

“Analysis of Vehicle Busy Cases in Himachal Pradesh and Scope of its Improvement”

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What is a Vehicle Busy Case???

Case where ambulance cannot be assigned due to

- ambulance being busy,
- already on a dispatch,
- the caller denies the service because of the distance for next available ambulance

Reasons for VB



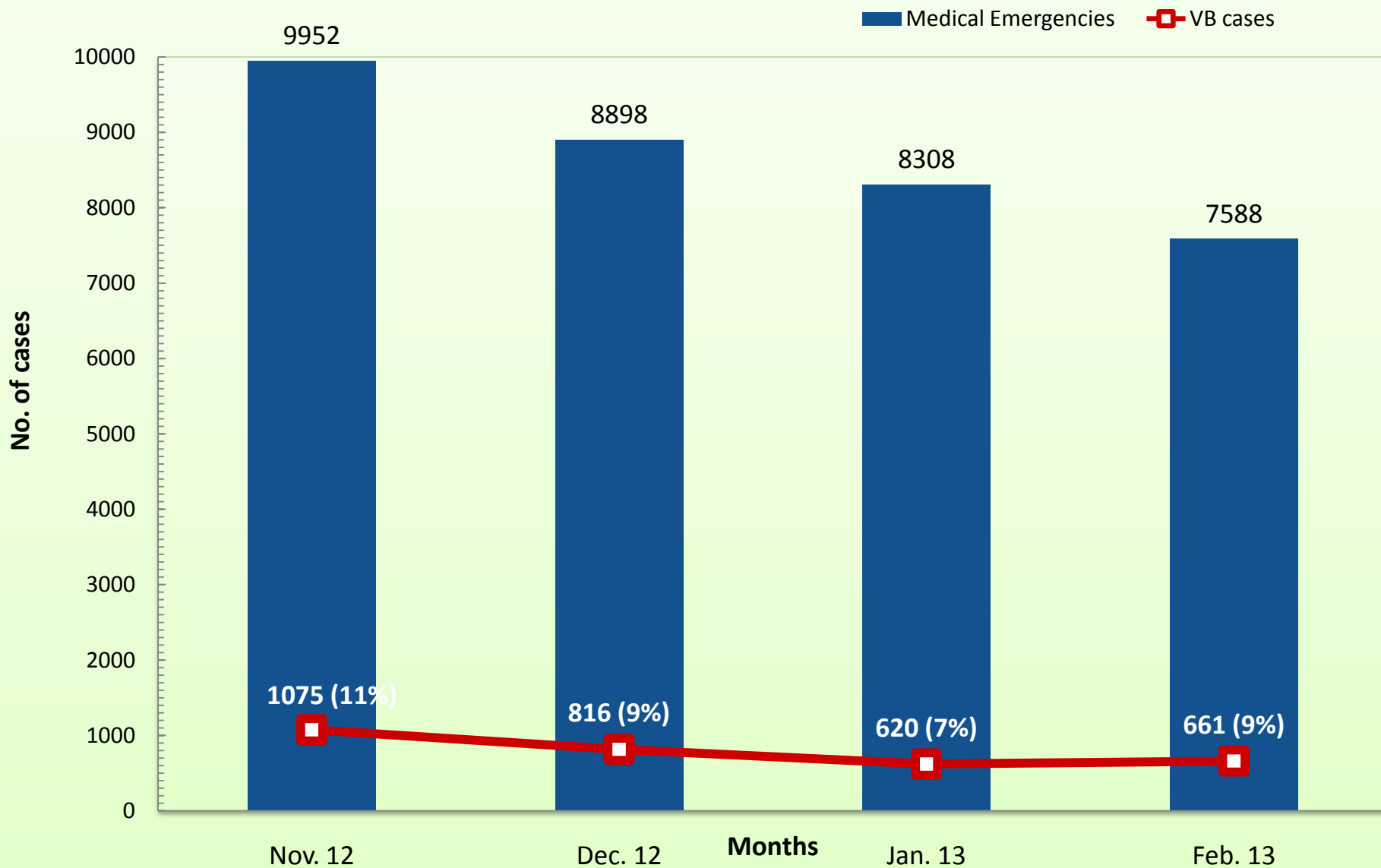
- ❖ High Response Time
 - ✓ Call to Wheel
 - ✓ Wheel to Scene
 - ✓ Scene to Hospital
 - ✓ Hospital to Base
- ❖ Flow of Emergency Calls
- ❖ Location of Emergency
- ❖ High Breakdown rate
- ❖ Less usage of NL1, NL2, NL3
- ❖ Violation of instructions by field associates
- ❖ Ignorance of case by EROs
 - ✓ Delay in assignment of ambulance by VB desk
 - ✓ Timely Follow up of VB case is not being done

Ambulance allocation in H.P.



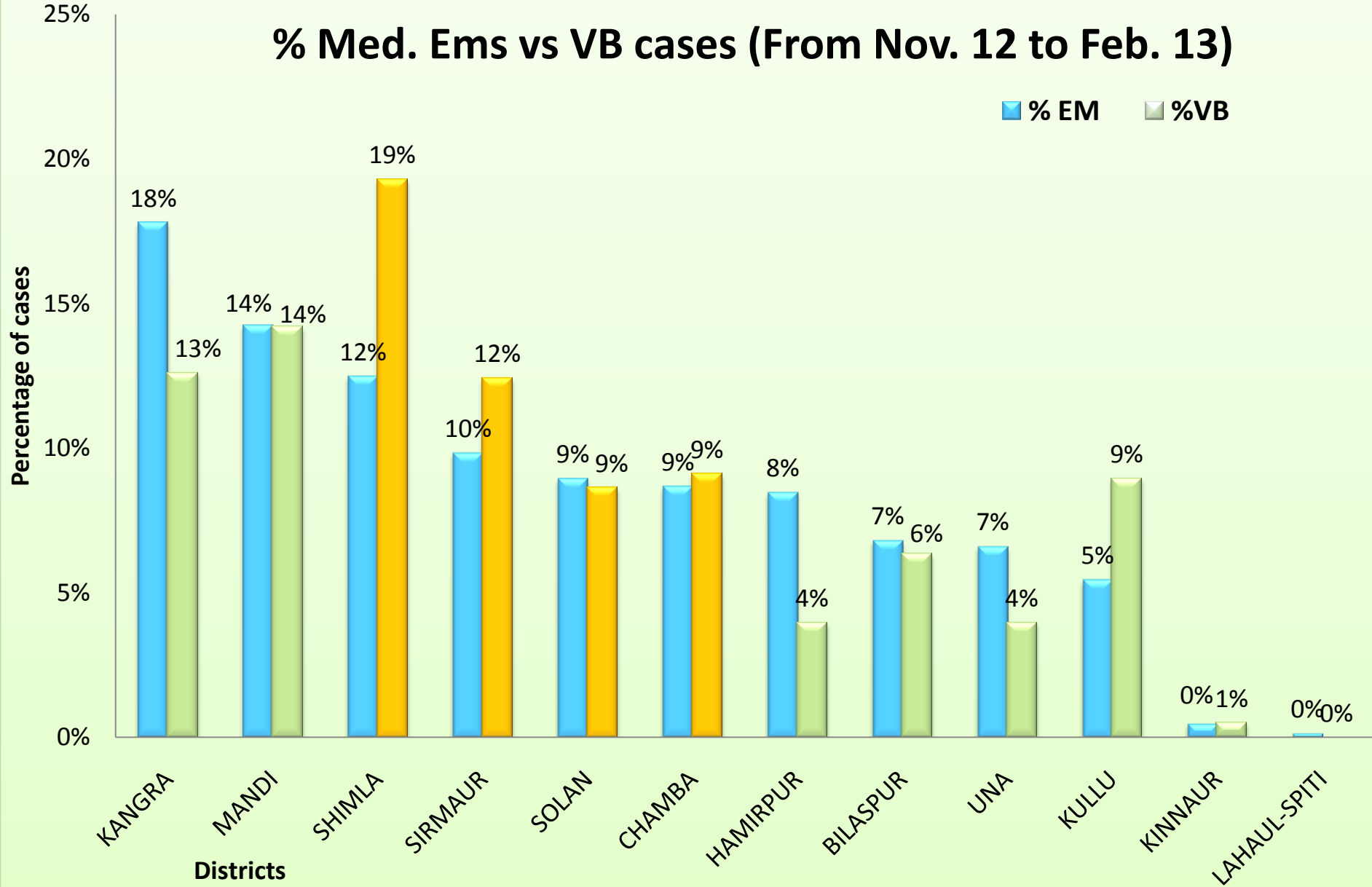
S. No.	District	Population (lakhs)	No. of ambulances	Population Per amby (lakhs)	EMs per lakh population (avg. from Nov. 12 to Feb. 13)
1	Bilaspur	3.8	6	0.6	592
2	Chamba	5.1	11	0.4	556
3	Hamirpur	4.5	8	0.5	620
4	Kangra	15	17	0.8	392
5	Kinnaur	0.8	3	0.2	191
6	Kullu	4.3	6	0.7	415
7	Mandi	9.9	15	0.7	473
8	Shimla	8.1	15	0.5	510
9	Sirmaur	5.3	11	0.4	616
10	Solan	5.7	9	0.6	516
11	Una	5.2	6	0.8	421
12	Lahaul & Spiti	0.3	2	0.1	155
	TOTAL	68.0	109 (+3)	6.3	5458

Trend of VB cases wrt Medical Emergencies



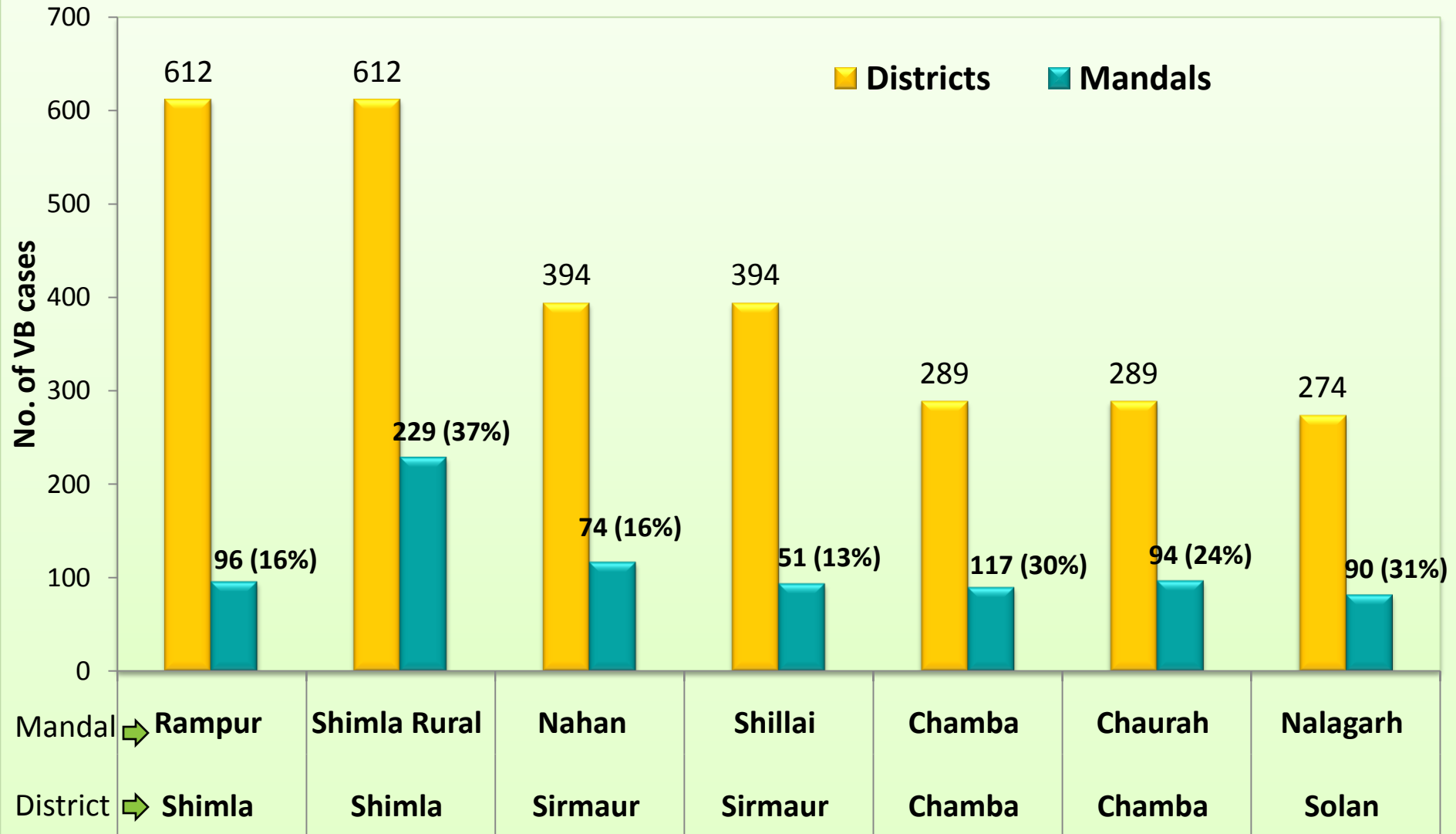
District wise sorting

% Med. Ems vs VB cases (From Nov. 12 to Feb. 13)



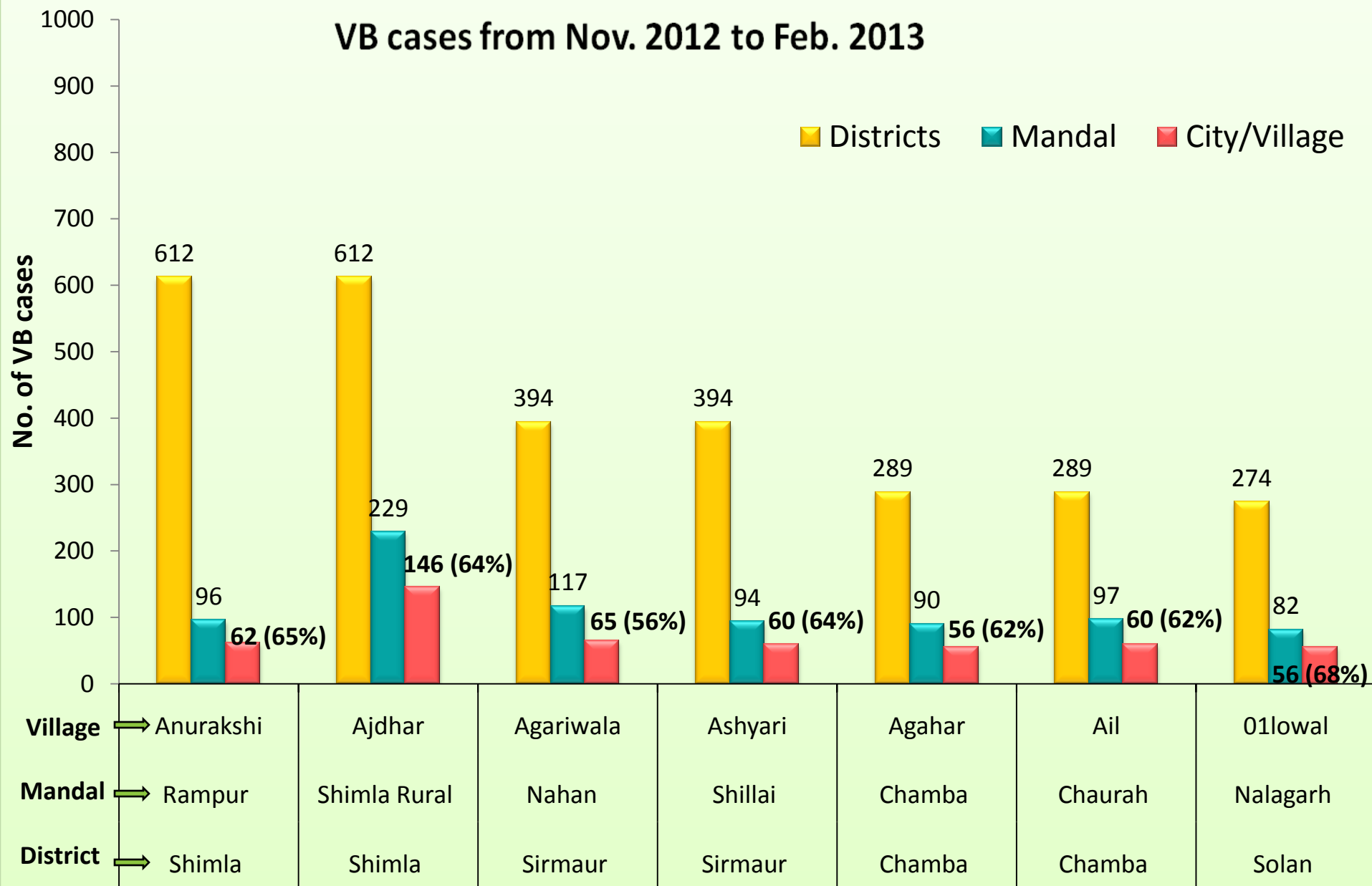
Mandal wise sorting

VB cases from Nov. 2012 to Feb. 2013

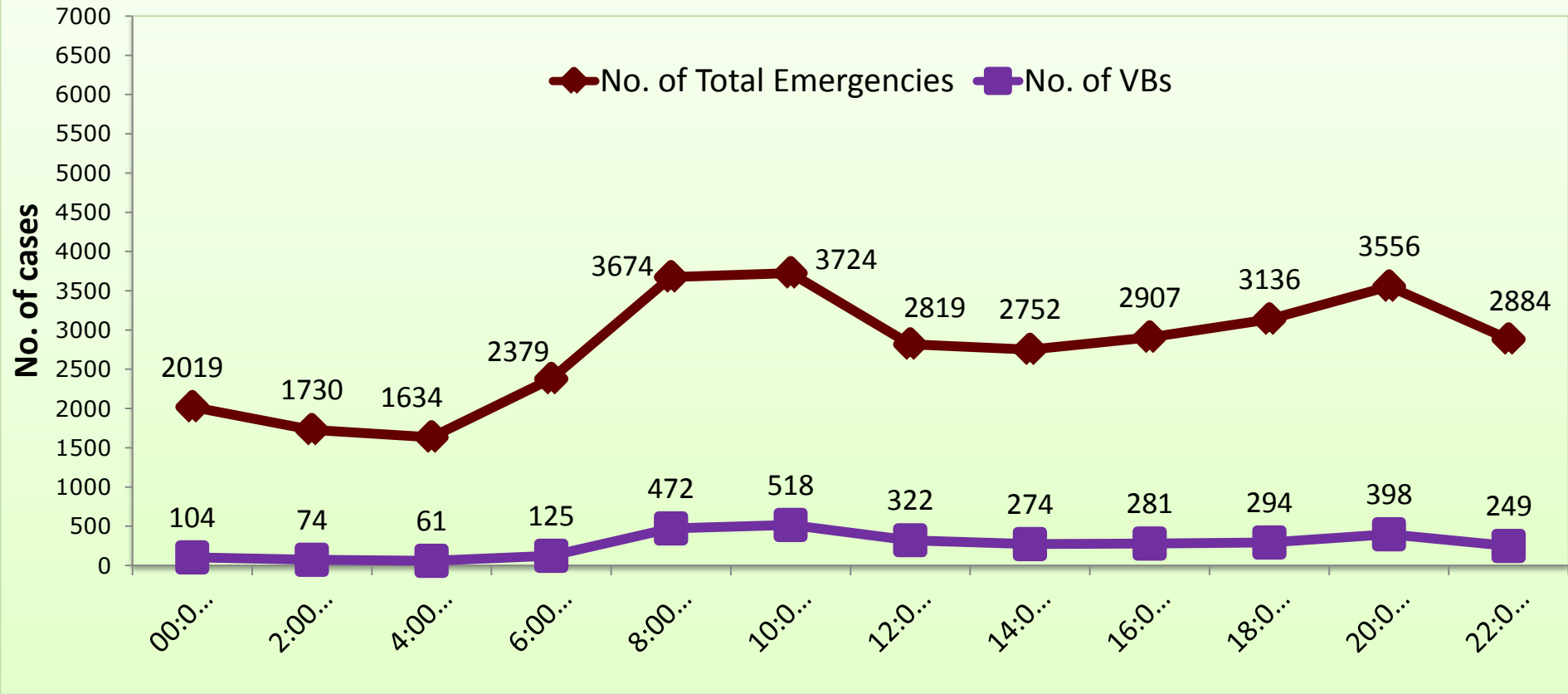


Hot Spot Analysis

VB cases from Nov. 2012 to Feb. 2013



Peak Hour analysis of VB cases Vs Total EM calls

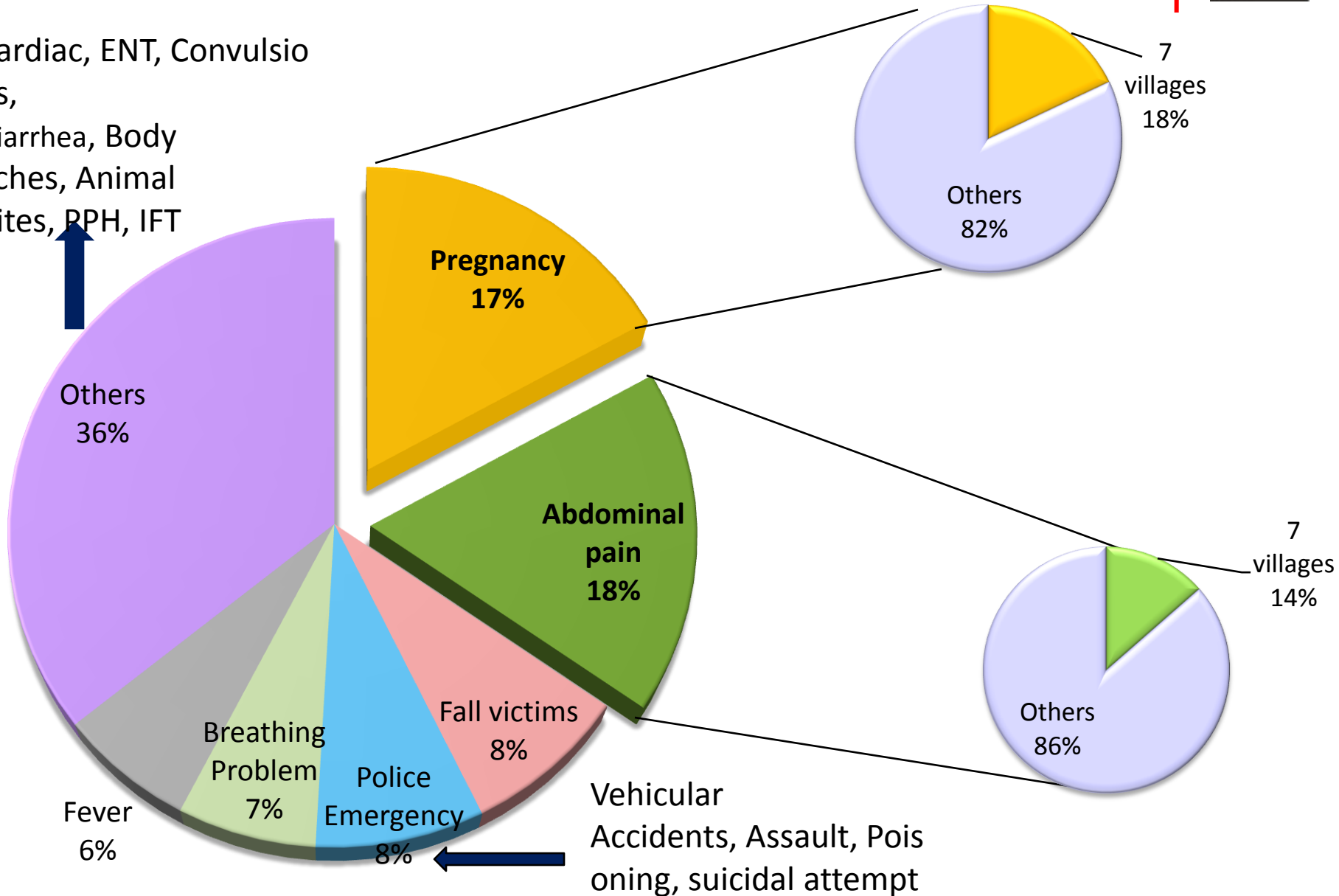


Mandal	Chamba	Chaurah	Rampur	Shimla Rural	Nahan	Shillai	Nalagarh
High VB during peak hours	Morning	Morning & Evening	Morning & Evening	Morning & Evening	Morning & Evening	Morning	Morning

Source- Total EM Data Report

Emergency wise VB cases

Cardiac, ENT, Convulsions,
Diarrhea, Body aches, Animal Bites, PPH, IFT



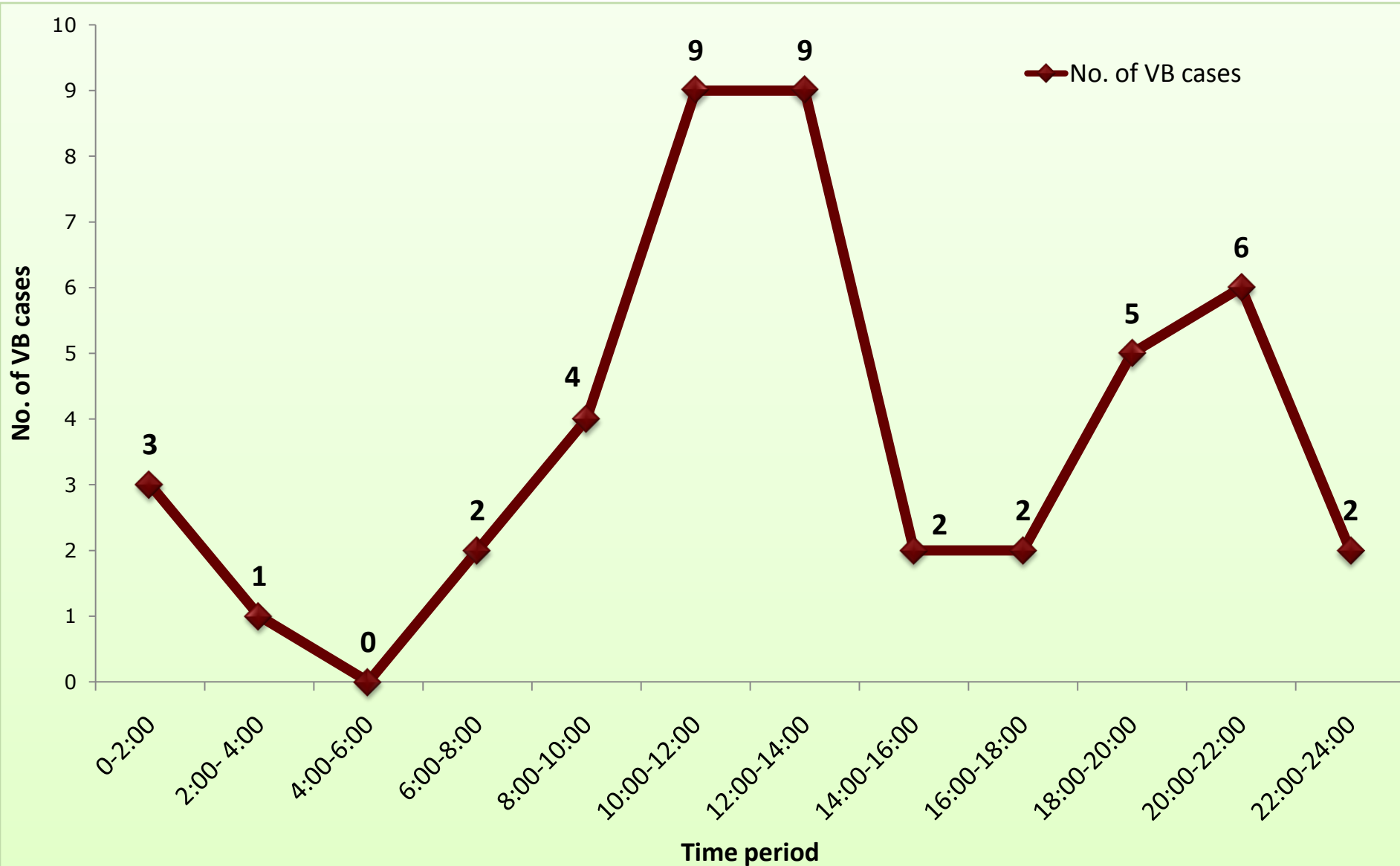
Analysis of sample of 45 cases which were assigned to the ambulances previous to the particular VB case.

Division of Sample acc. To Mandals

S. NO	Mandal	No. of VB cases	Findings	Inference
1	Chamba	8	5- Contacted NL1 2- Contacted NL2 1- SNR	• Choori (NL2- 25 kms) is not being contacted
2	Chaurah	3	3- NL1 had not been contacted	• Salooni (NL1- 50 kms) is far
3	Rampur	5	3- Not contacted NL1 3- Base to Hospital time is more by HP634254	• Base location is 19 kms away • Base to Hosp. time is high
4	Shimla Rural	15	2- SNR 8- Hosp. to base time is more by HP634285 1- NL2 had not been contacted	• Hosp. to base time is high
5	Nahan	5	4- NL1 had not been contacted 1- EMT did not call back after getting free 1- SNR	• NL1, NL2 are not being contacted
6	Shillai	5	2- Base to Hospital time is more by HP634805 4- Contacted NL1, NL2	• Base to Hosp. time is high
7	Nalagarh	4	2- Base to Hospital Time is more by HP634294 1- SNR 3- Contacted NL1, NL2	• Base to Hosp. time is high

• In 5 cases, SNR is being tagged as VB.

Peak Hour Analysis of the Sample Cases



Division of Sample acc. to Ambulances



S. No.	Vehicle Id	Base Locations	No. of VB cases	% VB cases	VBs in Morning Shift	VBs in Evening Shift
1	HP634252	PHC Jeori	1	2%	1	0
2	HP634254	MGMSC Khaneri	4	9%	2	2
3	HP634270	RH Nahan	6	13%	5	1
4	HP634285	Shimla Rural MGMSC	11	24%	6	5
5	HP634294	CHC Nalagarh	4	9%	3	1
6	HP634380	CHC Tissa	3	7%	3	0
7	HP634383	PHC Kakira	5	11%	3	2
8	HP634394	RH Chamba 2	1	2%	1	0
9	HP634405	RH Chamba 1	2	4%	2	0
10	HP634805	CHC Shillai	2	4%	2	0
11	HP634806	KNH1 Shimla	4	9%	3	1
12	HP634282	PHC Ronhat	2	4%	2	0
	Total		45	100%	33 (73%)	12 (27%)

Base to Hospital time

Vehicle Id	Distance (km)		Time (hours)
	Base to Scene	Scene to Hospital	Base to hospital time (Hosp. admission – assign time)
HP634254 (Avg. trips/ day- 3.5)	21	21	3:21
	21	21	2:12
	11	10	3:25
HP634805 (Avg. trips/ day- 3)	28	27	4:39
	149	40	4:57
HP634294 (Avg. trips/ day- 2.5)	10	9	1:40
	24	23	2:28

*Hospital to Base time for these vehicles is also high according to availed cases detail.

Hosp. to Base time

HP 634285= Avg. trips/ day- 6.25

In sample study: For the previous cases

Hosp to Base Distance (km)	Time taken	No. of VB cases
0	>10	4
2	>15	1
4	>20	2
6	>30	1

Cases from Nov.12 to Feb. 13

for 0 km (3 min to 1:16)	
Time	Cases
<5	4 (3%)
5-10	32 (21%)
11-15	60 (39%)
>15	57 (37%)
Total	153

for 2 km (7 min to 1:06)	
Time	Cases
<10	2 (3%)
11-15	5 (8%)
15-20	16 (26%)
>20	38 (62%)
Total	61

Action Plan

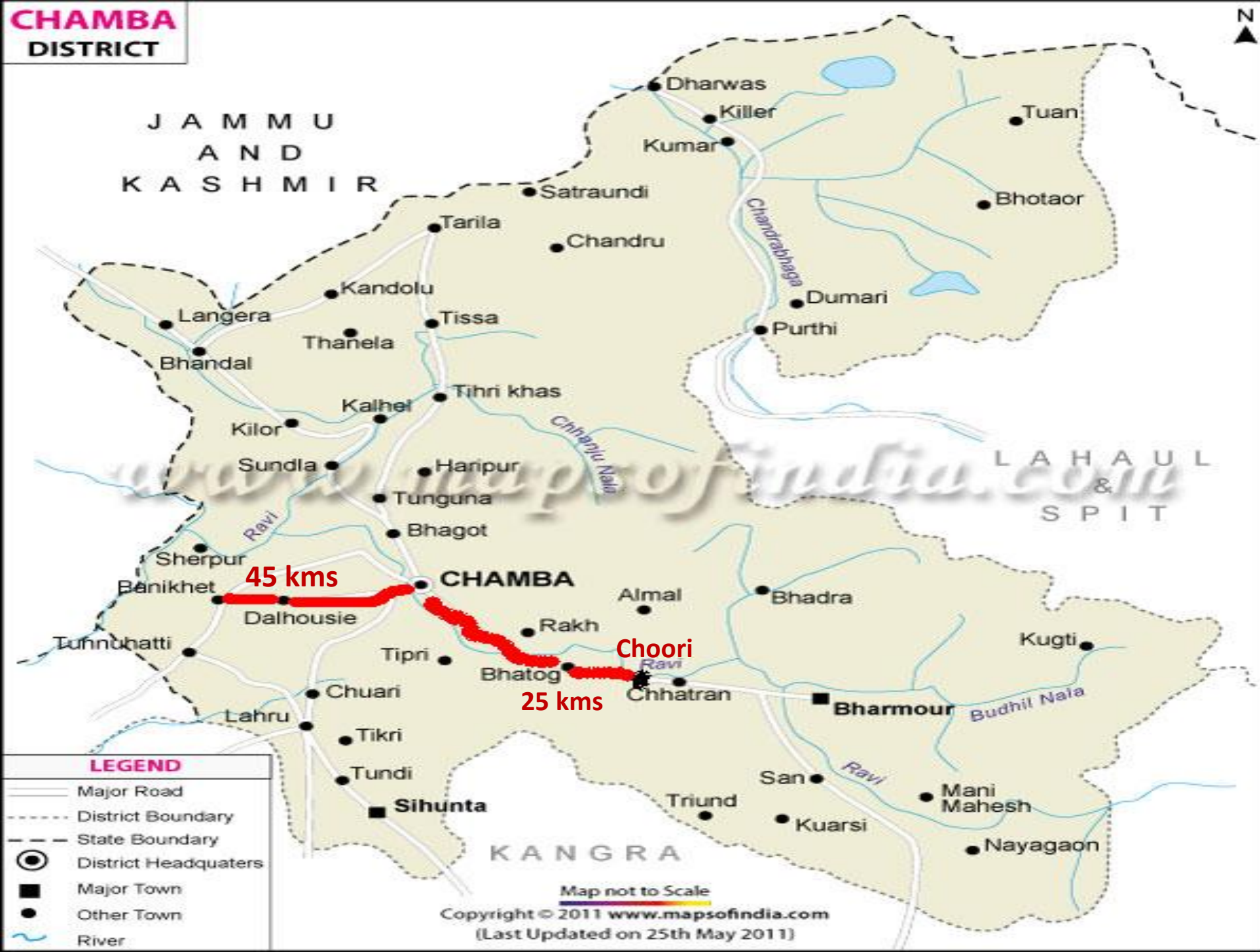


- Proper knowledge of base locations to EROs to assess the NL1, NL2, NL3.
- Continuous follow up by VB desk to convince the case to wait for the ambulance.
- Continuous Monitoring and Evaluation of the VB cases.
- The field associates giving high response time will be warned.

Phase1:

Mandals	Immediate Actions to be taken
Chamba	1. Though Choori amby is NL1 (25kms), but very less cases are being assigned to Choori. Use it as NL1. 2. Locate Banikhet amby (NL2- 45 kms) midway between Chamba and Dalhousie in morning peak hours.
Chaurah	1. Relocate Chowari to Chaurah.
Shimla	1. Kandaghat amby (NL2- 32 kms) midway during peak hours. 2. Reduce Hospital to Base time of HP635285

CHAMBA DISTRICT



Action Plan



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CHAMBA DISTRICT



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32 kms

Action Plan

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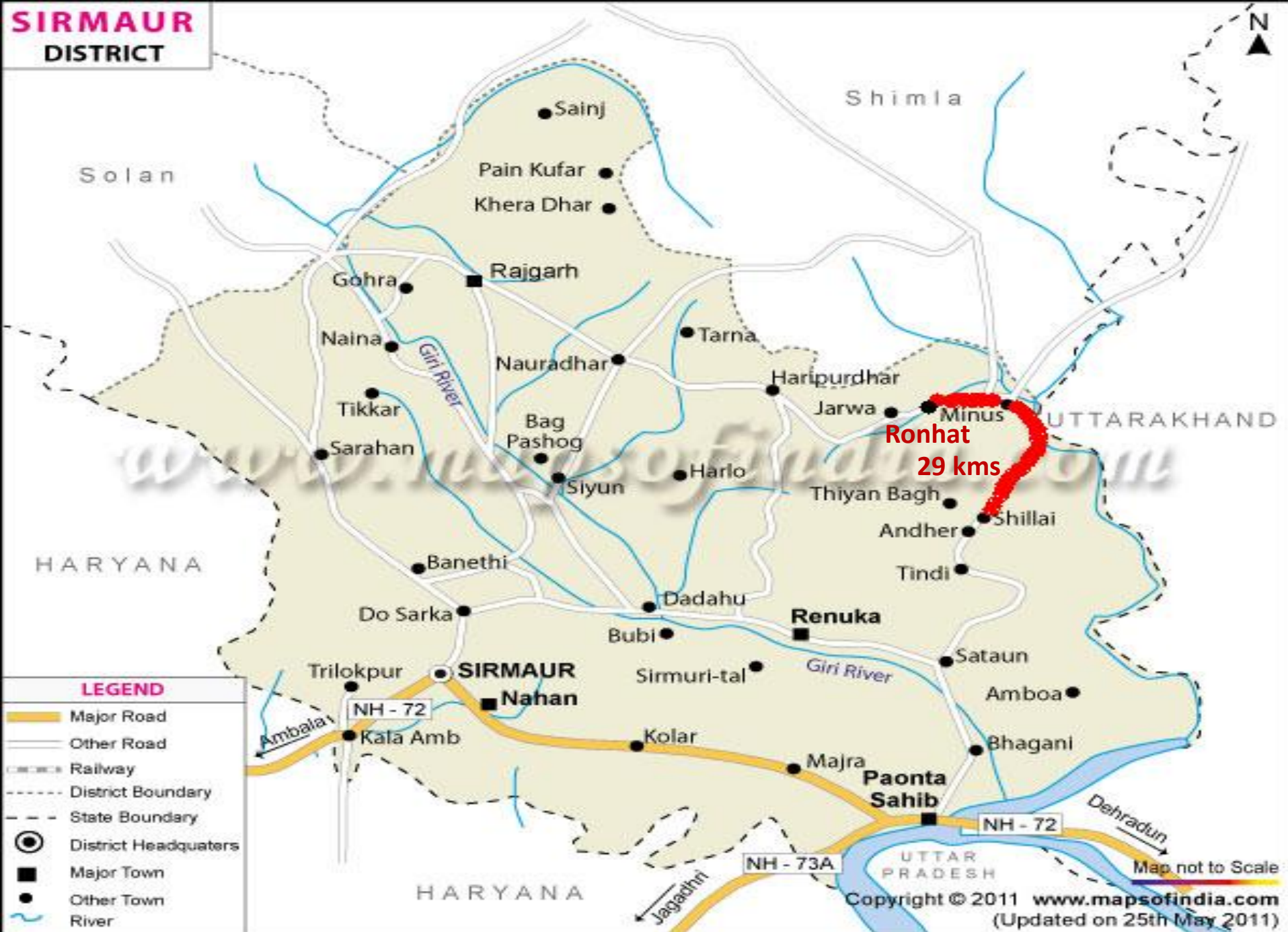
Mandals	Immediate Actions to be taken
Rampur	1. Allocate 1 back up ambulance permanently. 2. Reduce the cycle time of HP634254.
Shillai	1. Relocate Ronhat amby(29 kms) midway between Ronhat and Shillai during morning peak hours. 2. Reduce the cycle time of HP634805.
Nahan	1. Relocate Dadahu amby(36 kms) midway between Nahan and Dadahu.
Nalagarh	1. Reduce the cycle time of HP634294.

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SIRMAUR DISTRICT

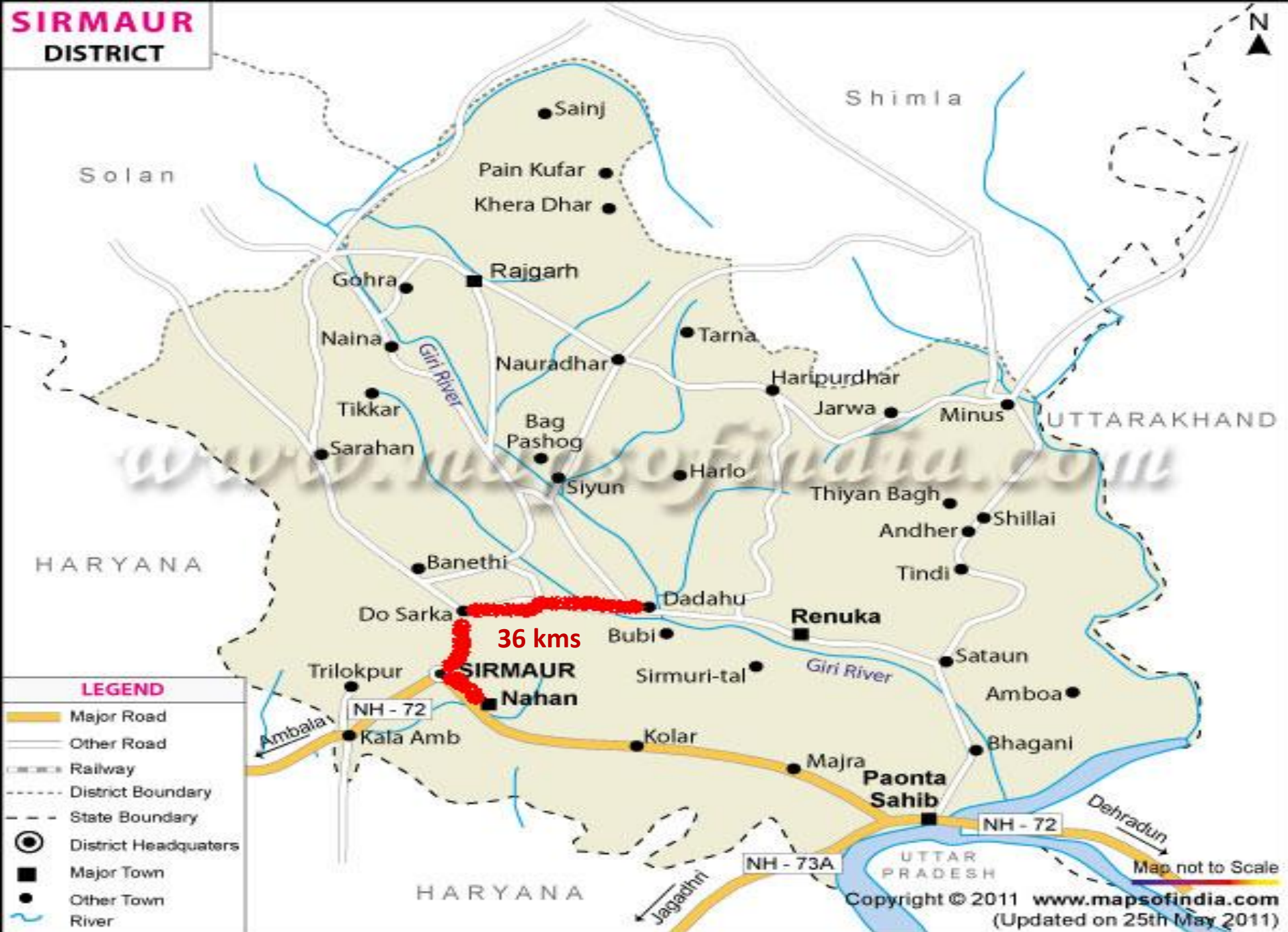


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SIRMAUR DISTRICT



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Monitoring & Evaluation

- The relocated ambulances will be monitored on daily basis.
- The locations from where the ambulances have been moved will also be monitored daily to analyze if the relocation has resulted into high VB in those areas.
- The performance of field associates of the ambulances giving high response time will be monitored daily.

