



Immunization Technical Support Unit
Ministry of Health and Family Welfare



Immunization Supply Chain in India

Innovations to Simply processes
and make data meaningful

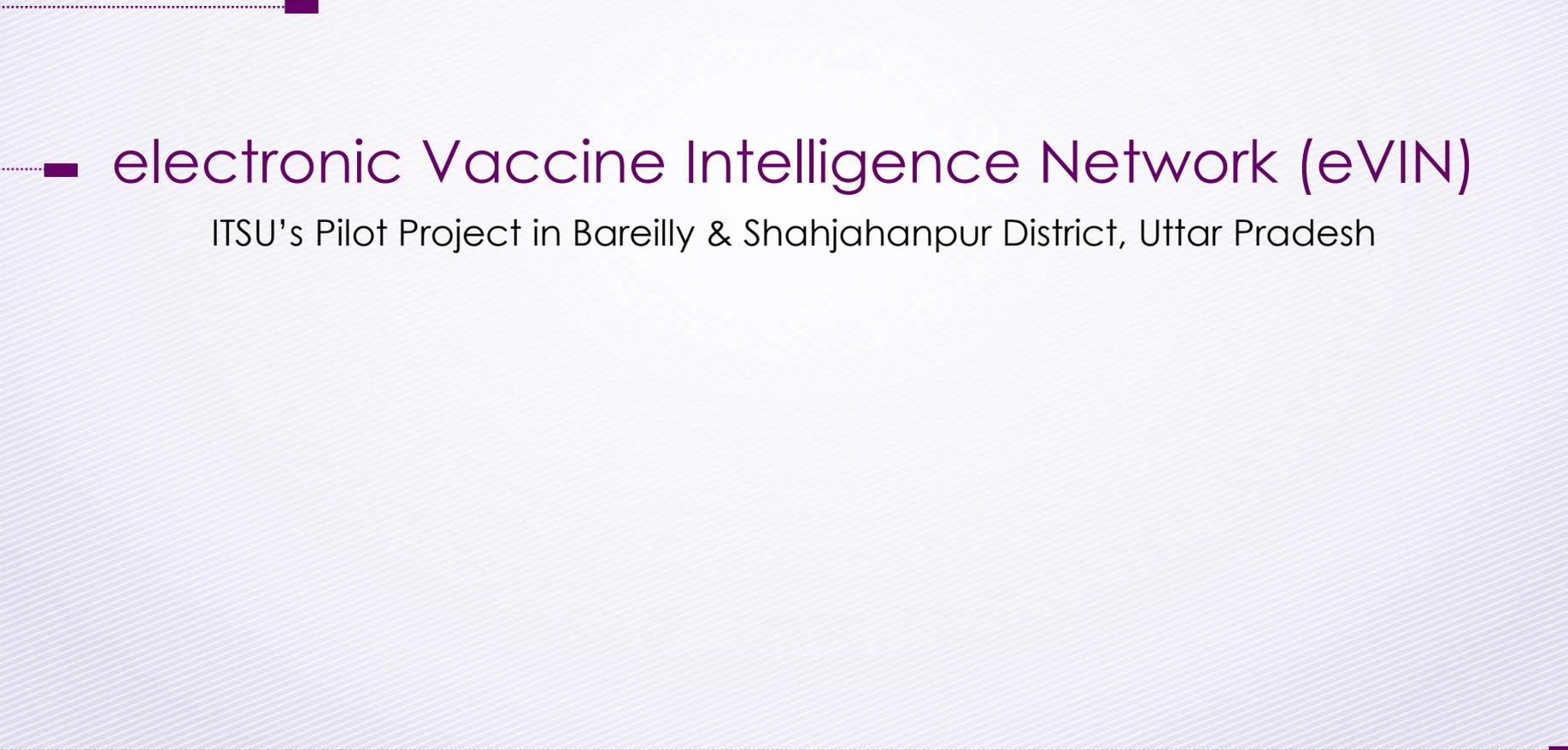
Dr Bhrigu Kapuria

Team Lead- Vaccine Logistics & Cold Chain Management

Immunization Technical Support Unit (ITSU)



Be Wise!
**Get your child
fully immunized**

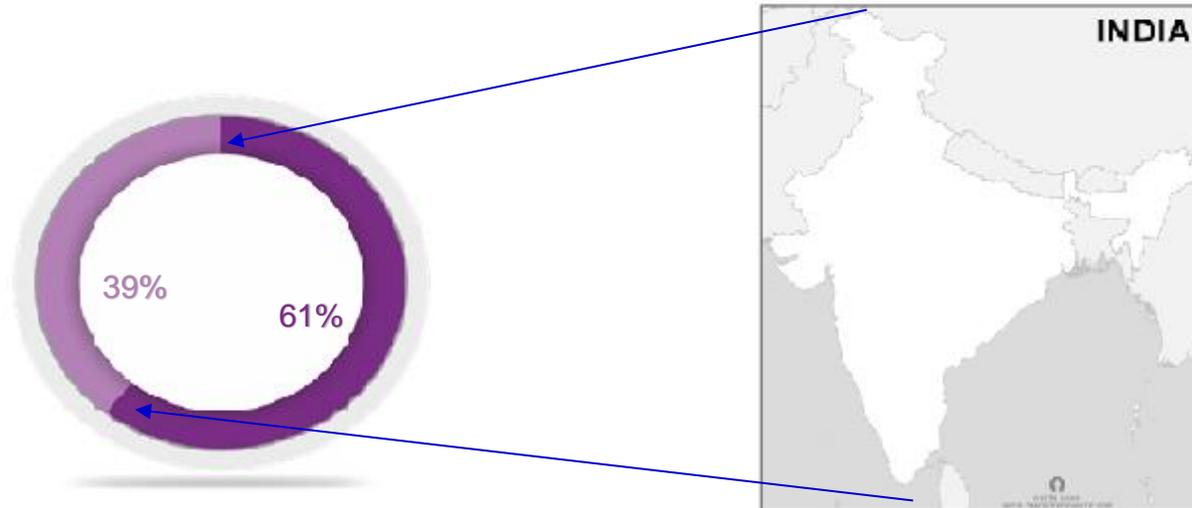


- electronic Vaccine Intelligence Network (eVIN)

ITSU's Pilot Project in Bareilly & Shahjahanpur District, Uttar Pradesh

BACKGROUND

- India conducts one of the largest Universal Immunization Programs (UIP) in the world
- Targets ~26 million newborns and ~30 million pregnant women each year translating into >300 million doses of vaccines each year
- There are ~27,000 cold chain points in the country; ~750 (3%) located at district and above while remaining 95% below the district level (PHC, CHC, Urban Health Facility, Sub-centers)



Baseline Indicators	Total Expenditures (USD)
Routine Immunization only	261,089,884
Campaigns	182,995,523
Total immunization specific expenditure (A)	444,085,407
Total shared cost (B)	273,942,919
Grand Total (A + B)	718,028,326
Per capita	0.2
Per DTP3 child	14
Percentage national funding	90

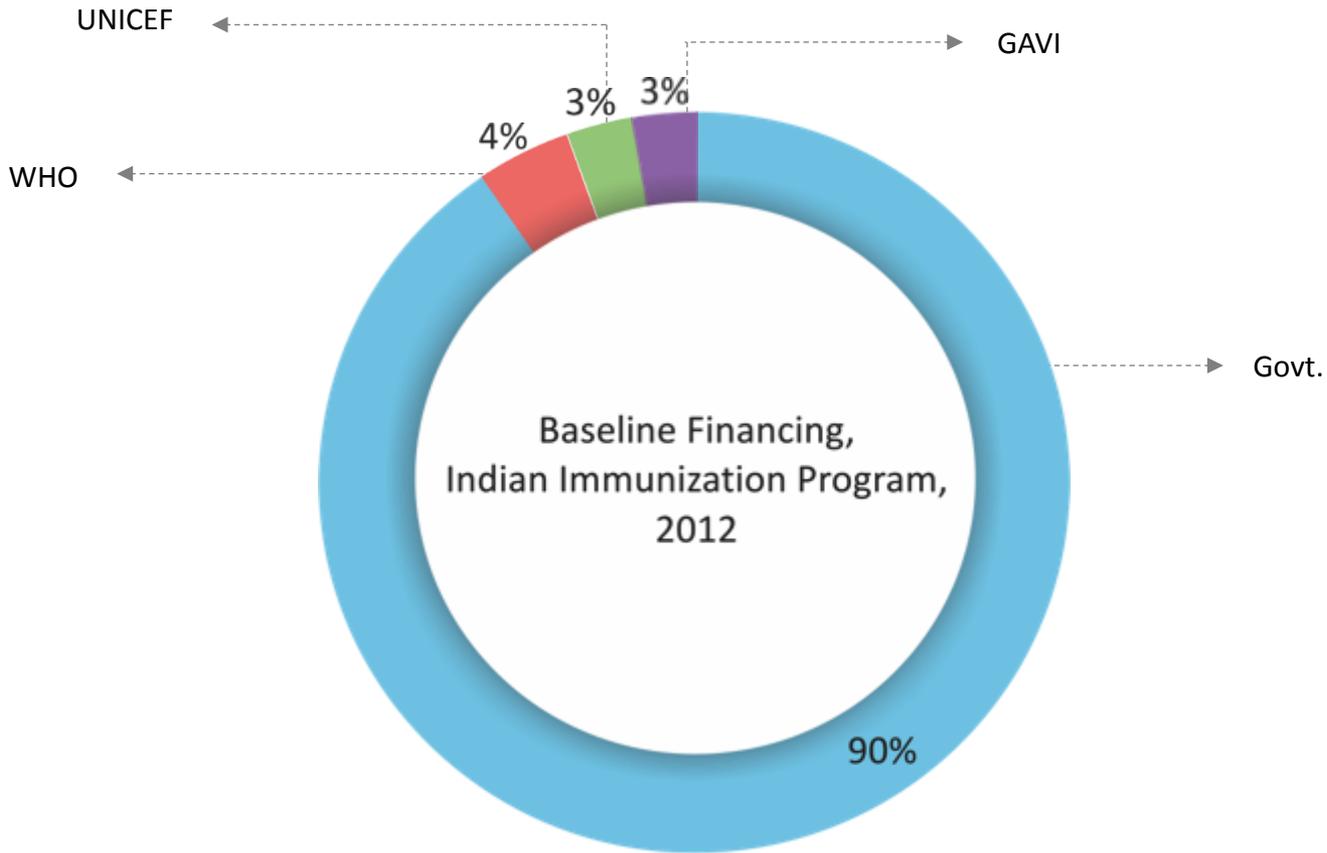
718 Million US\$ Annually

* Source MoHFW cMYP 203-17

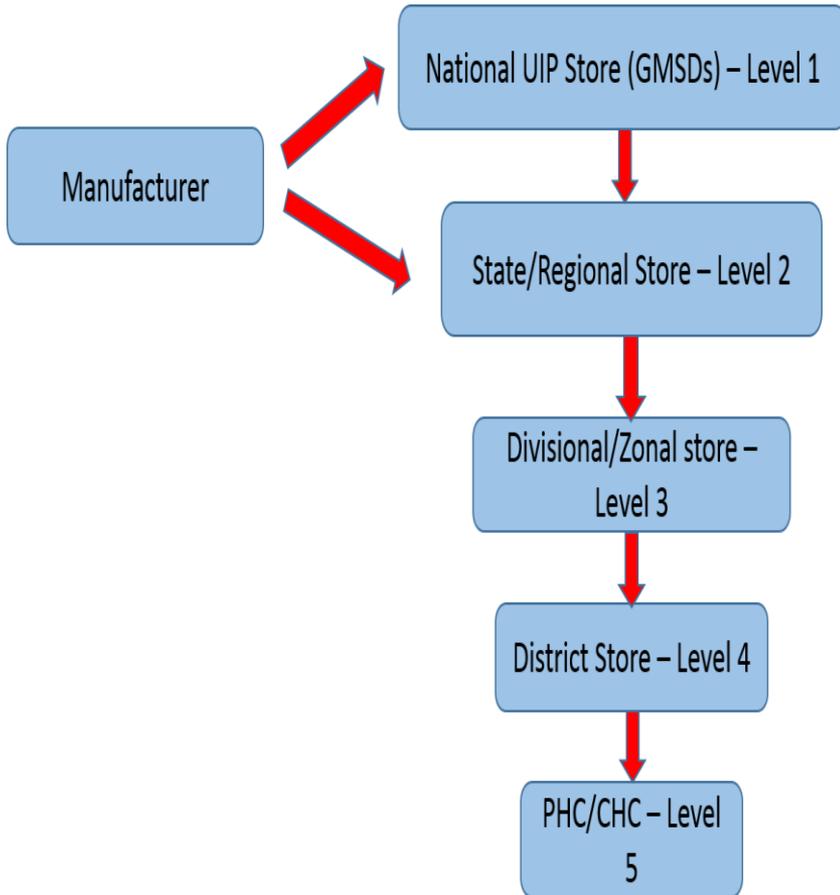


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FINANCING INDIAN IMMUNIZATION PROGRAM 2012



Current Vaccine Logistics System in the Country



- The current vaccine logistic system in the county is highly variable from district to district
- One of the major reasons for adhoc management at various levels of supply chain is the limited visibility of stocks at each node – ‘A coal mine effect’
- ITSU conducted a ‘Deep Dive Study’ to understand the end-to-end issues with vaccines (with diluents and syringes) supply chain and root causes for the stock-outs



Deep Dive Assessment

Stock & Data Visibility

- Lack of real time stock visibility across all levels
- No record of returned vaccines
- Improper stock register maintenance

Erratic, Irrational Distribution Practices

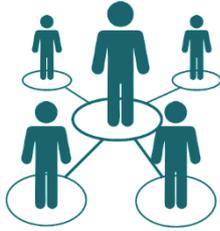
- Stock Levels are not maintained at recommended levels
- Vaccines not passed down to subordinate stores on any clear basis
- Sub-optimal Vaccine requisition (bunching)
- Cross supply of vaccines without intimation to superior store
- PHC's retain vaccines on session days to maintain stocks when undersupplied

Identified major root cases:

- Lack of stock visibility
- Lack of Human Resource management
- Poor record keeping of stock and sharing across levels



Challenges



01 HUMAN CHALLENGES



02 RECORDING & REPORTING



03 SUPPLY CHAIN CHALLENGES



04 INFRASTRUCTURE CHALLENGES



Specific to India (?):

- There are 36 States/UTs and 'Health is a State Subject'
- Good performing states v/s Average v/s Poor Performing States
- Geographically vivid: Plains with High population density to mountains with just few families. How to priorities?
- One rigid solution does not fits all. Flexibility is the Mantra



ITSU DESIGNED THE eVIN PROJECT TO ANSWER THESE FUNDAMENTAL QUESTIONS



PEOPLE

+



PROCESSES

+



PRODUCT





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PROJECT DESIGN



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APPROPRIATE TECHNOLOGY SELECTION



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DATA

What is
required,
collected
and used?



Data- Collected vs Used

“Actionable Data is Meaningful Data- Rest all is waste of efforts”

- Different levels have different data requirement:
 - Cold Chain Handler- Do I have adequate Stock?, When should I reorder?
 - District Officer- Is anyone going stock-out?, Is anyone not reporting? Who is wasting and who is not consuming?
 - State Officer- Are all districts well stocked? Do I have adequate buffer? Which vaccine would go into crisis shortly?

Data Presentation

- ‘Limited people in the system have **‘Time’** and **‘Capacity’** to infer data on daily basis.
- ***‘Data Should Speak’*** - Visualize Action Points



Data Presentation

Who Reported and Who didn't

Issues							
Date	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr
Day	Sat	Sun	Mon	Tue	Wed	Thu	Fri
	30	29	28	27	26	25	24
bhawalkhera	X					X	
mirzapur	X						X
nigohi	X	X				X	
kanth	X					X	
khutar	X	X			X		
dadral		X			X		X
kalan	X				X	X	
jaitipur	X					X	
shahajahpur		X				X	
powayan	X					X	
tilhar	X				X	X	
khudaganj	X	X					X
jalalabad	X					X	
banda	X					X	
cityarea	X				X		
sindhuali	X				X	X	



Data Presentation

Transactions	R.I Vaccines																																																										
	BCG (dose)				BCG diluent (dose)				DPT (dose)				Hepatitis B (dose)				JE Vaccine (dose)				JE diluent (dose)				Measles (dose)				Measles diluent (dose)				OPV dropper (piece)				tOPV (dose)				TT (dose)																		
	CCP	I	R	S	D	I	R	S	D	I	R	S	D	I	R	S	D	I	R	S	D	I	R	S	D	I	R	S	D	I	R	S	D	I	R	S	D	I	R	S	D	I	R	S	D	I	R	S	D	I	R	S	D						
old city - bareilly	40				40					210					190					80					80					30					30					11					220					170									
faridpur																																																											
meerganj	80				80					180					180					90					90					90					90					19					380					180									
fatehganj west	20				20					280					250					100					100					80					80					27					540					250									
kunadanda	70				70					90					70					70					70					70					70					9					180					80									
nawabganj																																																											
shergarh	50				50					160					150					70					70					80					80					20					400					170									
bilthrichainpur	60				60					190					200					105					105					105					105					25					500					200									
baheri										130					190					125					125					125					125					26					520					120									
jagalpur	30				30					80					80					40					40					40					40					8					120					80									
subhash nagar	70				70					220					220					110					110					110					110					14					280					210									
aonla	30				30					50					50					25					25					25					25					4					80					40									
ramnagar	10				10					120					120					560					60					60					60					14					280					140									
bhojpur	10				10					80					90					75					75					75					75					12					240					160									
mudia navi bux																																								150																			
bhamora	10				10					340					260					170					170					165					165					28					560					170									
dalelnagar	260				290	30				400					400					170					170					170					170					29					580					370									
civil lines																																																											
ppc bareilly	90				90					260					280					120					120					120					120					14					280					220									
majhganwa	80				80					300					300					215					215					205					205					20					400					440									
cb ganj	50				50					90					90					25					25					25					25					5					100					100									
izzalnagar	10				10					90					90					40					40					40					40					5					100					80									
kyara	60				60					480					240					120					120					120					120					24					480					240									

- Error in value

- Entered receipt of R.I Vaccines

- Stock count entry

- discards entry

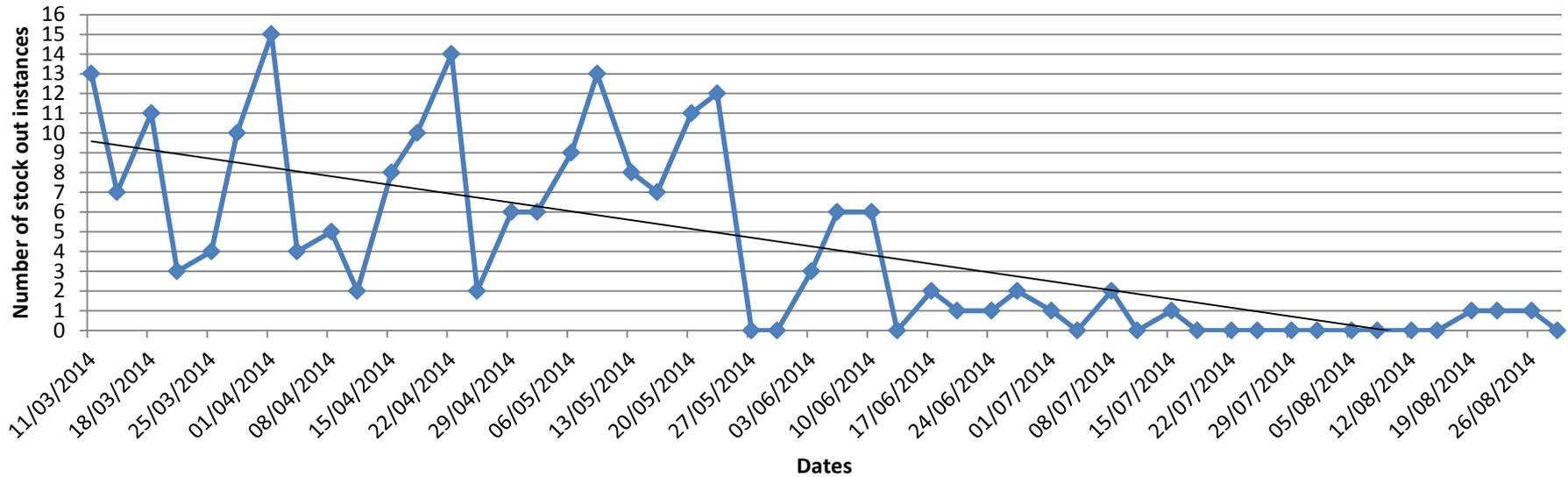
- diluent/dropper value not tallying

Data Quality Indicators

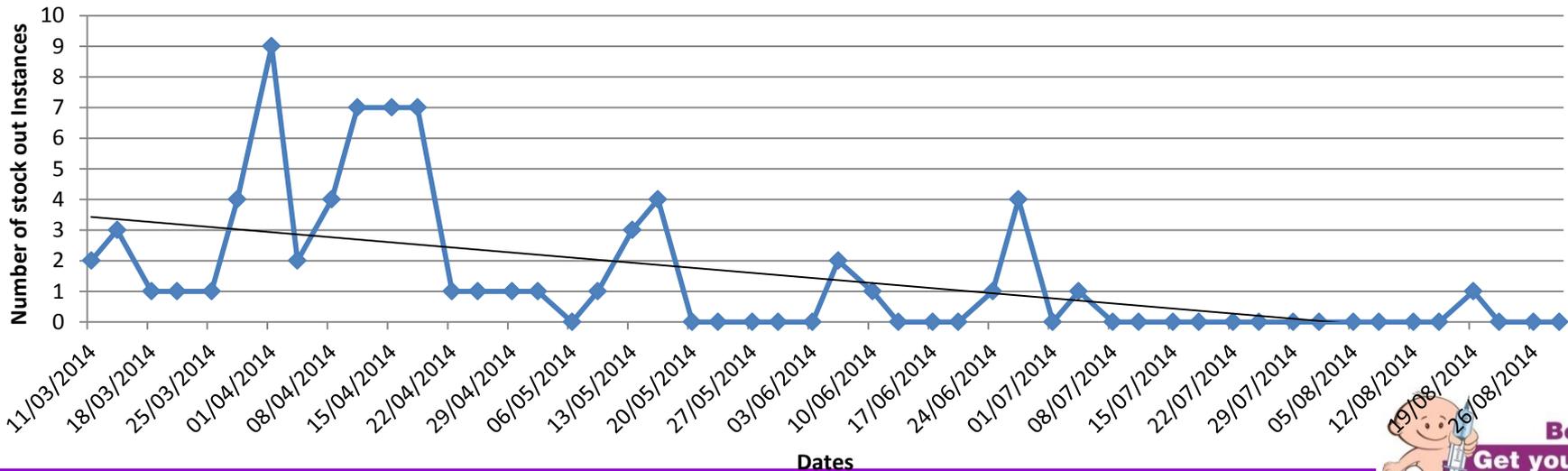
- Average Access Rate, per session day: 90%
- Average Completeness Rate, per session day: 87%
- Average Timeliness Rate, per session day: 87%
- Data Accuracy: 82%



SKU stock out instances on session days, District 1



SKU stock out instances on session days, District 2





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