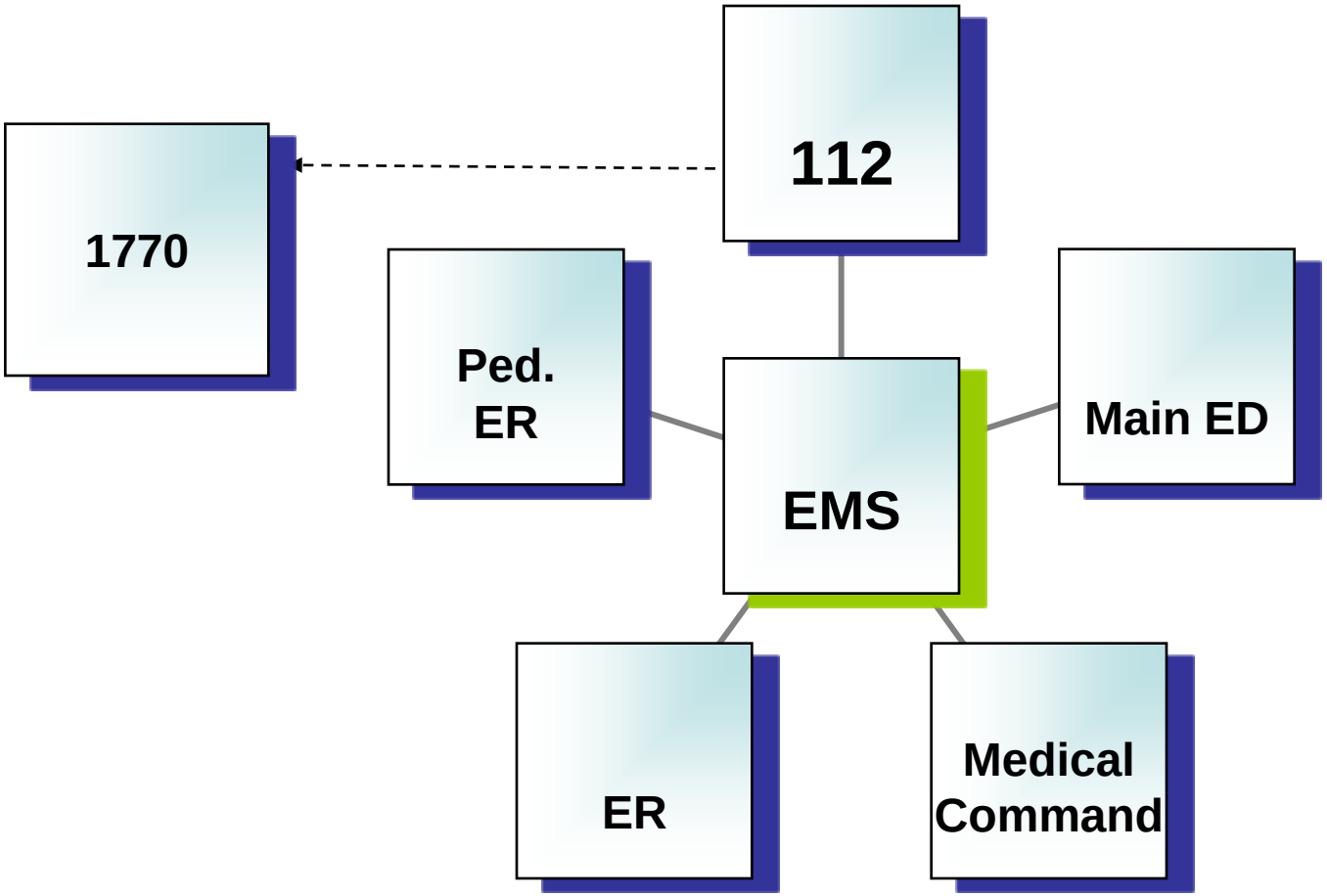
EMS Providers in Iceland

- Advanced
  - Paramedics
  - Doctors
- Intermediate
  - EMT - I
- Basic
  - EMT – B

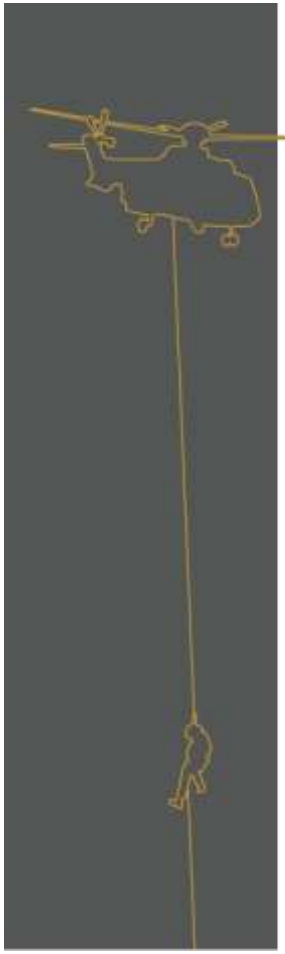
Dispatch Priorities for EMS

F1	Blue lights & sirens	ALS
F2	Blue lights & sirens	BLS
F3	ASAP	
F4	At ease	

Tetra Groups in Reykjavík



Neyðarvörður



- Background
- Student’s exam / University education
- Foreign languages
  - English + 1 Nordic
- Computer compentency
- Geographic knowledge
- Experience (optional)
  - Shift work
  - Field work

Further requirements

- Age < 25 years
- Good health
- Sharp eye sight
- Even better hearing!
- Clean record

Before-the-job Training

Emergency dispatch principles	40
Tetra communications	8
Police Communications Center	10
Child Protection	16
Basic Life Support	16

Orientations to Field Work

Police Field Work	24
Fire Department	24
SAR	16
Civil Defense	8
Coast Guard	4
Health care system and institutions	4

- Continuing Education 4 hrs. monthly

The Dispatch Layout

1. Main screen 2. EMD cards 3. Maps of Iceland 4. Tetra

Neyðarlínan 112

Síma/Þjóðskrá Gömul símtöl 112 Símaskrá Sumarhús Window

NEYDPRIM NLB7 SVO

Öll borð NLB1 NLB2 NLB3 NLB4 NLB5 NLB6 NLB7 NLB8 NLB12 LAKU LAKU BEA2 TFRA BM14 14/09/2007 14:40:48 HNIT Hætta

Skoða flutninga Öll borð 112 SVO NLB7

1-1-2 Sjúkraflutningar Skjölun

Mál nr.: 6941038 FARSÍMAKERFIÐ

Sigurður Viðar Ottesen Kt.: 1808587179

Þorláksgeisla 98 113 Reykjavík - 13 Reykjavíkurborg

[redacted] GSM sendir -

Símaskrá GSM

Þorláksgeisla 98 - 113

Viðbragðsaðilar

Lögr Slökkv Sjúkrafl Lækn AVRIK SL Aðrir Börn FMS SJÓR

Sýna Viðbr. Vbr skv: Farsíma staðsetningu samkvæmt símaskrá

FML

Þjónustumiðstöð fyrir lögreglu á landsvísu.

Opnir [redacted] 00:00-24:00 Sigurgeir Arnbórsson-Sigurgeir Arnbórsson

Allir 00:00-24:00 Jónas Hannes Þorgeirsson-Jónas H. Þorgeirsson

T-póst 00:00-24:00 Hjálmar Valgeir Björgvinsson-8403

00:00-24:00 Jónas H Þorgeirsson

SMS

Áætlanir

Heiti Lýsing

Atburður

Mál

Flokkur Óskilgreint

ATH

Sími: Mál + áætlun

Svarað Ekki svarað Öll Flokka eftir atburði Öll

Mál	Dags.- tími	Númer	Heimilisfang	Þnr	Vettvangur	Flokkun	Borð	Atburður
6941542	14/09 14:27:13	[redacted]	Eiríksgötu 5	101	GSM sendir 10532	Óskilgreint	NLB6	
6941538	14/09 14:26:17		Miðholti 2	680	Miðholti 2 - 680	Óskilgreint	NLB5	
6941530	14/09 14:24:24		Eiríksgötu 5	101	Eiríksgötu 5 - 101	Óskilgreint	NLB5	
6941518	14/09 14:20:14			112	GSM sendir 10050	Óskilgreint	NLB5	
6941474	14/09 14:05:16				-	Óskilgreint	NLB5	
6941458	14/09 14:03:26				GSM sendir 11652	Óskilgreint	NLB5	
6941238	14/09 13:33:57				-	Óskilgreint	NLB5	
6941038	14/09 13:00:13	[redacted]	Þorláksgeisla 98	113	Þorláksgeisla 98 - 113	Óskilgreint		

Tími	Skráð af	Aðgerð	Viðbragðsaðili	Viðfang	
13:22:45	SIMI_2	Lagt á		4831076	4831076
13:22:37	SIMI_2	Svarað		4831076	
13:22:33	SIMI_2	Hringt út		4831076	
13:11:29	SIMI_2	Lagt á		5350300	

Ósvarað

Villa

112 Símaforrit - (c) Samsýn ehf. 2000-2007

Rls 1 Loka línu 5702021

Símanúmer: C

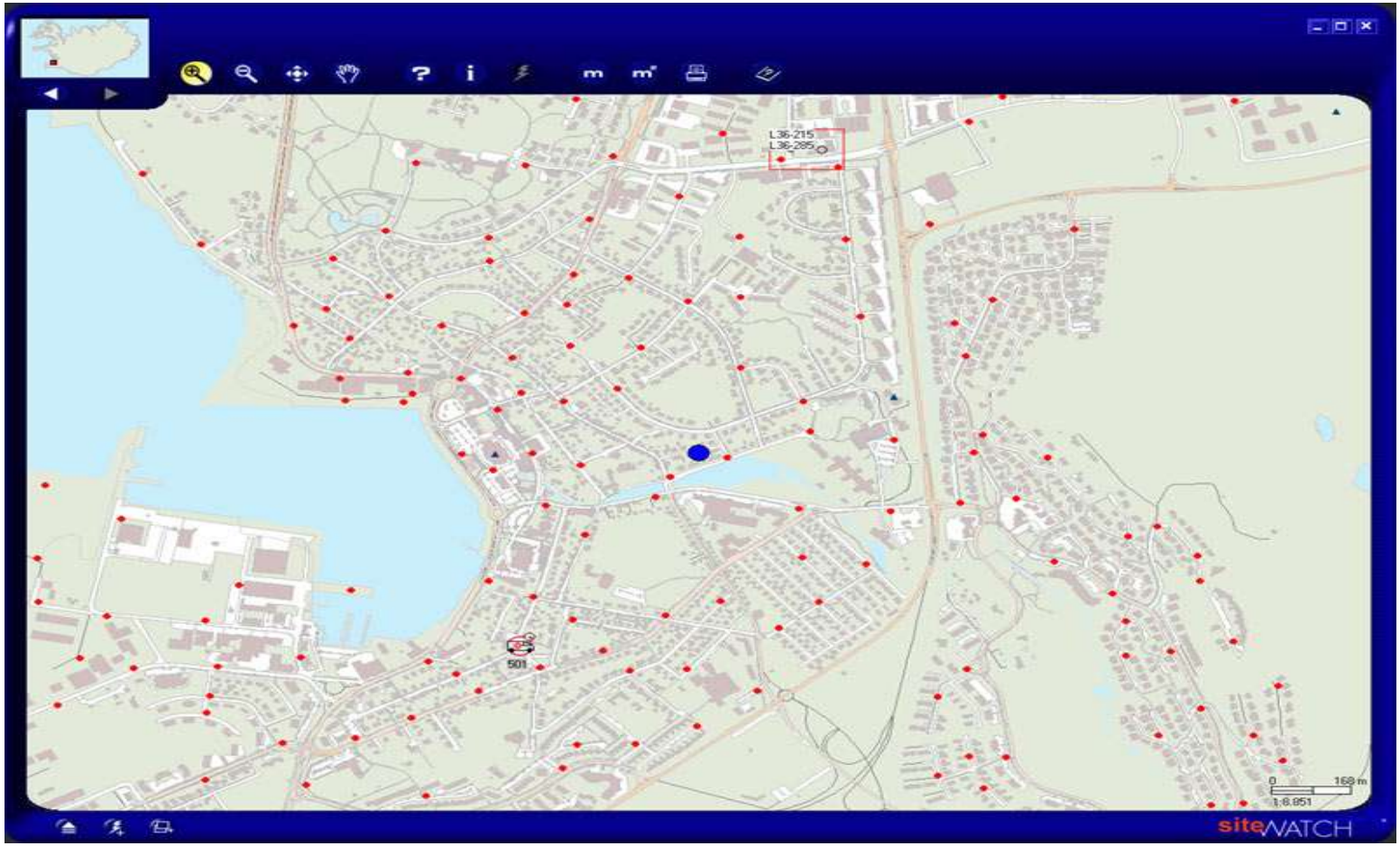
Flytja Símafundur NLB1

FML LHG

Hátalar. RVK KFL KFL AKU AKU

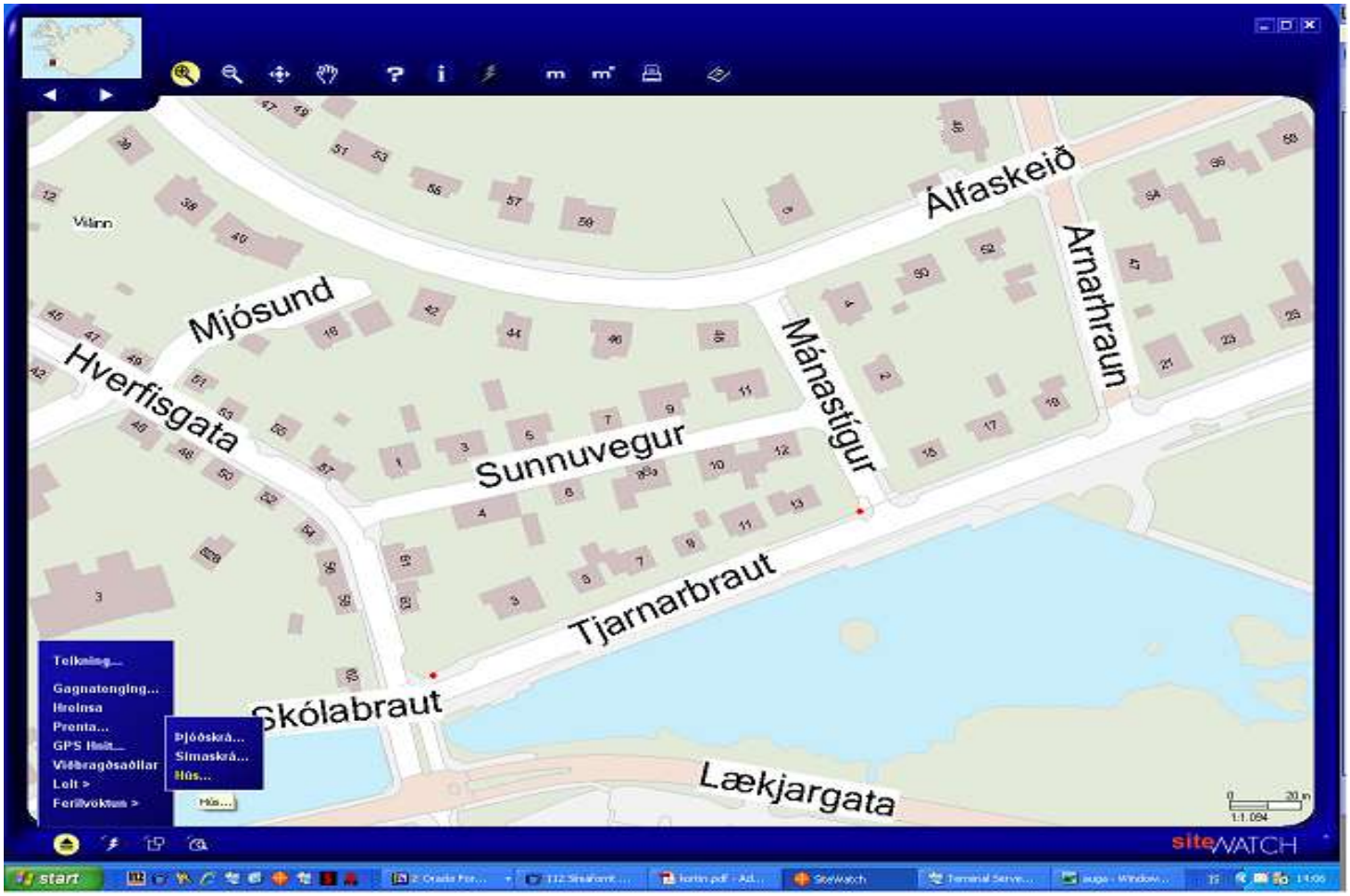
Start Sími Free... Verð... 112 ... Site... Ne... NLB... Elds... 9112 Term... 14:40

Call From a Fixed Line Telephone



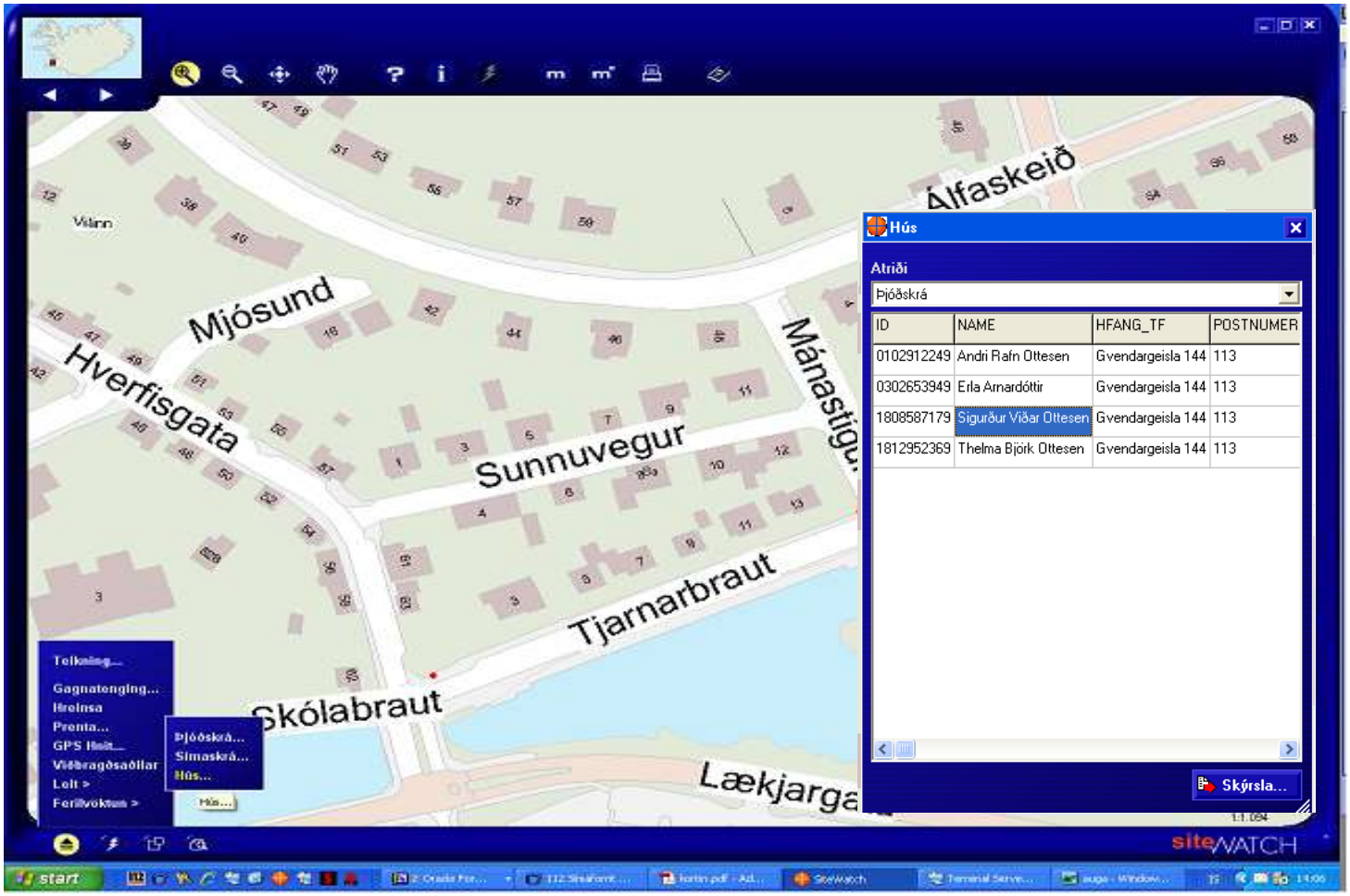
ANI, automatic number identification

Maps of Iceland



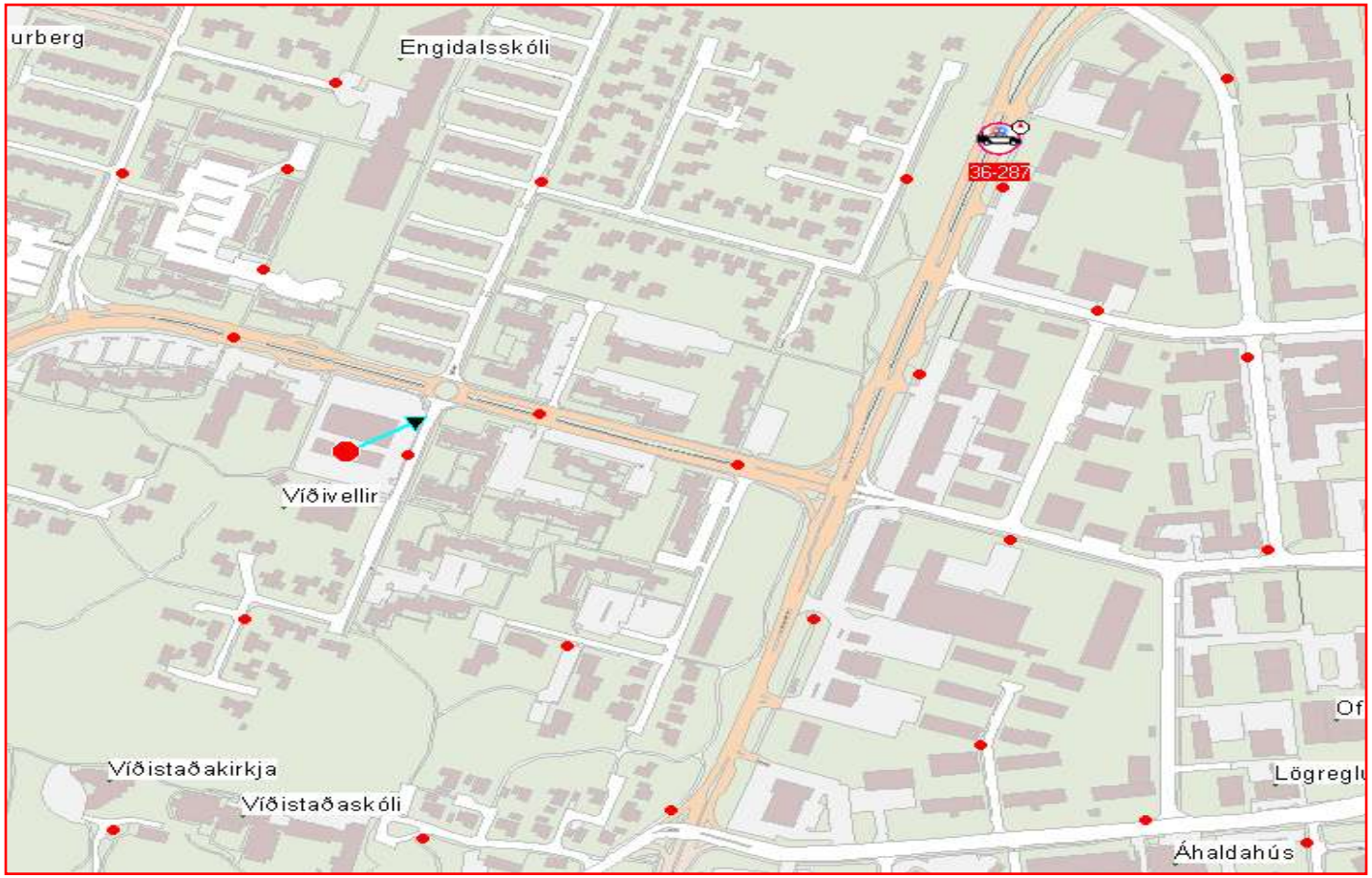
ALI, automatic location identification

112
EINN EINN TVEIR



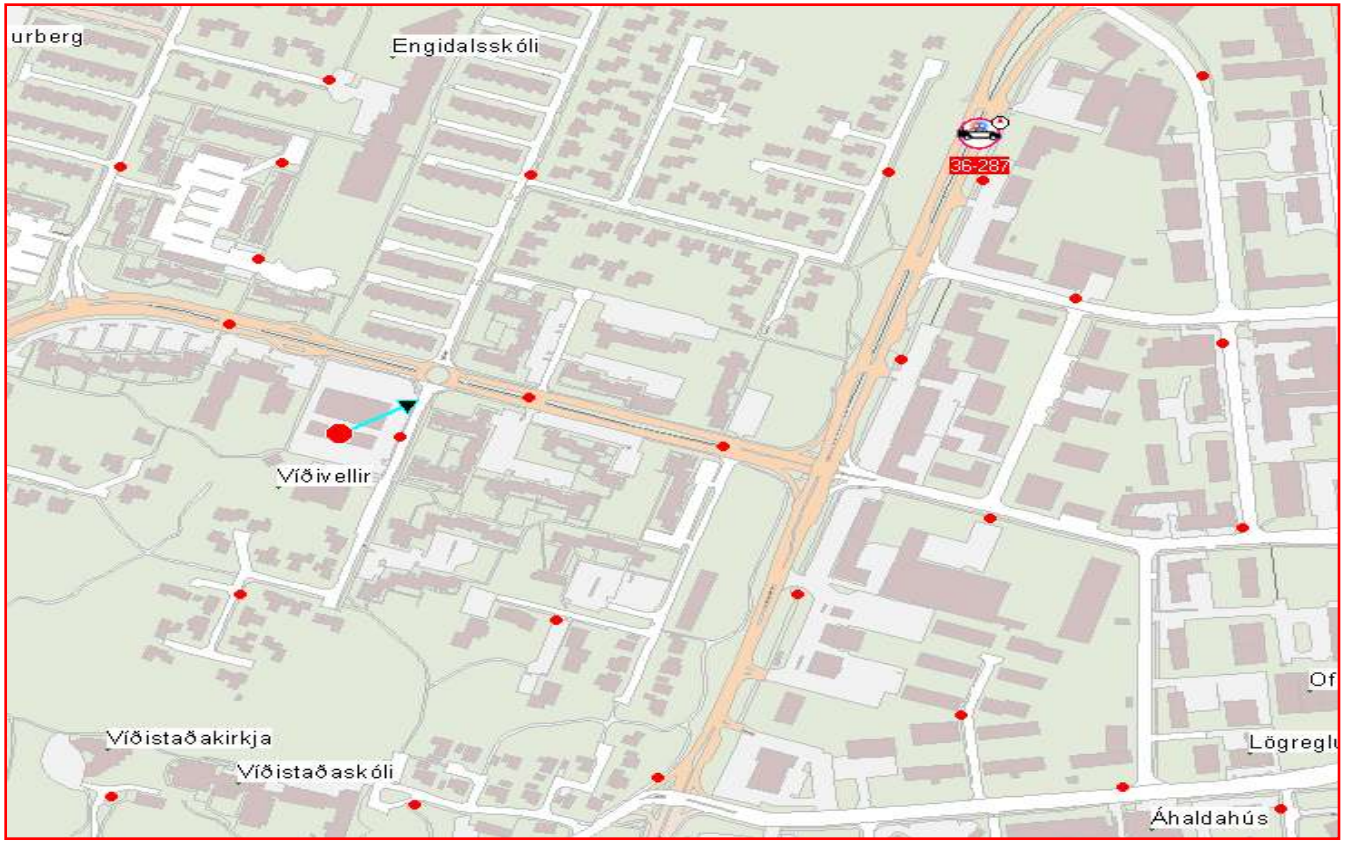
and the residents .....

Call From GSM



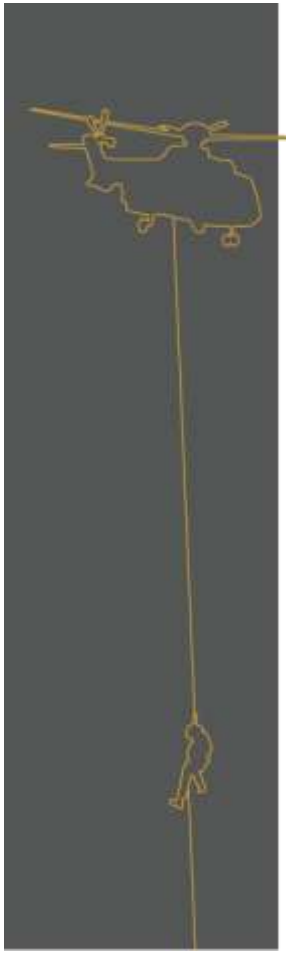
Now what are those red dots for?

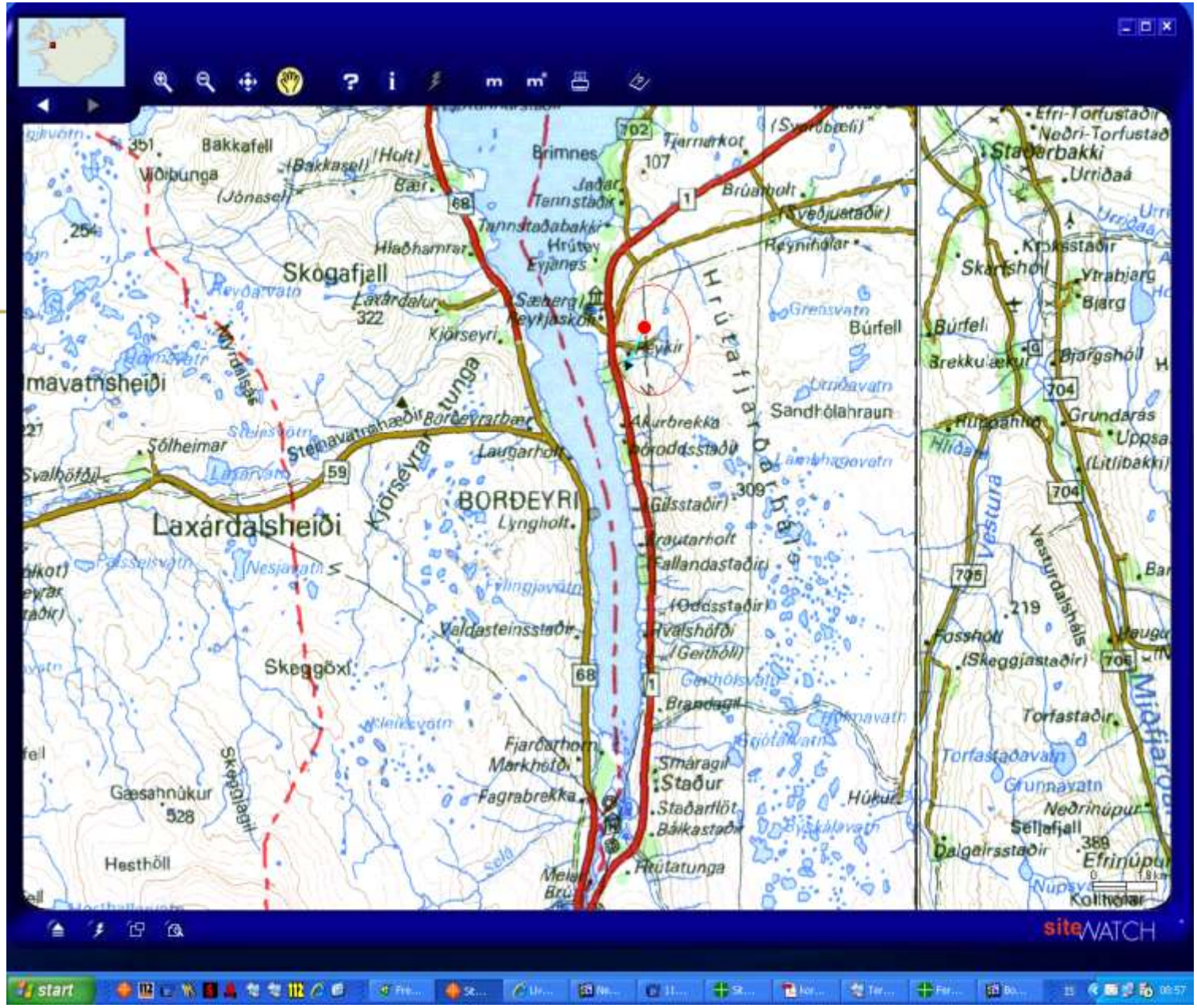
Guess what!


urberg
Engidalsskóli
36-287
Víðivellir
Víðistaðakirkja
Víðistaðaskóli
Áhaldahús

112

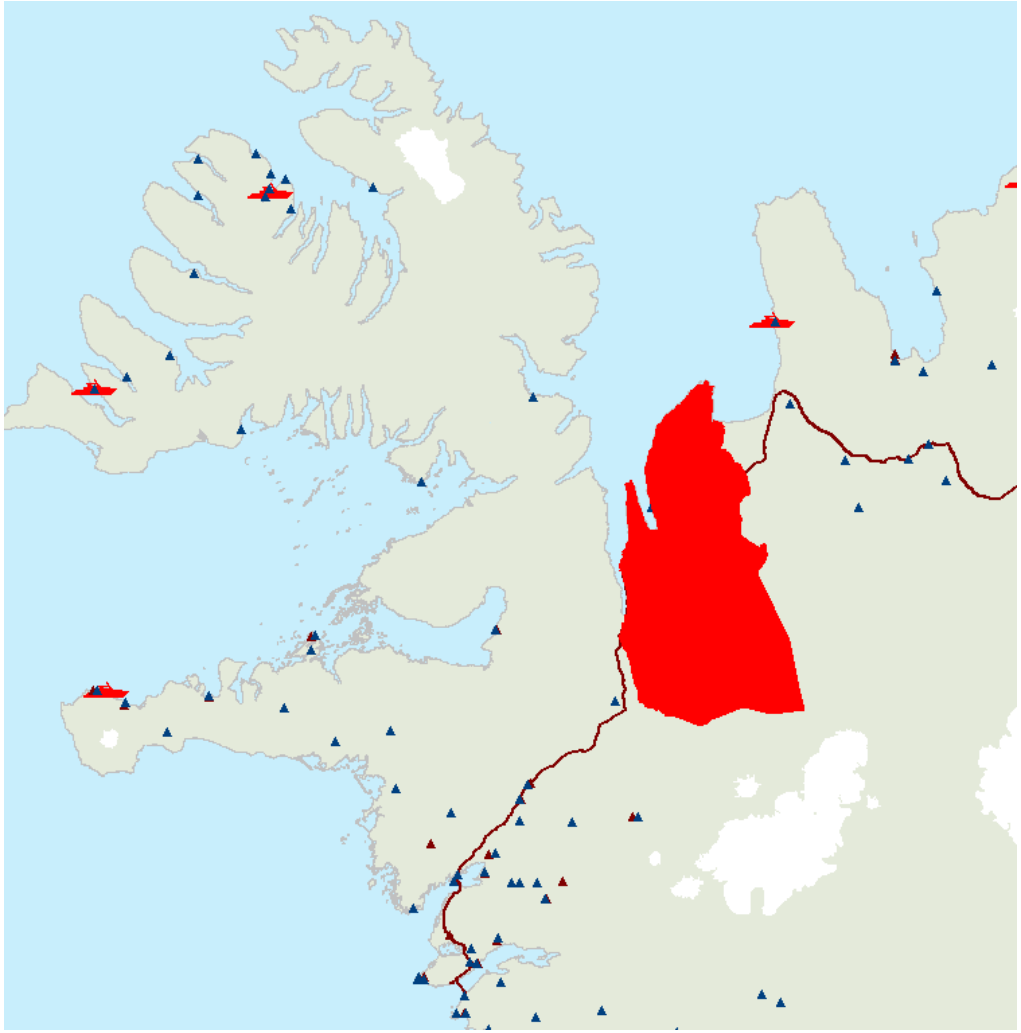
EINN EINN TVEIR





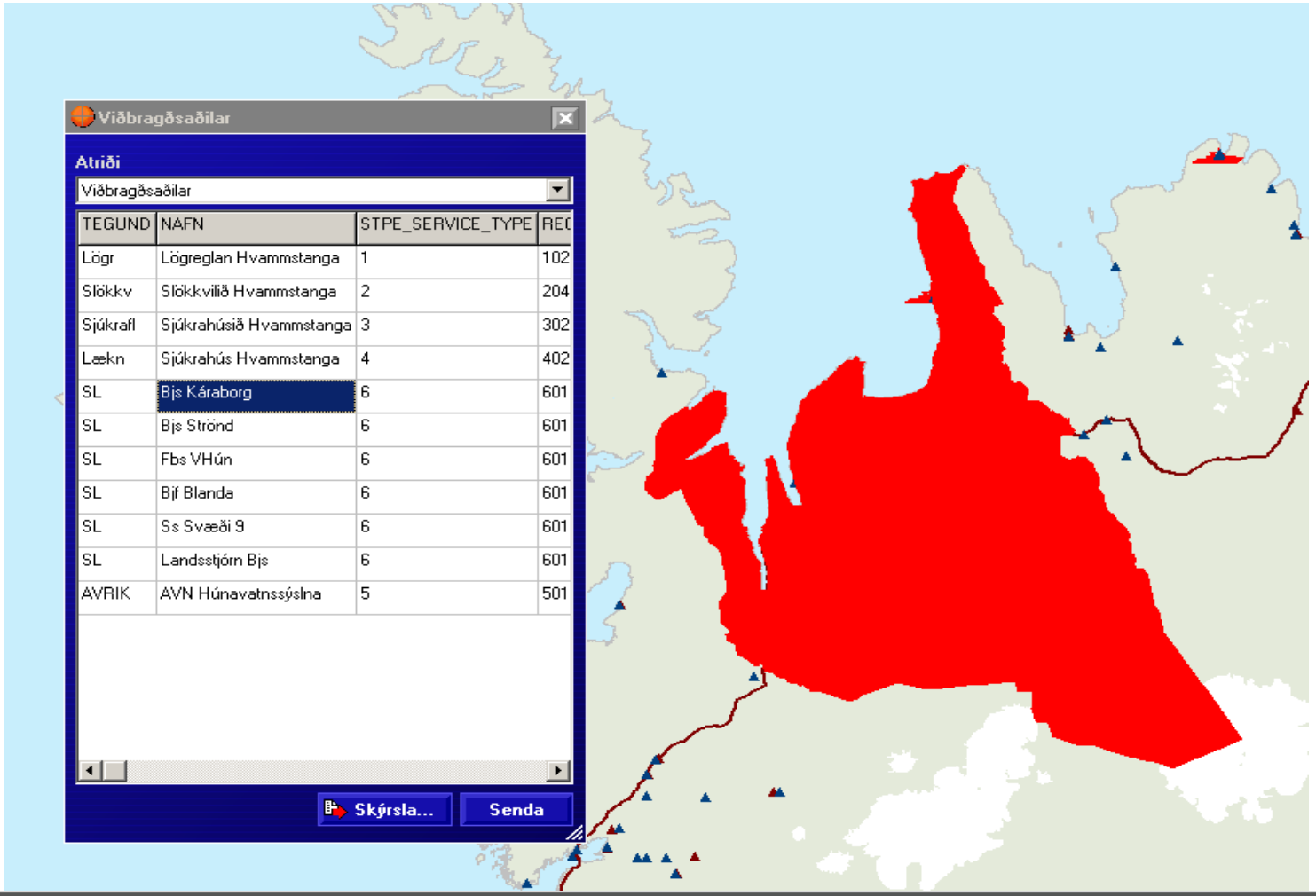
112
EINN EINN TVEIR

Health Care District



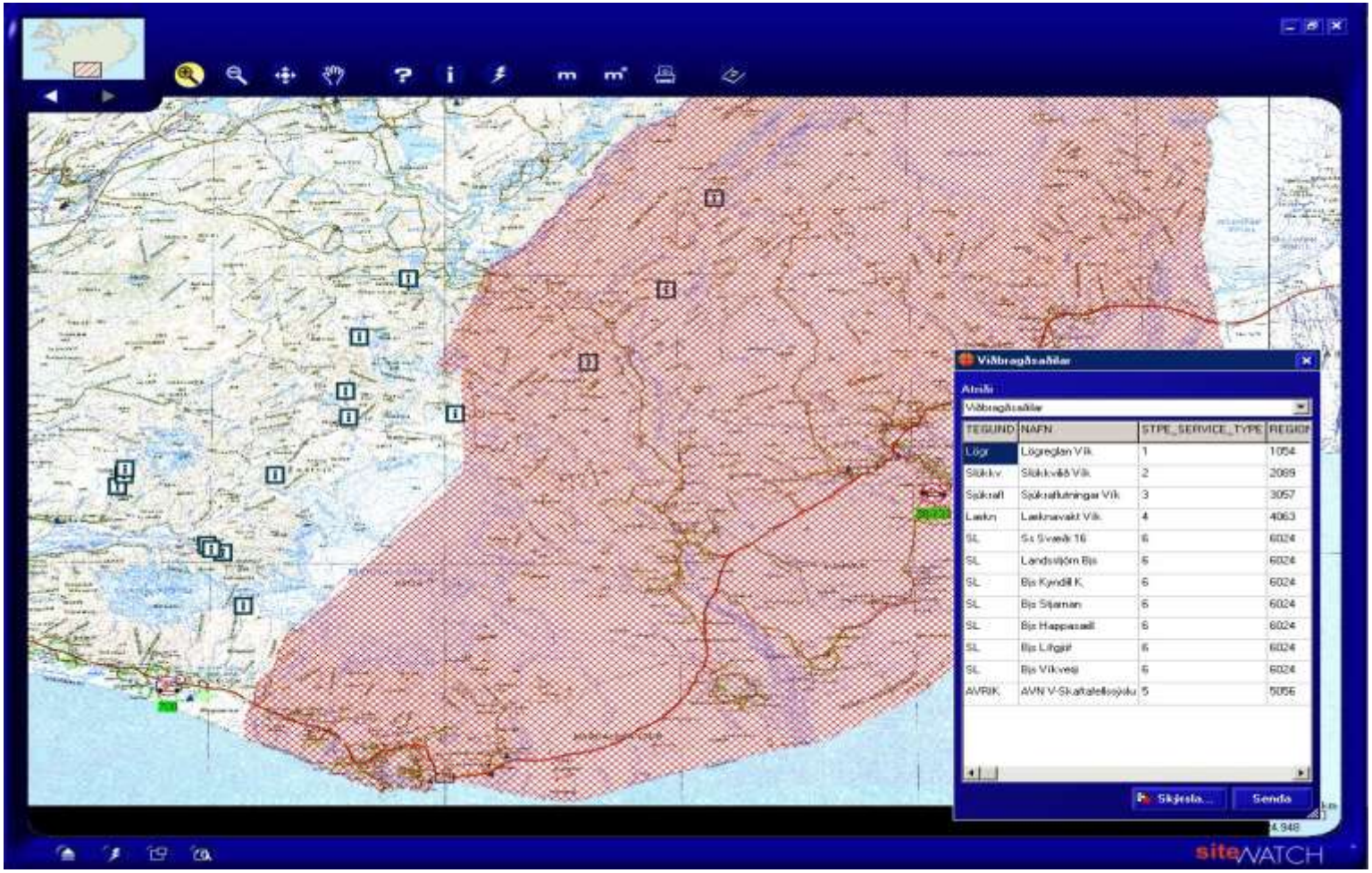
Ambulance by health care district

SAR

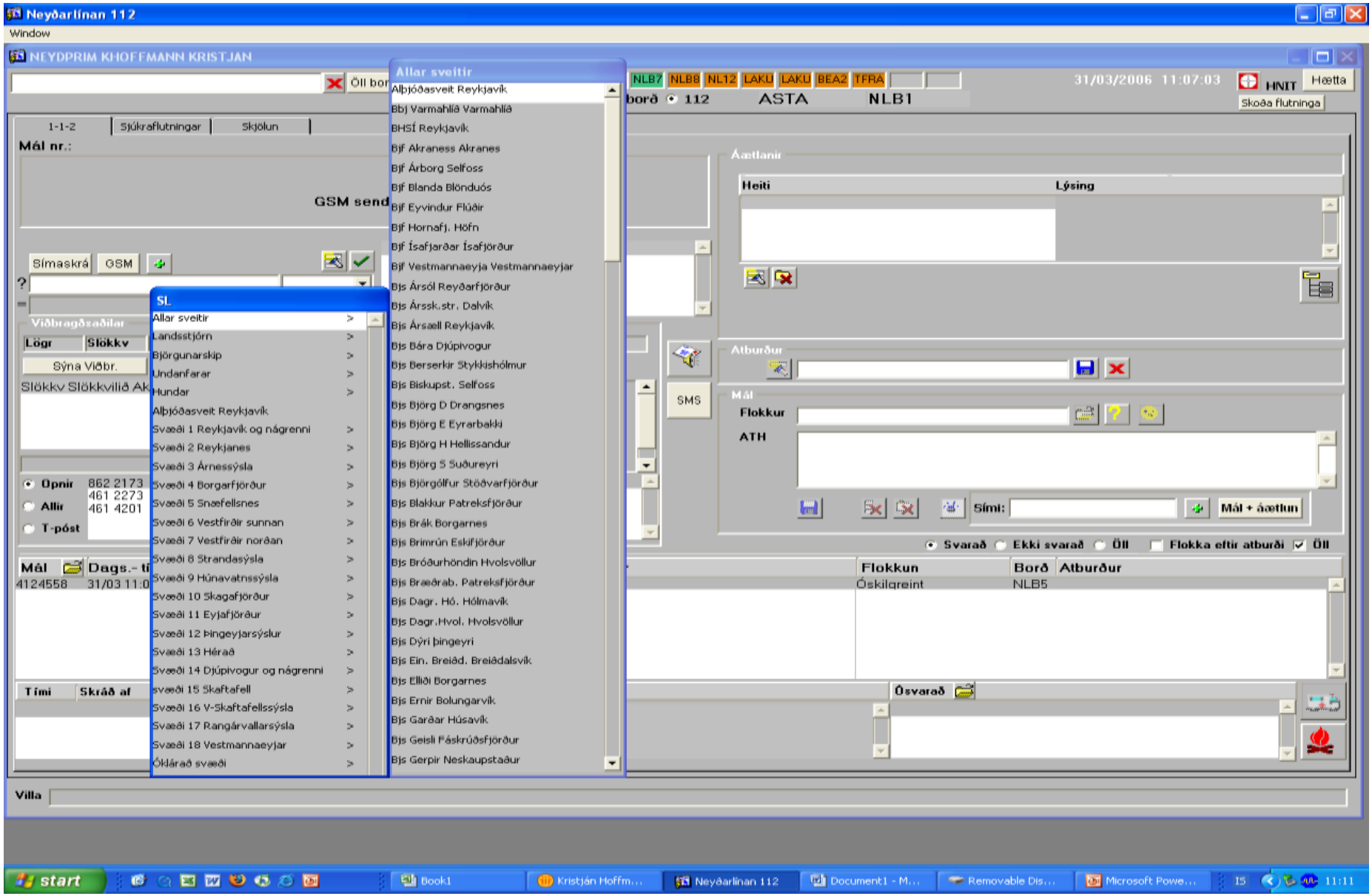


TEGUND	NAFN	STPE_SERVICE_TYPE	REC
Lögr	Lögreglan Hvammstanga	1	102
Slökkv	Slökkvilið Hvammstanga	2	204
Sjúkrafl	Sjúkrahúsið Hvammstanga	3	302
Lækn	Sjúkrahús Hvammstanga	4	402
SL	Bjs Káraborg	6	601
SL	Bjs Strönd	6	601
SL	Fbs VHún	6	601
SL	Bjf Blanda	6	601
SL	Ss Svæði 9	6	601
SL	Landsstjórn Bjs	6	601
AVRIK	AVN Húnavatnssýslna	5	501

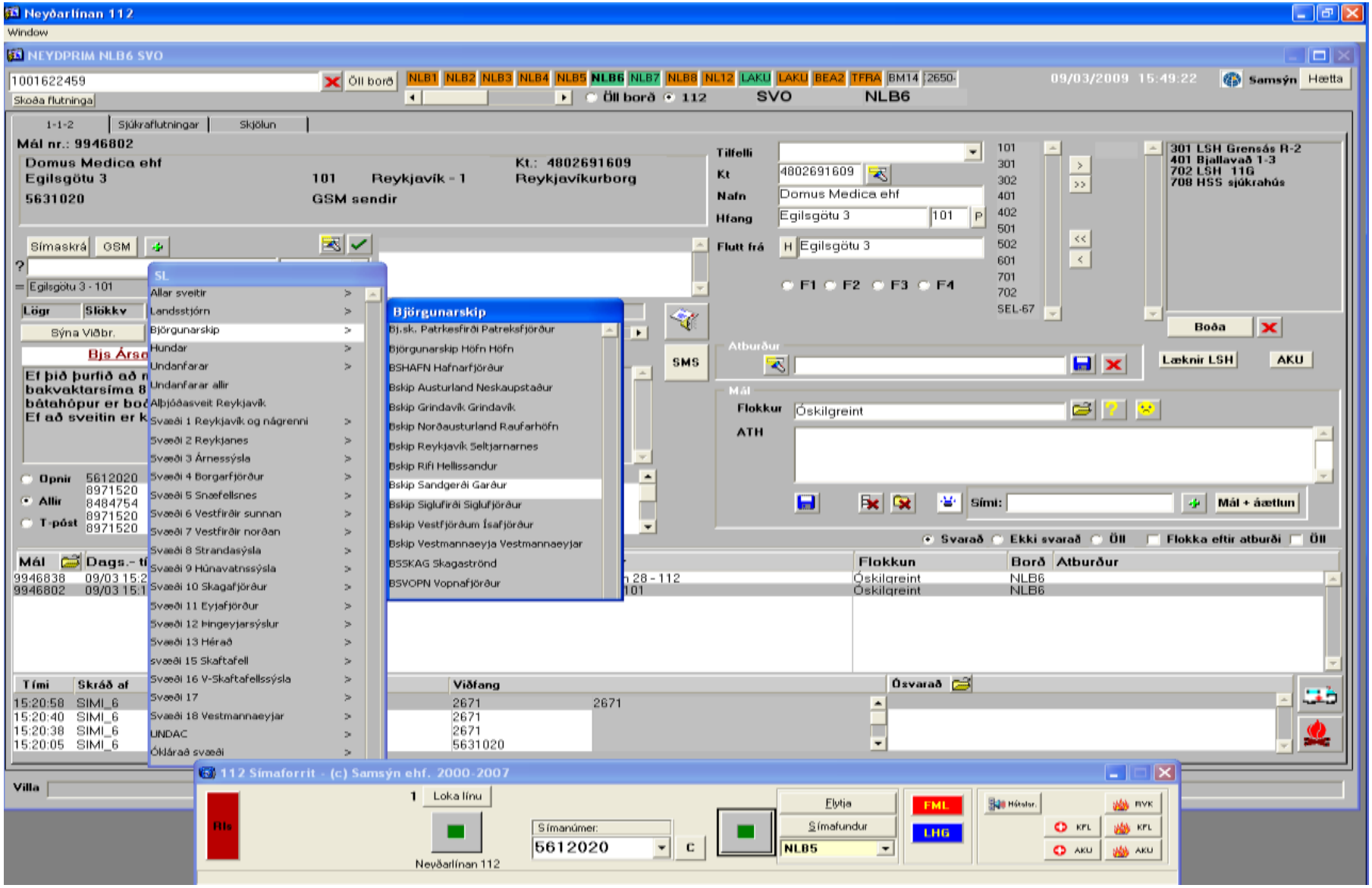
Police Juristiction



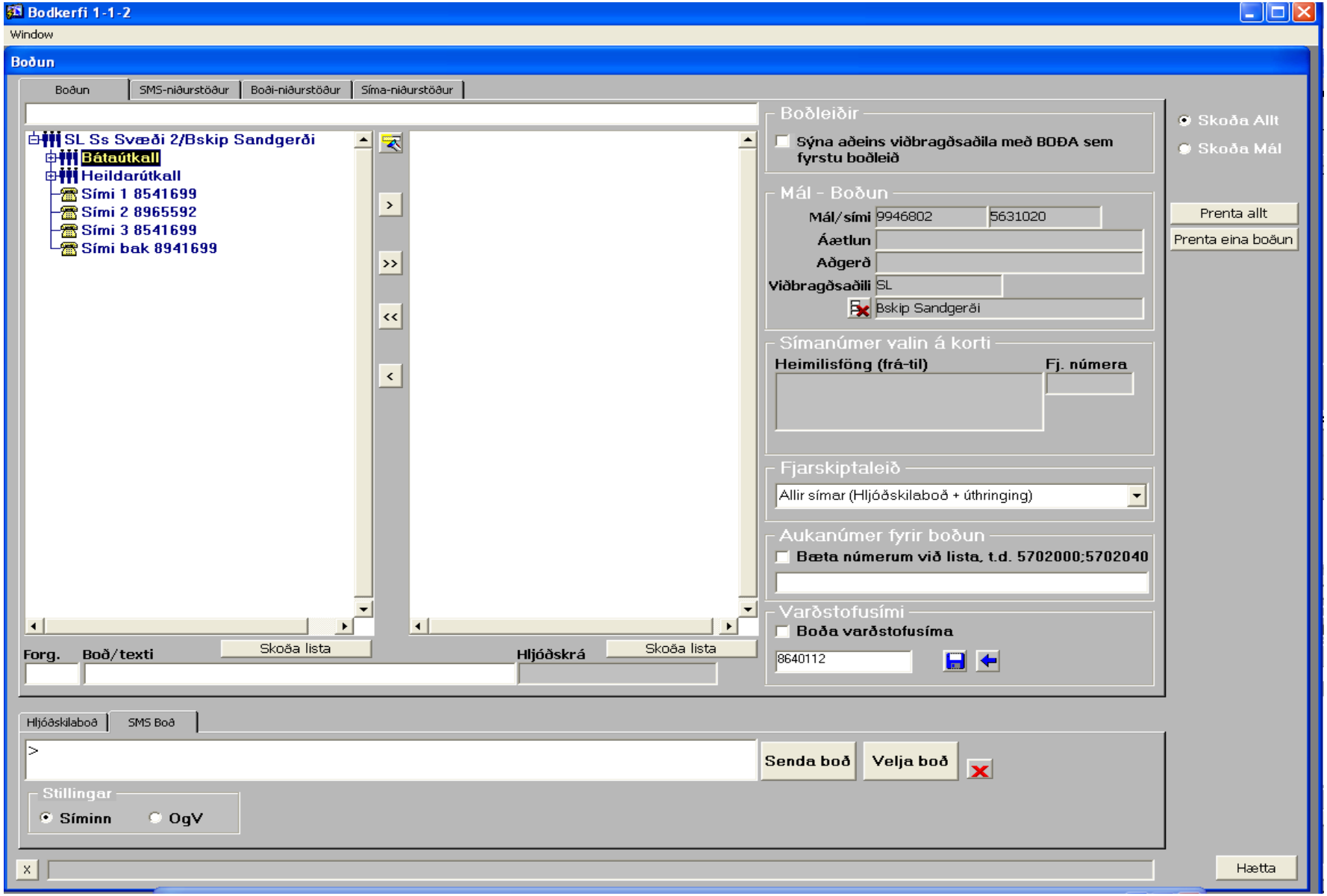
Response Agency Selection



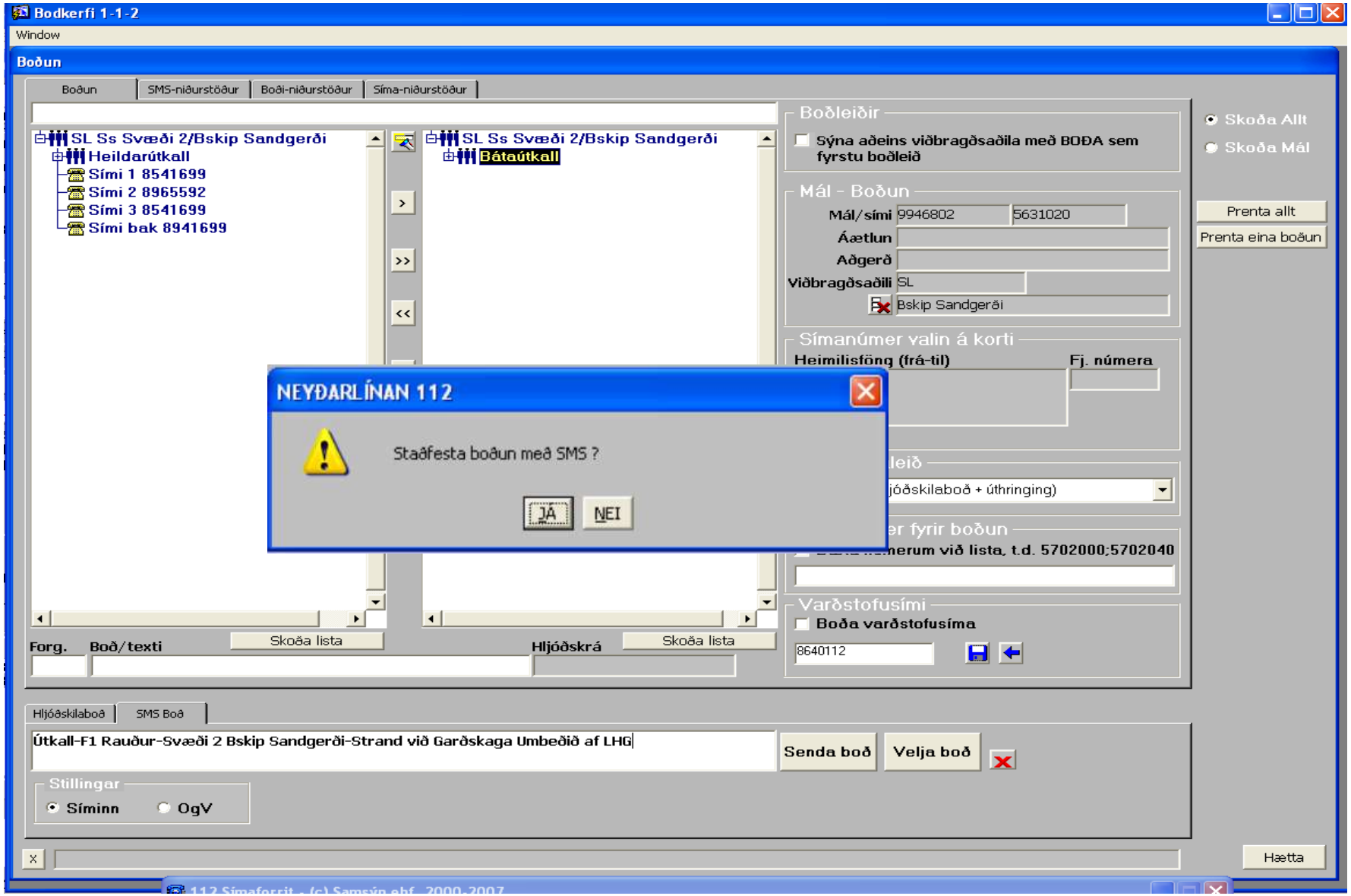
Response Agency Selection



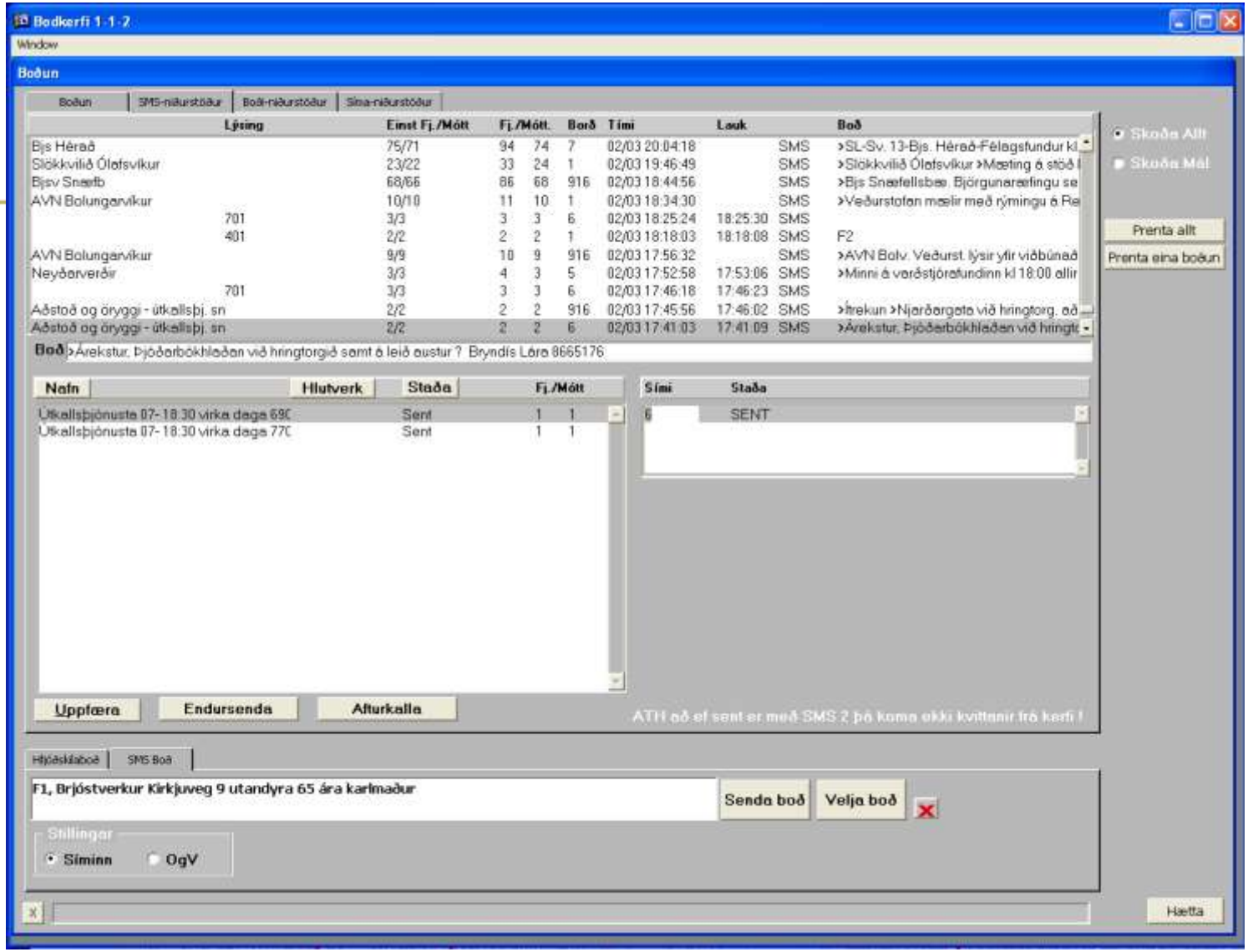
Response Agency Selection



Dispatch by SMS

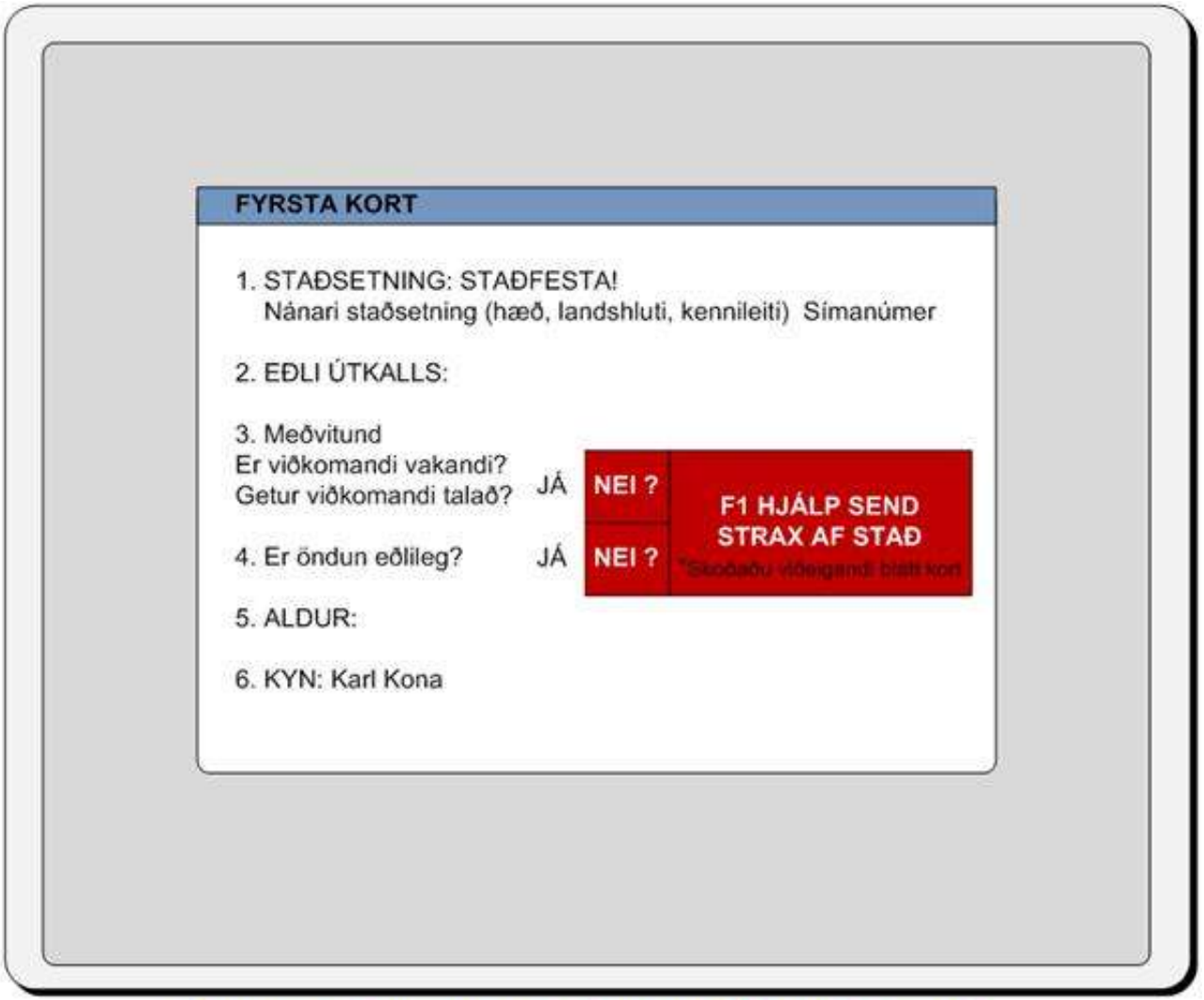


Dispatch Confirmed



112
EINN EINN TVEIR

The EMD Card System



Complaint: Chest Pain

BRJÓSTVERKUR 01.02.2003

	Eðli atburðar	Forgangur	Viðbragðsaðilar
A	Brjóstverkur *OG* 35 ára eða eldri *EÐA* skert meðvitund *EÐA* saga um hjartavandamál *EÐA* öndunarvandamál *EÐA* brjóstverkur eftir neyslu kókaíns eða annarra örvandi lyfja	F1	Sjúkrabíll, læknir
B	Brjóstverkur *OG* yngri en 35 ára *OG* ekki öndunarvandamál *OG* vakandi.	F2	Sjúkrabíll

Senda lögreglu ef hjartastopp

SPURNINGAR

1. Fyrri hjarta- eða lungnavandamál. (↑)
2. Öndunarvandamál, er orðinn blár? (AÐSKOTAHLUTUR ☹)
3. Áverkar á brjóstkassa? (SLASAÐUR EINSTAKLINGUR ☹)
4. Hiti eða hósti, ógleði eða uppköst?
5. Leiðini verkjarins?
6. Hefur sjúklingur tekið einhver lyf við verknum?

LEIÐBEININGAR EFTIR ÚTKALL

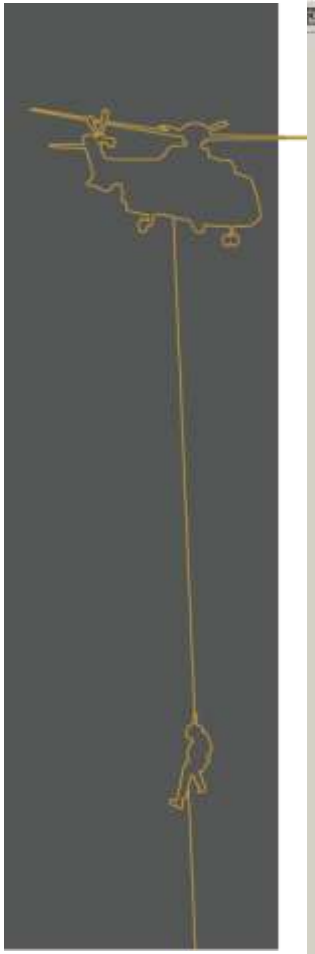
1. Segið viðkomandi að halda kyrru fyrir, sitja eða liggja. (ENDURLÍFGUN ☎)?
2. Fylgist stöðugt með hinum veika, tilkynnið strax ef einhver breyting verður á ástandi.
3. Safnið saman lyfjum/lyfjakorti viðkomandi til að taka með á sjúkrahús.
4. Ef viðkomandi svarar ekki áreiti, athugaðu öndun og merki um blóðflæði (ENDURLÍFGUN ☎).

©2003 Neyðartínan – Landsspítalinn - háskólasjúkrahús

8 **BRJÓSTVERKUR** Þyngsli fyrir brjósti, þrýstingur fyrir brjósti **BRJÓSTV_**

112

EINN EINN TVEIR



Acrobat Reader - [kortin.pdf]

File Edit Document Tools View Window Help

Bookmark

Bookmarks

- FYRSTA KORTIÐ
- AÐSKOTAHLUTUR Í HÁLSI
- AUGNÁVERKAR
- ÁRÁS / NAUÐGUN
- BAKVERKIR
- BIT AF VÖLDUM DÝRA/MANNA
- BLÆÐING
- BRJÓSTVERKUR
- BRUNI
  - BRUNAKORT
- DRUKKNUN
- EITRUN - INNTAKA - OFSKÖMMTUN
- ELDSVOÐI - INNILOKUN
- FALL
- FLUGSLYS
- FÆÐING / FÓSTURLÁT / ÞUNGUN
- GEÐRÆN VANDAMÁL
- HEILABLÓÐFALL
- HJARTAVANDAMÁL
- HÆTTULEG EFNI / GASLEKI
- HÖFUÐHÖGG
- HÖFUÐVERKUR
- KOLSÝRINGSEITRUN
- KRAMPI / FLOG
- KULDA / HITA VANDAMÁL
- KVIÐVERKIR
- KÖFNUNARSLYS
- LÁTINN VIÐ KOMU (LVK)
- MEÐVITUNDARLEYSI
- ÓFNÆMISVIÐBRÖGÐ
- SLASAÐUR EINSTAKLINGUR
- SJÓSLYS, slys í vatni
- SLYS á landi
- STUNGA / SKOTSÁR
- SYKURSÝKI
- VEIKUR EINSTAKLINGUR
- YFIRLIÐ
- ÖNDUNARERFIÐLEIKAR
- ABC
- BIRTH
- CHOKING
- CPR
- FIRE

SLYS á landi

01.02.2003

	Eðli atburðar	Forgangur	Viðbragðsaðilar
A	Háorkuáverki *EÐA* augljósir áverkar á fólki *EÐA* fastur í flaki	F1	Sjúkrabíll, læknir, lögregla tækjabíll, slökkvilið, RÚ (ef banaslys)
A1	Háorkuáverki *EÐA* þungun *OG* ekki fastur í flaki	F1	Læknir, sjúkrabíll, lögregla
B	Ekki háorkuáverki *OG* engin merki um alvarlega áverka á fólki	F2	Sjúkrabíll, lögregla
C	Staðfestir minniháttar áverkar, óskað eftir flutningi	F3	Sjúkrabíll, lögregla
D	Ekkert bendir til áverka		Lögregla

SPURNINGAR

1. Hætta á veltivangi: Eldur, bensín, rafmagn, hættuleg efni (!)?
2. Fjöldi ökutækja í árekstri og gerð og fjöldi fólks í þeim?
3. Fjöldi augljóslega slasaðra og lýsing á áverkum **SLASAÐUR EINSTAKLINGUR** ☐? (Sjá höpslysaáætlun)?
4. Nákvæm staðsetning og ástand ökutækja – aflögun á bíl og farþegarými ökutækis.
5. Vinnuslys - tegund vélar.
6. Einstaklingur fastur í vél? (!)
7. **FLUGSLYS** ☐? **SJÓSLYS, slys í vatni** ☐?

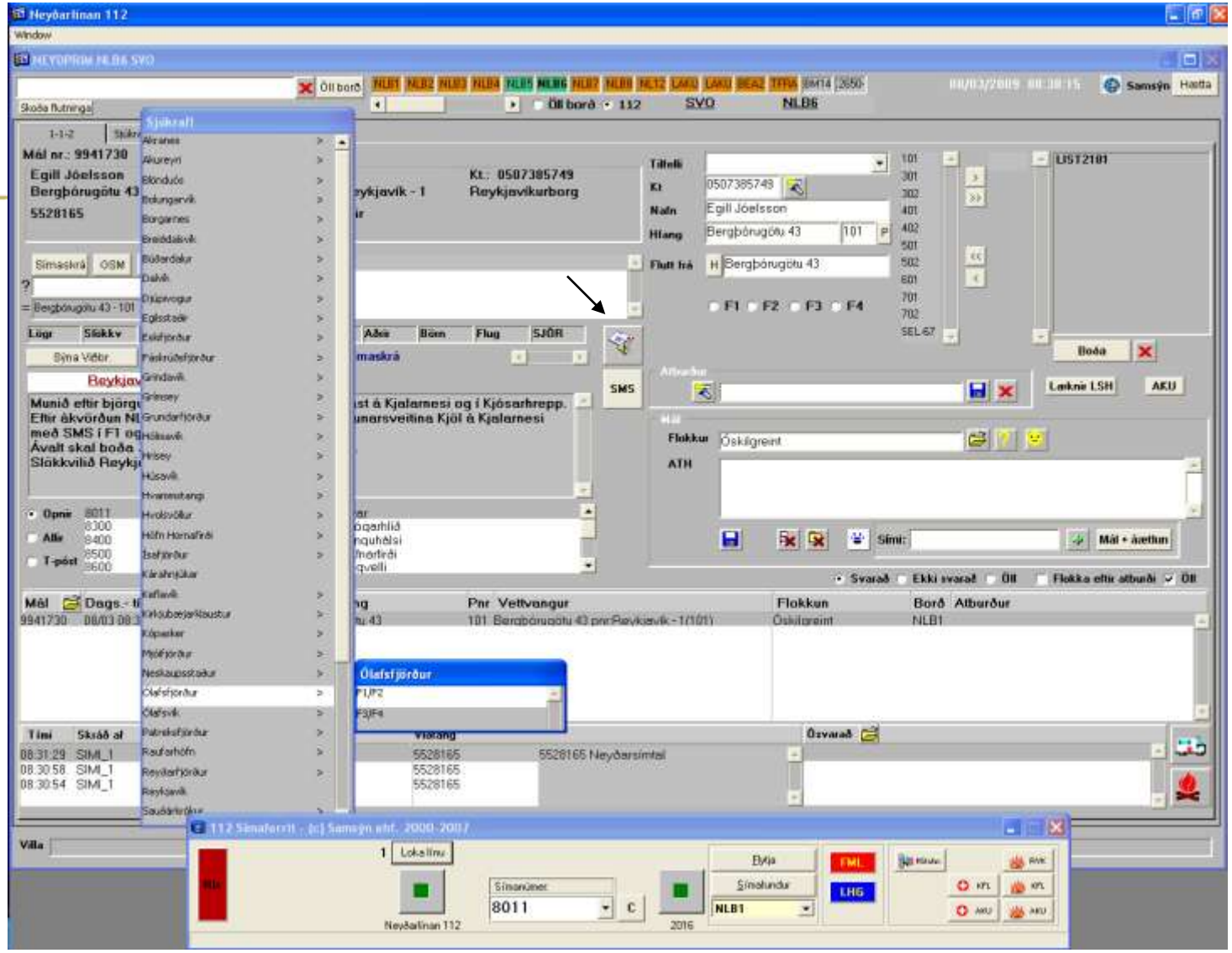
LEIÐBEININGAR EFTIR ÚTKALL

1. Tryggðu veltivang og stöðvaðu umferð.
2. Varaðu nærstadda við hættum frá umhverfi, s.s bensíni, hvössum málmbrotum, rafmagni eða eldi.
3. Ef einstaklingur er ekki með meðvitund og andar ekki, athugaðu **ENDURLÍFGUN**.
4. Ekki hreyfa slökomandi nema hann sé í mikilli hættu, vernda háls/hrygg.
5. Meðhöndlaðu alvarlega blæðingu með beinum þrýstingi.
6. Haltu hita á hinum slasaða.
7. Ekki gefa hinum slasaða að borða eða drekka.

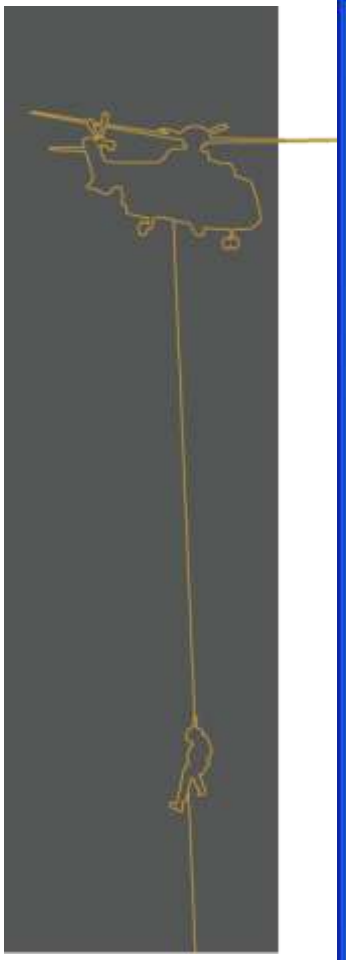
©2003 Neyðarlínan – Landspítalinn – Háskólasjúkrahús

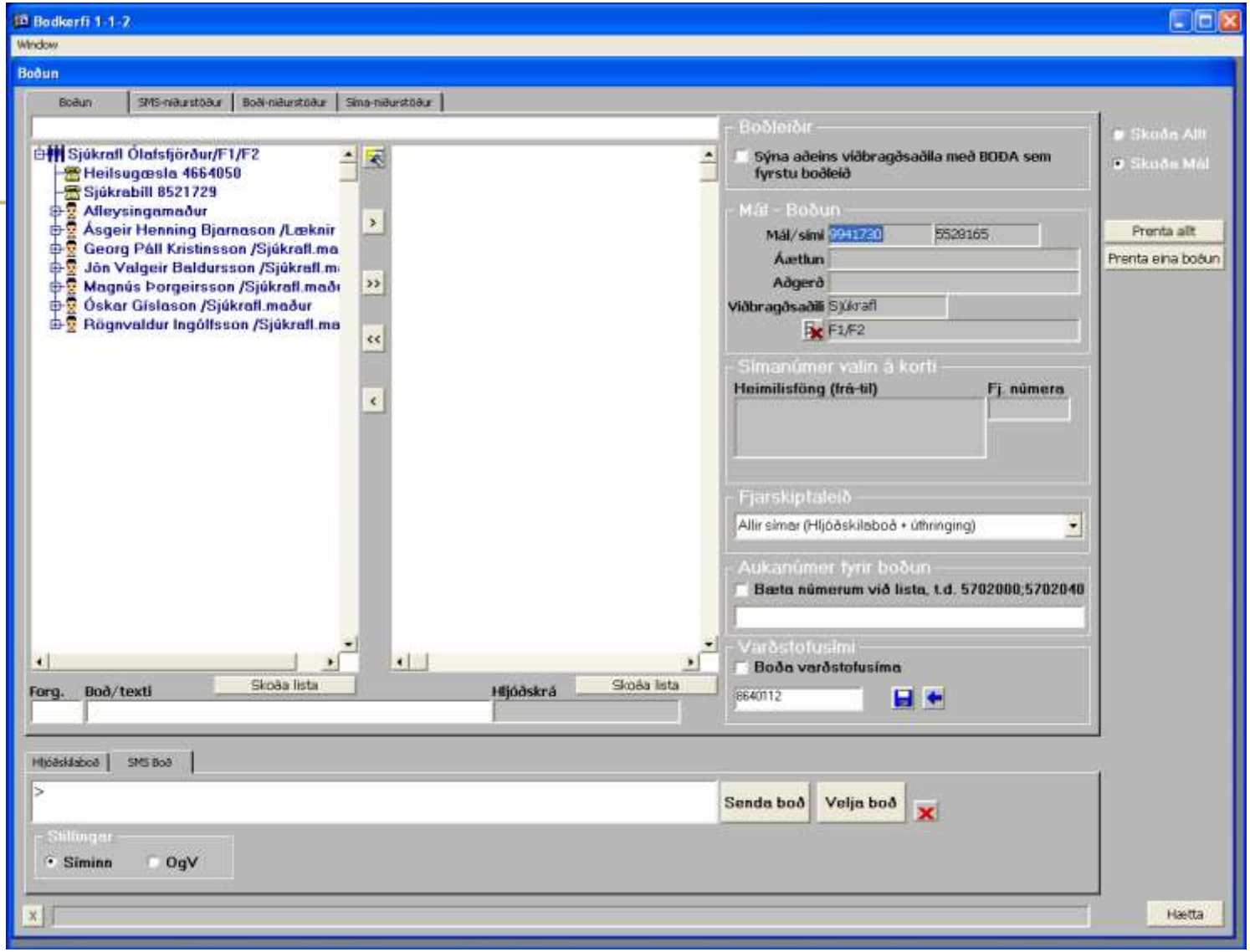
32 of 71 11,69 x 8,28 in

EMS Dispatch



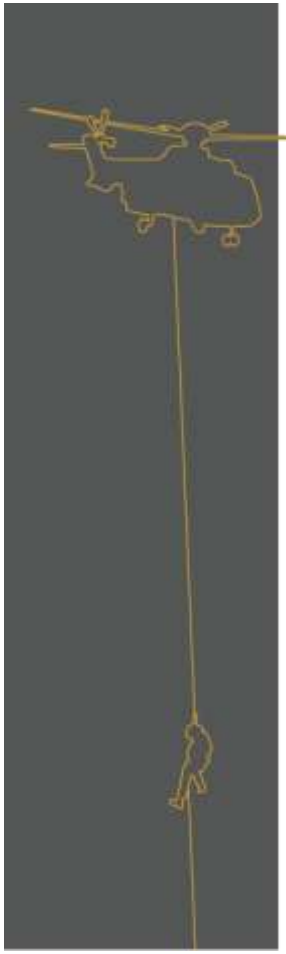
EMS Dispatch

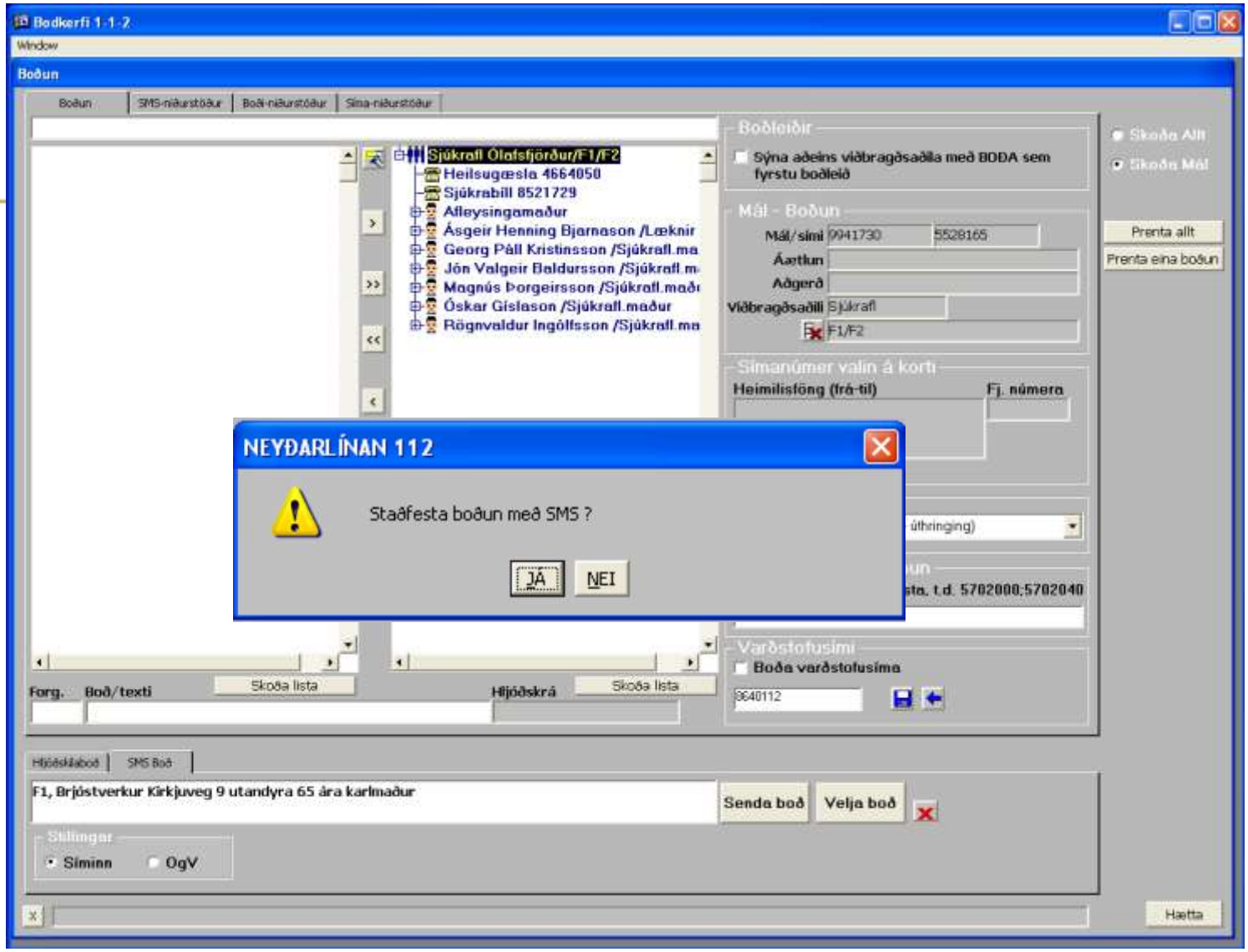




112
EINN EINN TVEIR

By SMS

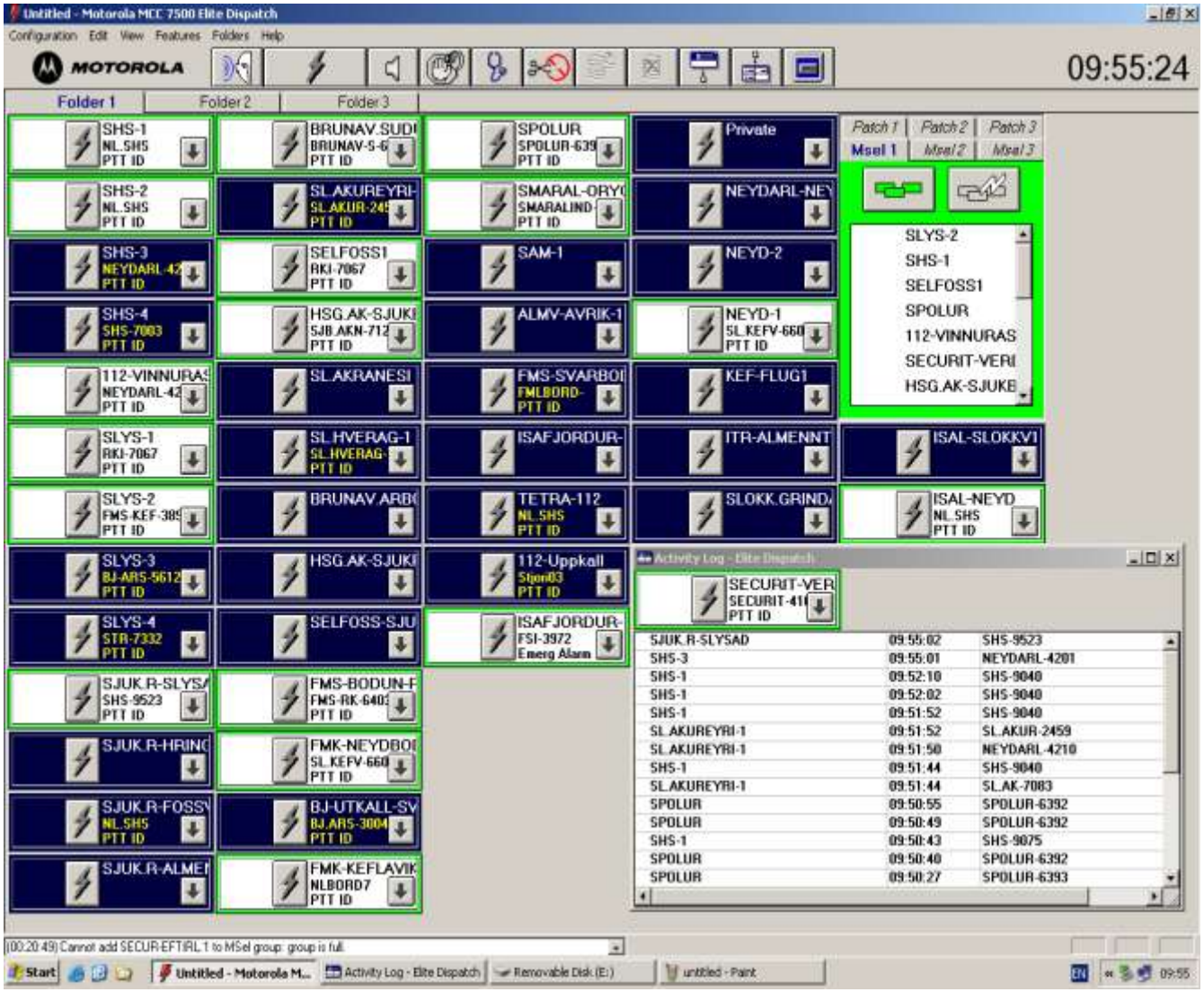




112

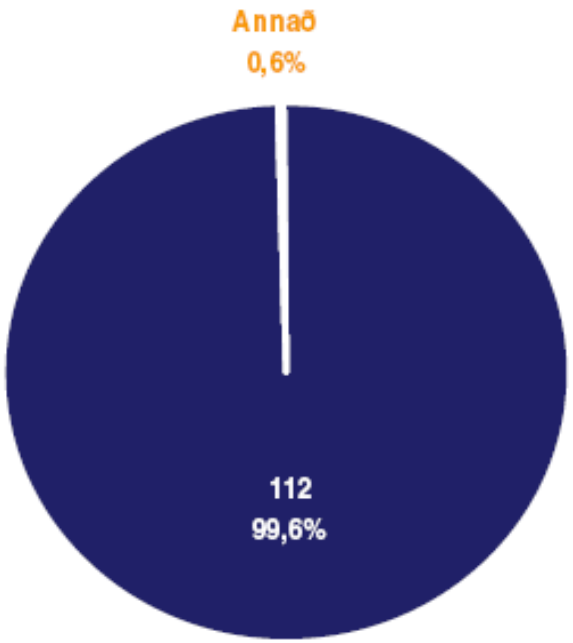
EINN EINN TVEIR

Tetra Communications

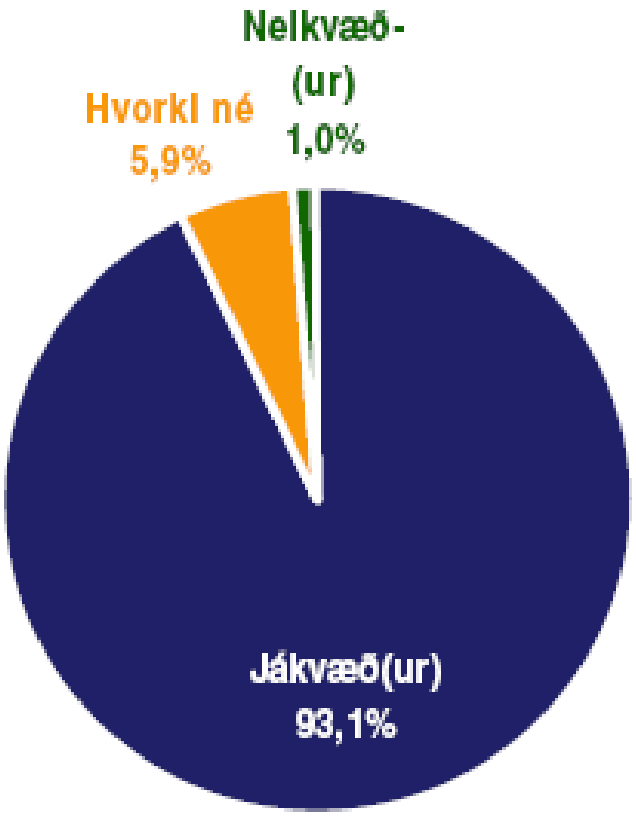


Pre-Arrival Instructions?

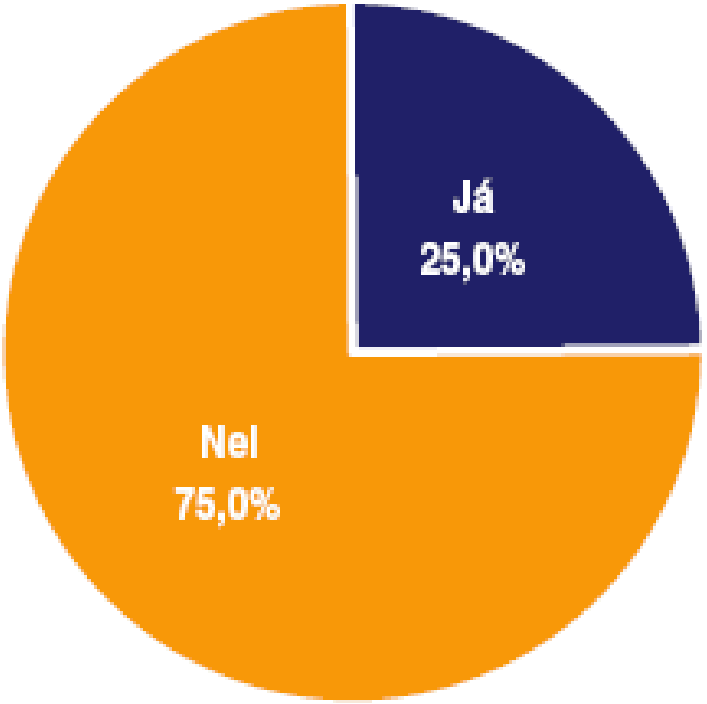
What is the telephone number for police, fire brigade, ambulance and other emergency response units?



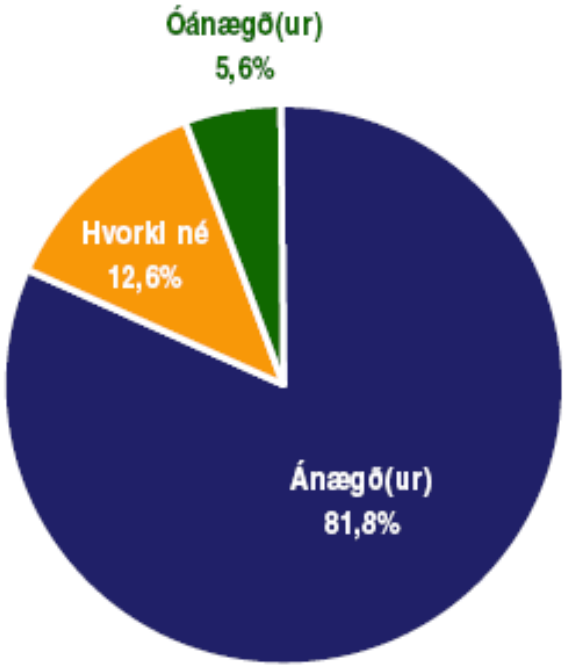
How positive or negative are you towards 112?



Have you placed a call to 112?



Were you happy or unhappy with the service?



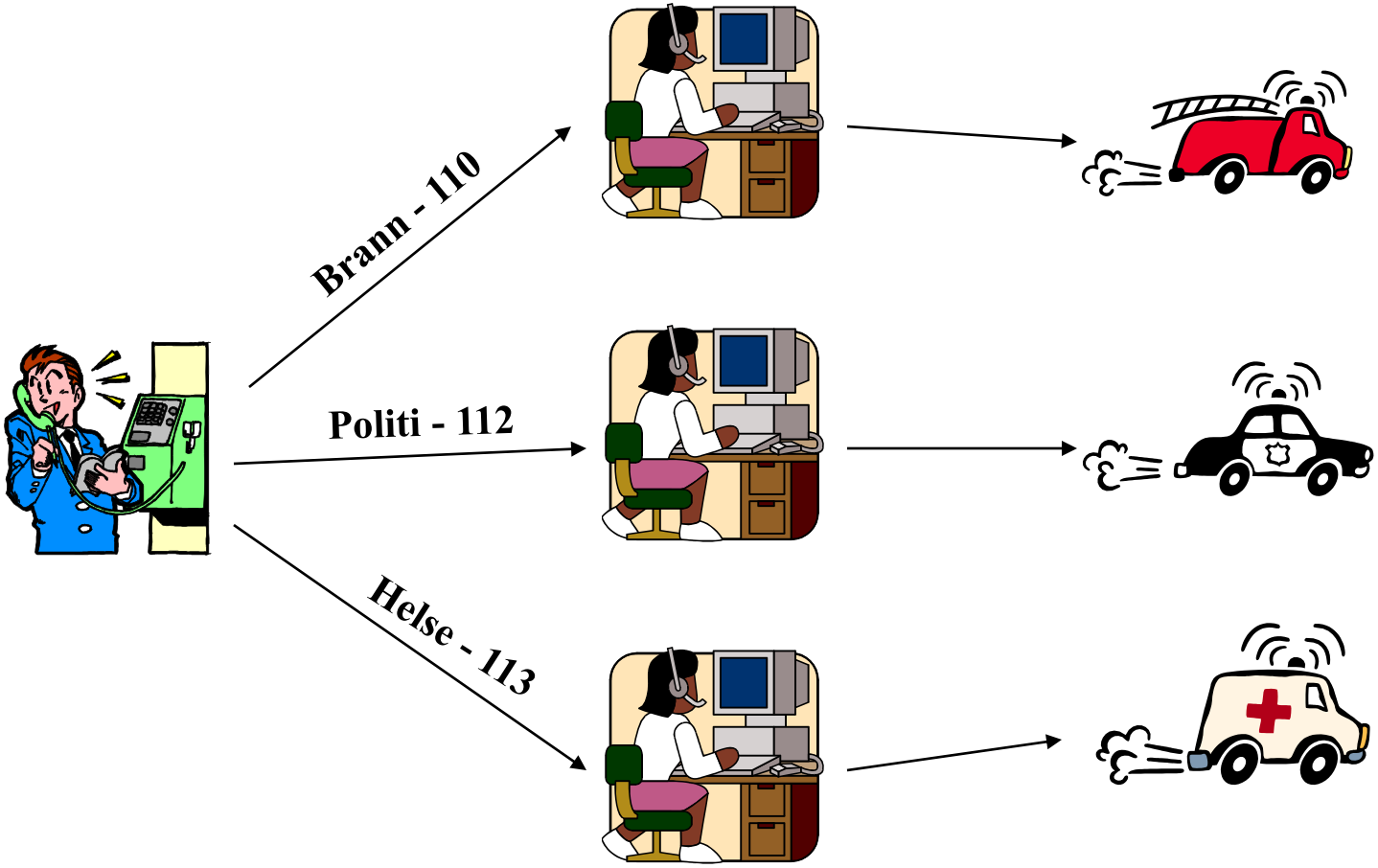
Þeir sem sögðust hafa hringt í 112 (sp. 4) voru spurðir þessarar spurningar.

Austmaður

Do you recognise this word?

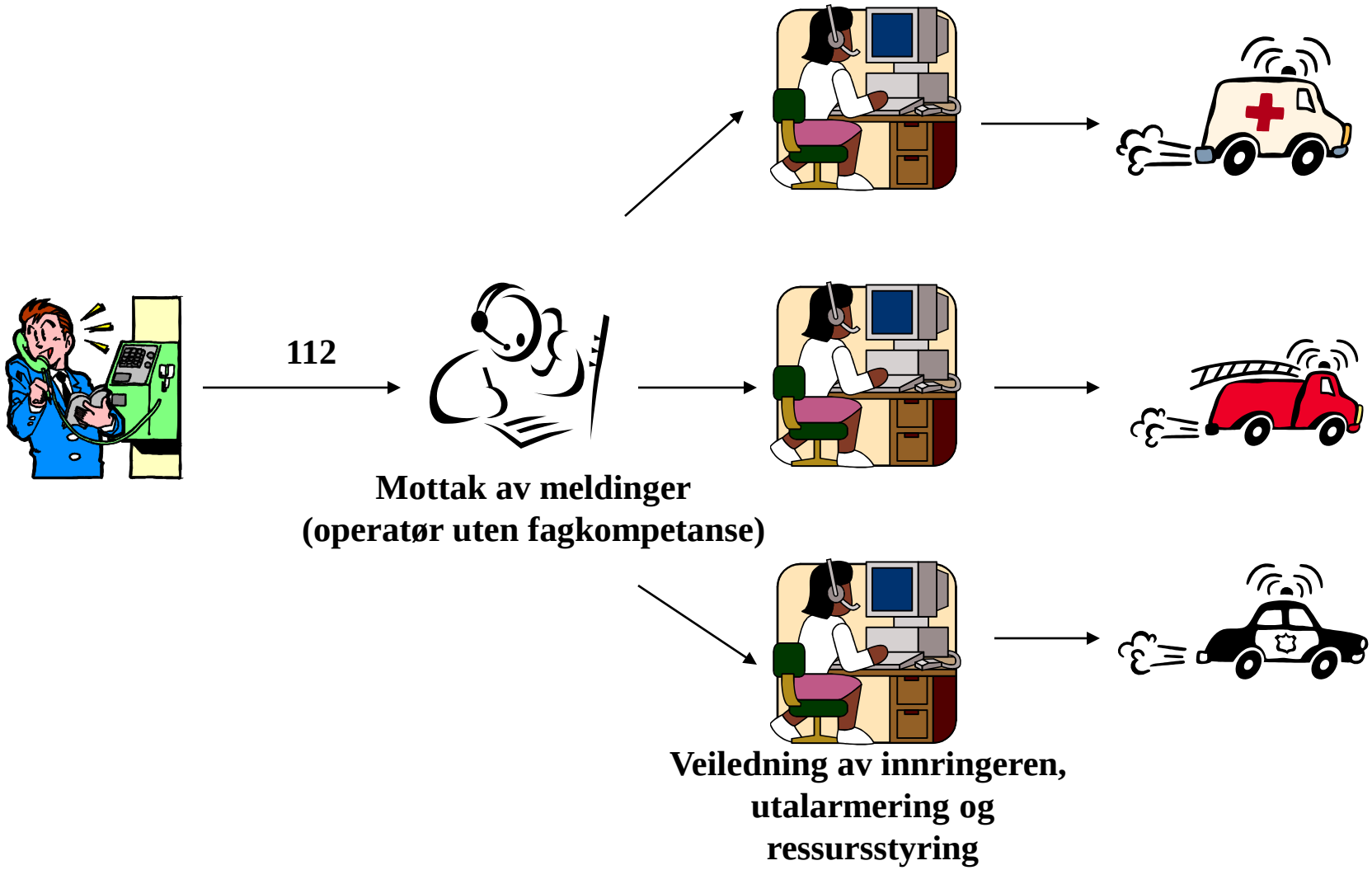
What does it mean?

Modell 0
Dagens organisasjonsmodell

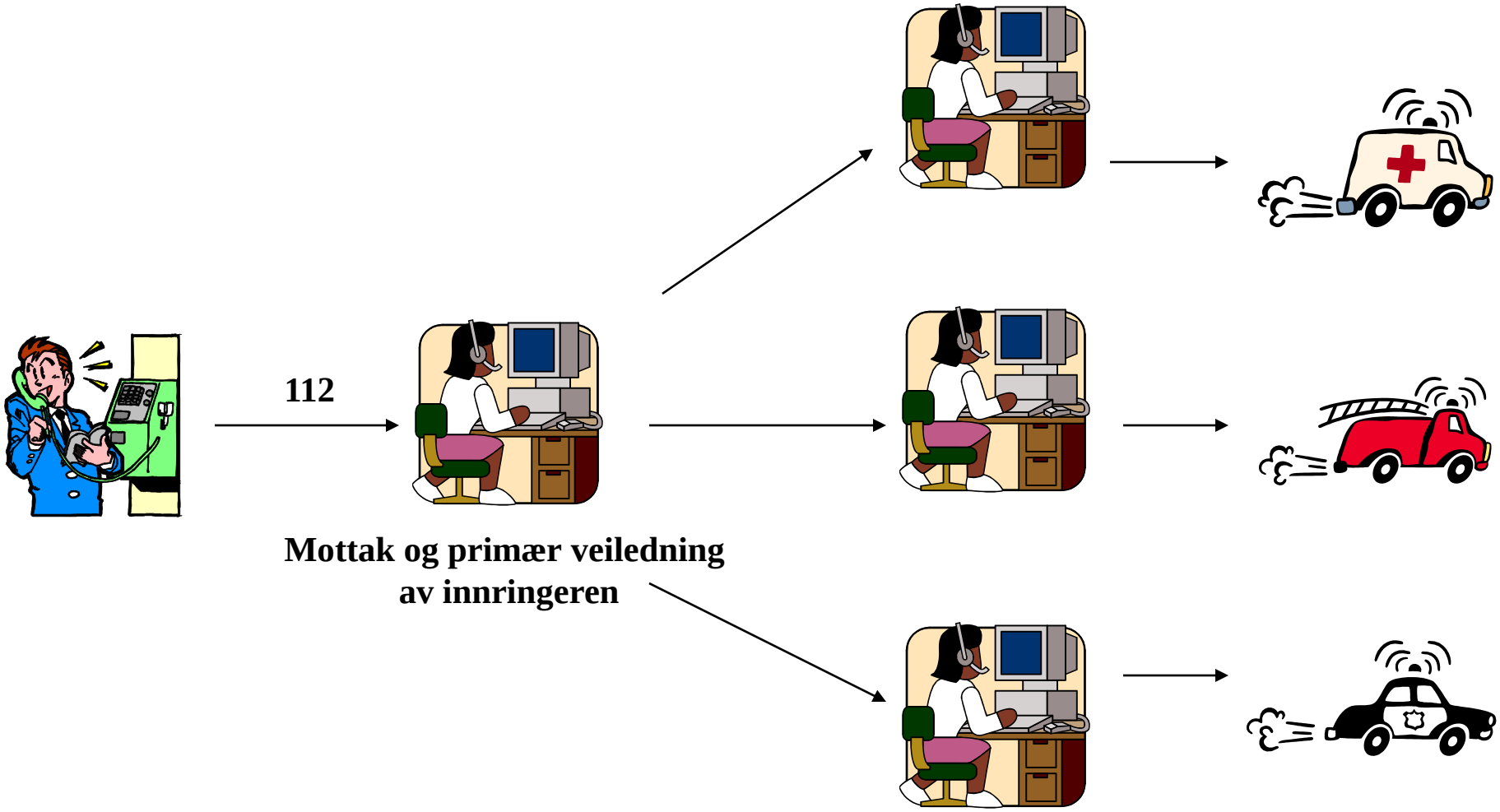


Mottak, veiledning av innringeren, utalarmering og ressursstyring

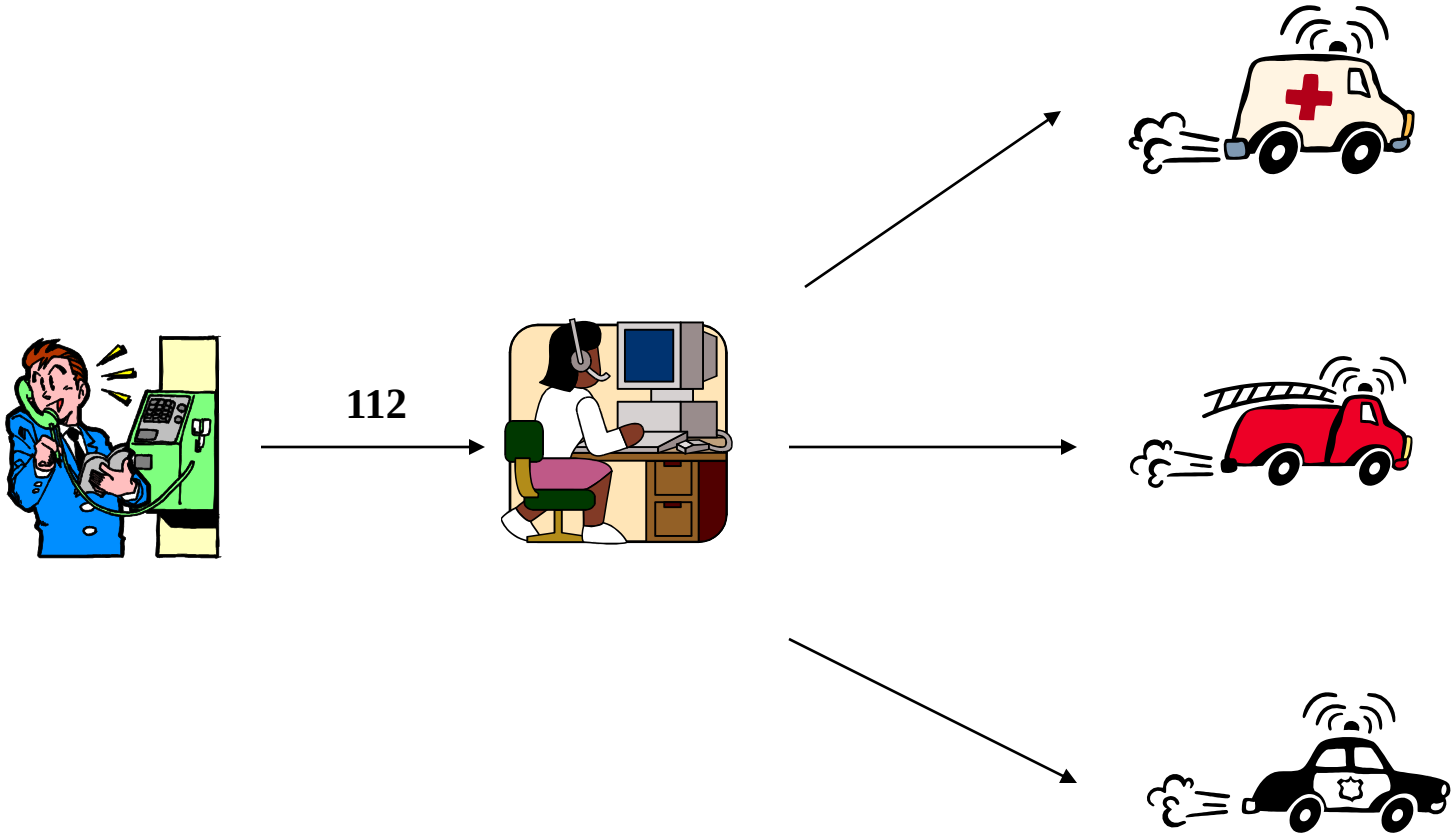
Modell 1
Felles mottaks-/formidlingstjeneste



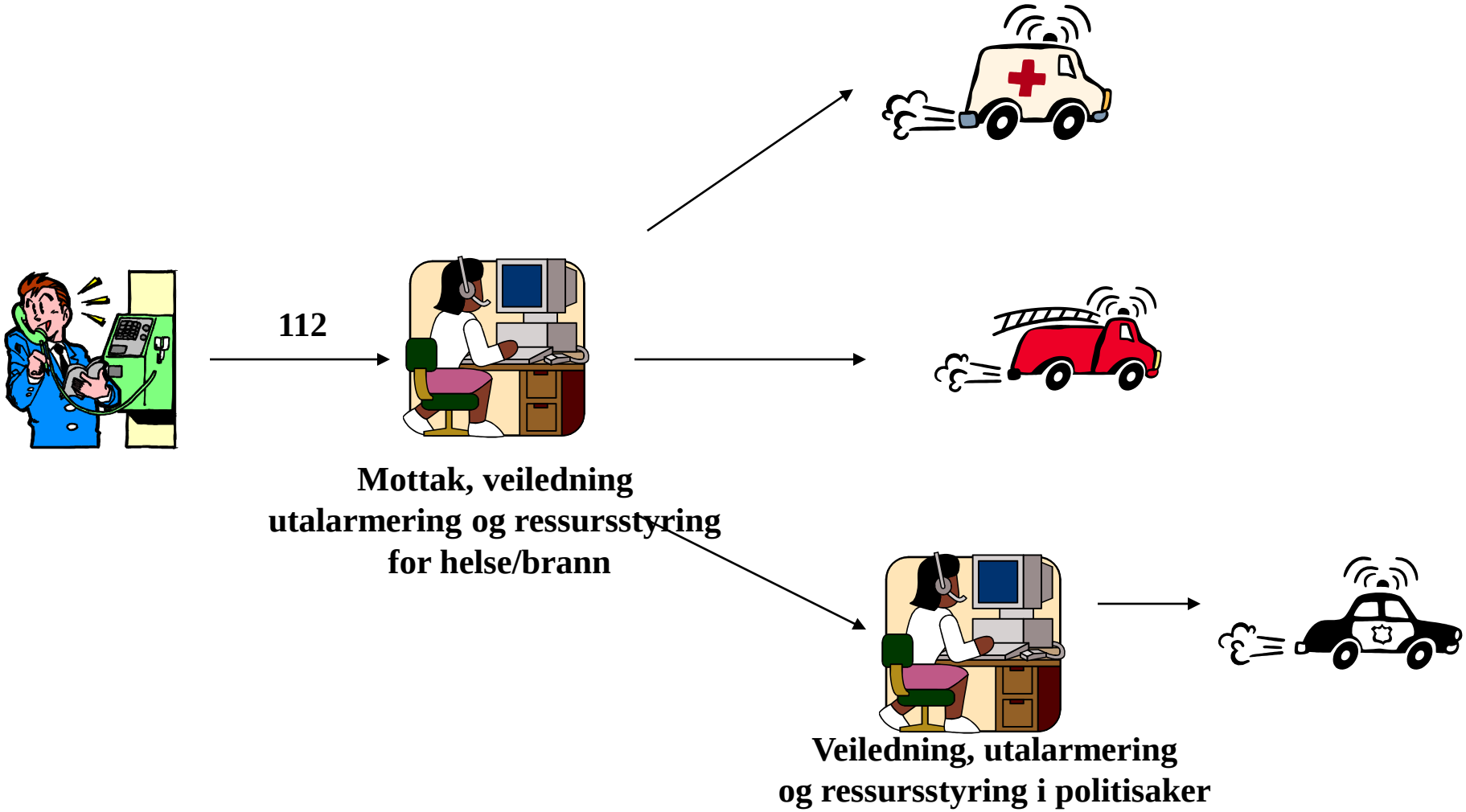
Modell 2. Felles mottak og primær veiledning, etatsvise ressursstyrere



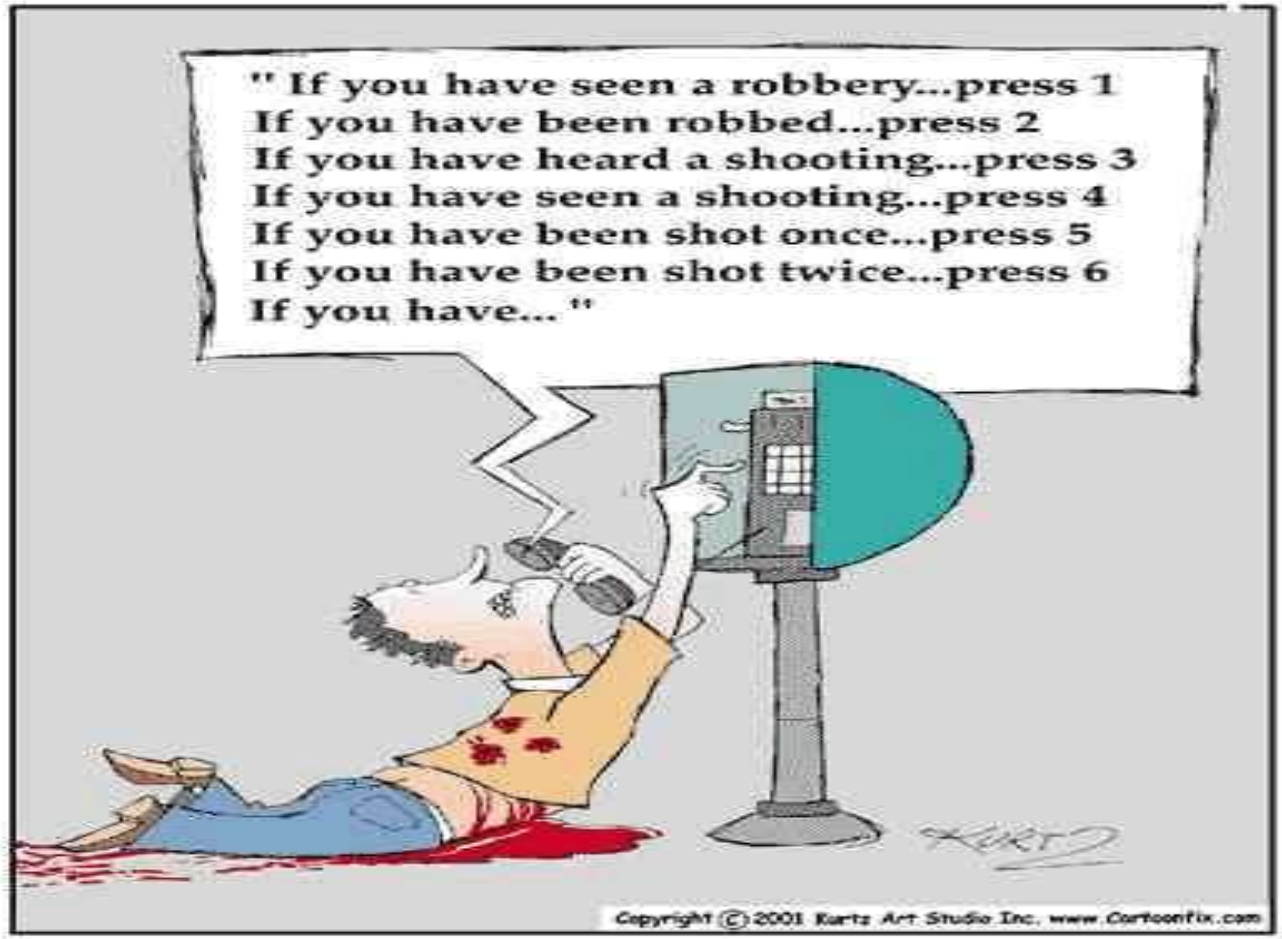
Modell 3. Felles mottak, veiledning, utalarmering og ressursstyring



Modell 4. Felles meldingsmottak og ressursstyring for helse og brann, rene politisaker videreformidles



The Future of EMD ?



Questions?

Acknowledgements:

Sigurður Viðar Ottesen EMD
Hanne Skallerud, Dept. of Justice, No.
Dagný Halldórsdóttir, Assistant Manager 112