

The reasons for and impact of stock-outs in rural areas



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Zithulele Hospital
26 September 2014

Rural perspective – not better or worse, but different



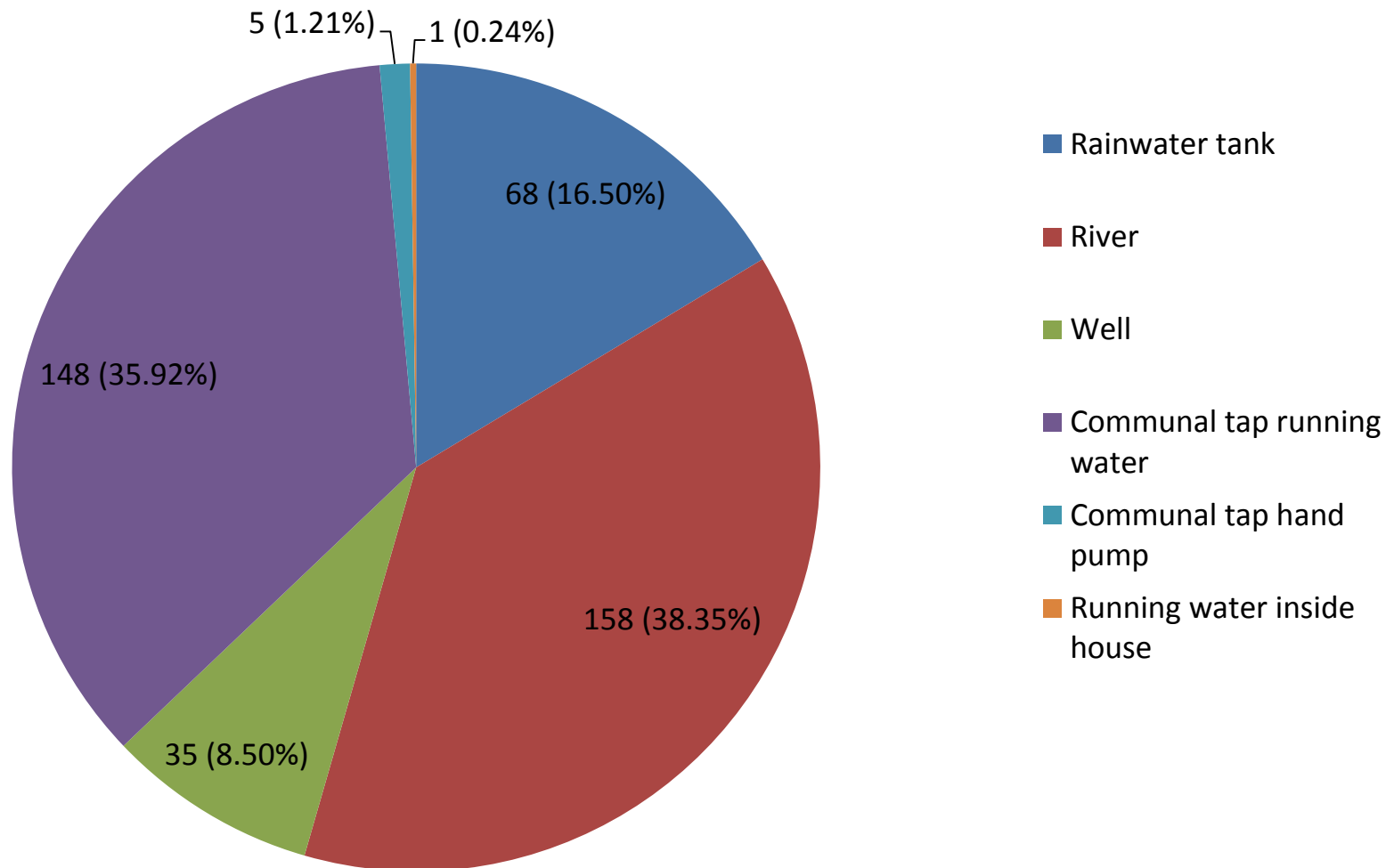
Context – Zithulele Hospital





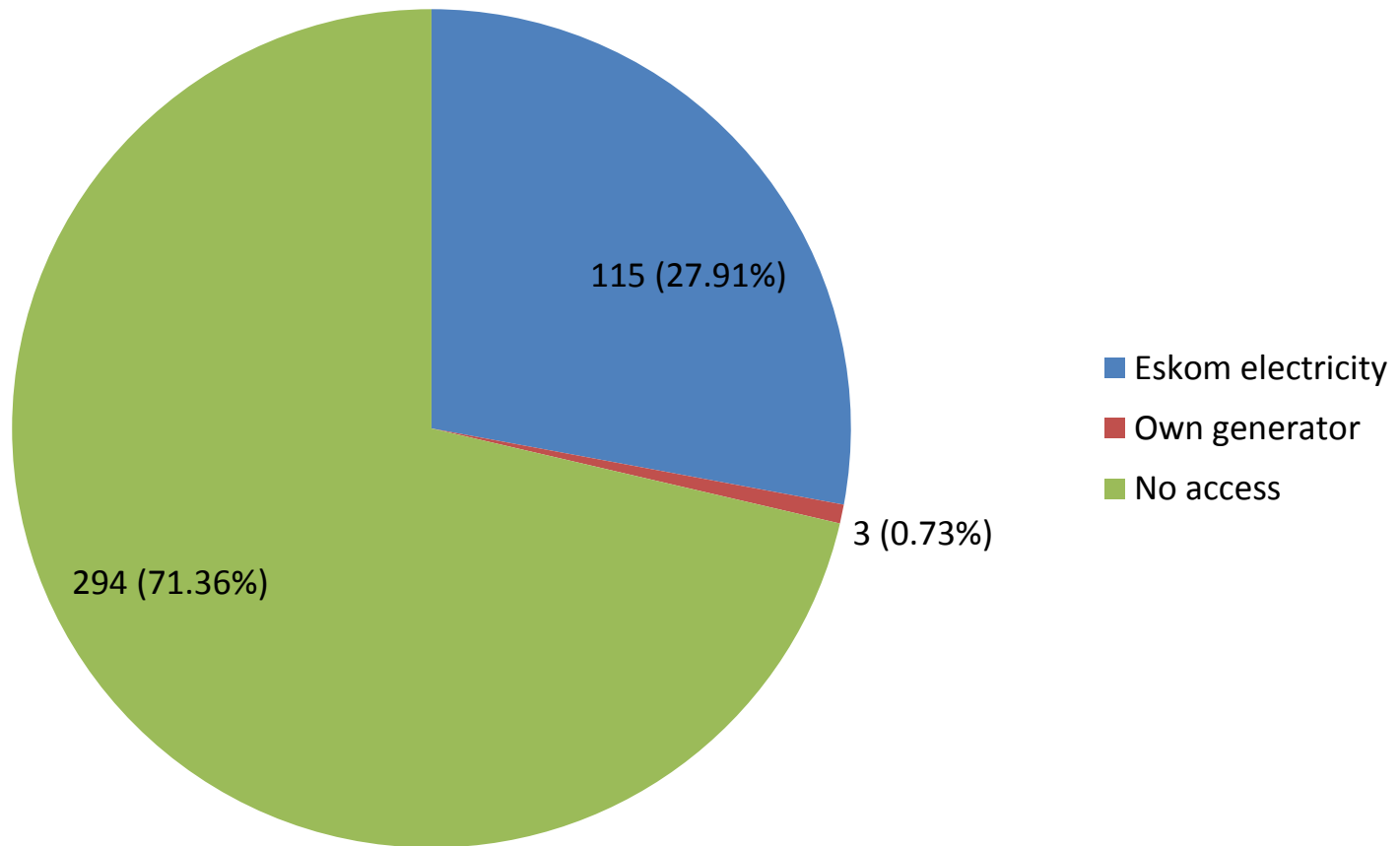


Water source (12 months)



342/412 mothers did not purifying the water in any way

Access to electricity (12 months)





Zithulele Hospital





EXIT

12

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Logo: A stylized umbrella icon with a small figure underneath.
Java Nordisk Novo Nordisk
rdisk Novo Nordisk Novo
Java Nordisk Novo Nordisk

Situation at clinics?





**KHUSELA UMNTWANA
WAKHO KWI POLIO**

Glycron

**UKUSELA
KAKHULU
KUSUKA IMIPHEFUMLO**

**emergency
contraceptive pills**

**Love
Life**

JALAMBA



HOW TO PREVENT
DIABETES

DIABETES

TB and HIV

How to prevent
diabetes

How to prevent
diabetes

Primary reason for stock-outs?


1. Poor ordering by pharmacists or nurses on the ground
2. Lack of storage facilities for medicines
3. Problems with transport of medication to your facility
4. Disorganised medical depot
5. Poor stock control systems generally – poor management of data and poor feedback

Why do we have stock-outs?

- Definition of a stock-out?
- Combination of factors
 - Clinic
 - Pharmacy assistants a rarity
 - Poor facilities/lack of space
 - Poor stock management systems
 - Nurse overload, isolation and drug knowledge
 - Distance to facility and state of roads for delivery
 - Fluctuating nature of primary care
 - Difficulty ordering surgicals

Why do we have stock-outs?

– Depot/sub-depot

- Poor systems, lack of staff, lack of capacity and accountability
- Poor drug management, theft, inefficiency
- Overwhelmed by need – massive  in demanders
- Arbitrary undersupply of nurse orders
- Lack of transport

– Bigger problems

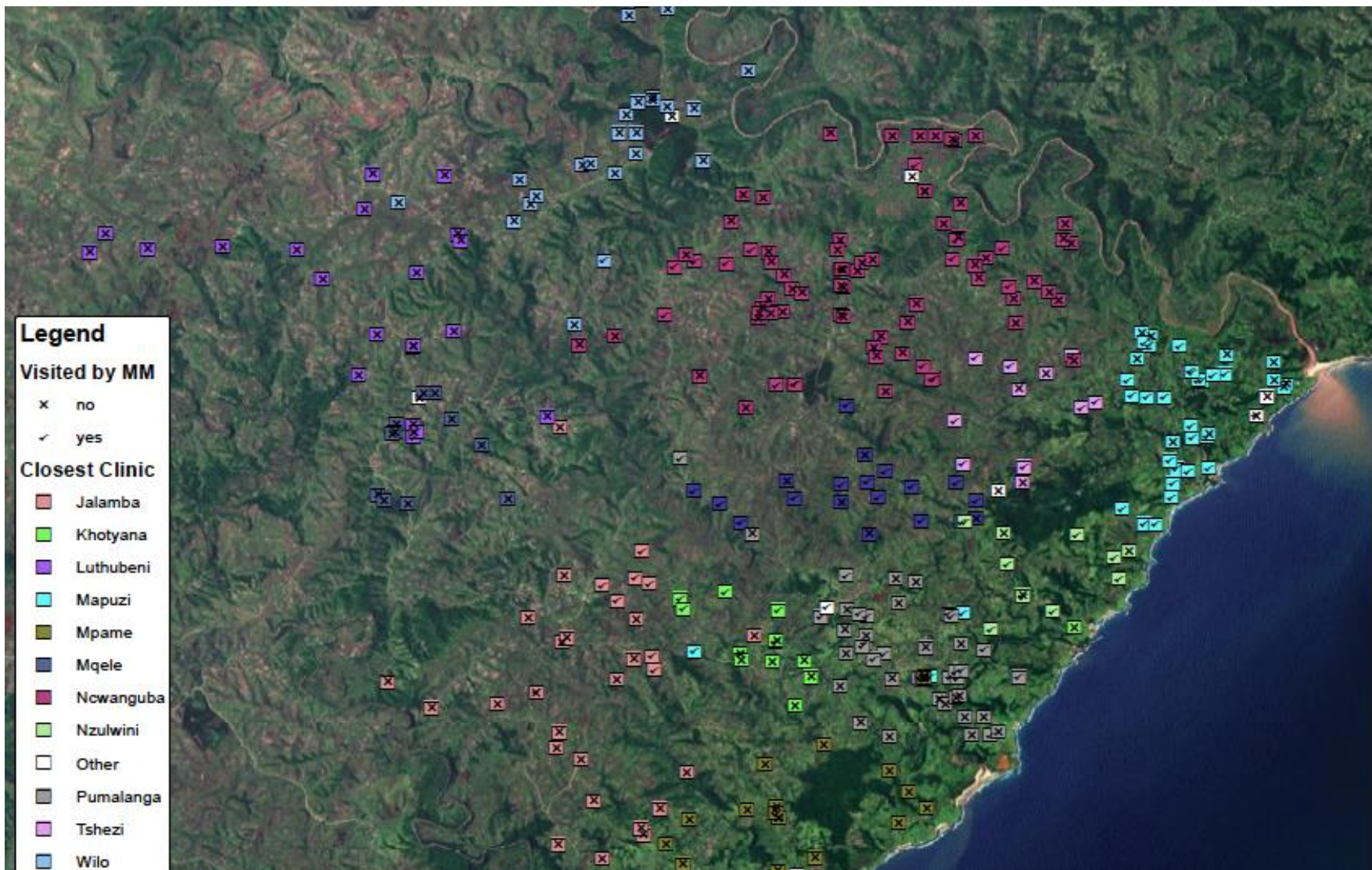
- Pharmaceutical companies with supply or capacity problems
- National or international problems with ingredients
- Vaccines produced overseas and long lead-in times
- Fear of reporting stockouts, poor response by managers (esp. “middle managers”)

Massive logistical challenge, requiring skilled personnel at all levels of the pharmaceutical service

Example of stockouts:

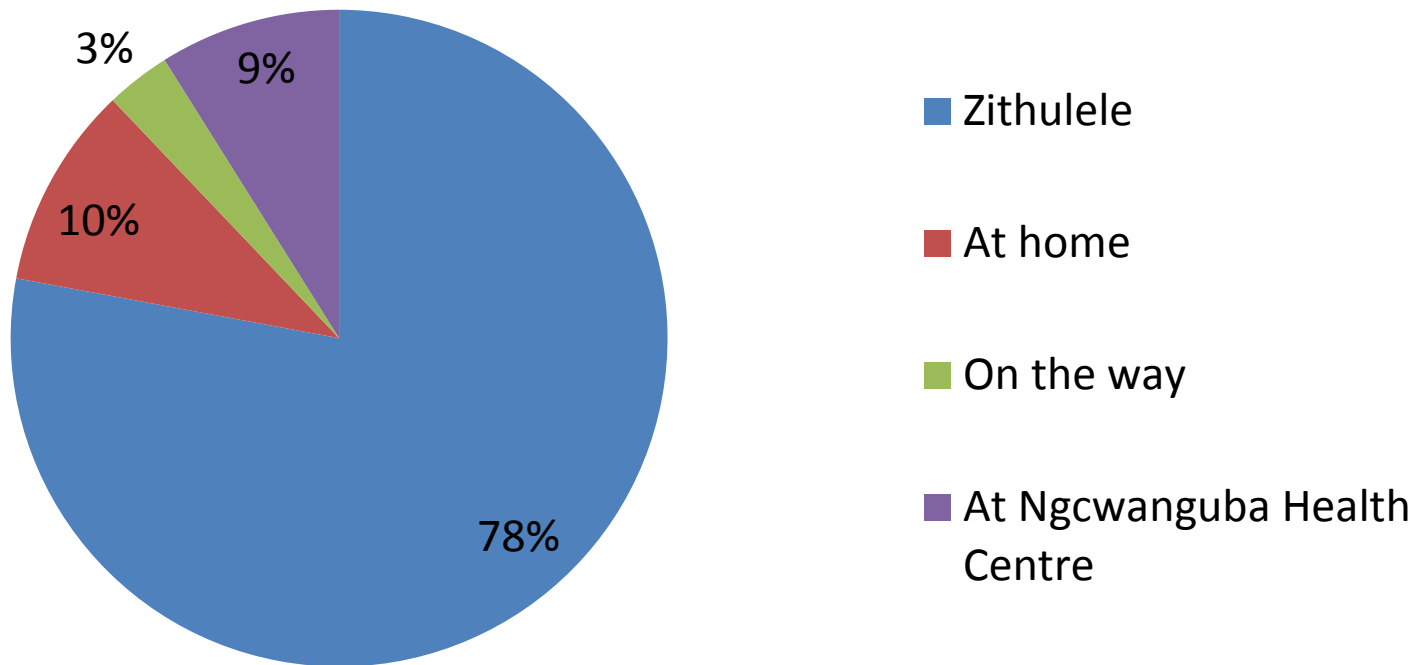
- Zithulele Births Follow up Study (ZiBFUS)
- 479 babies f/u 3 monthly for first year
- Weight, breastfeeding, PCR uptake, deaths, immunizations, depression scores, development
- Aim: To get a sense of what is happening outside the hospital gate

Distribution of mothers – by clinic

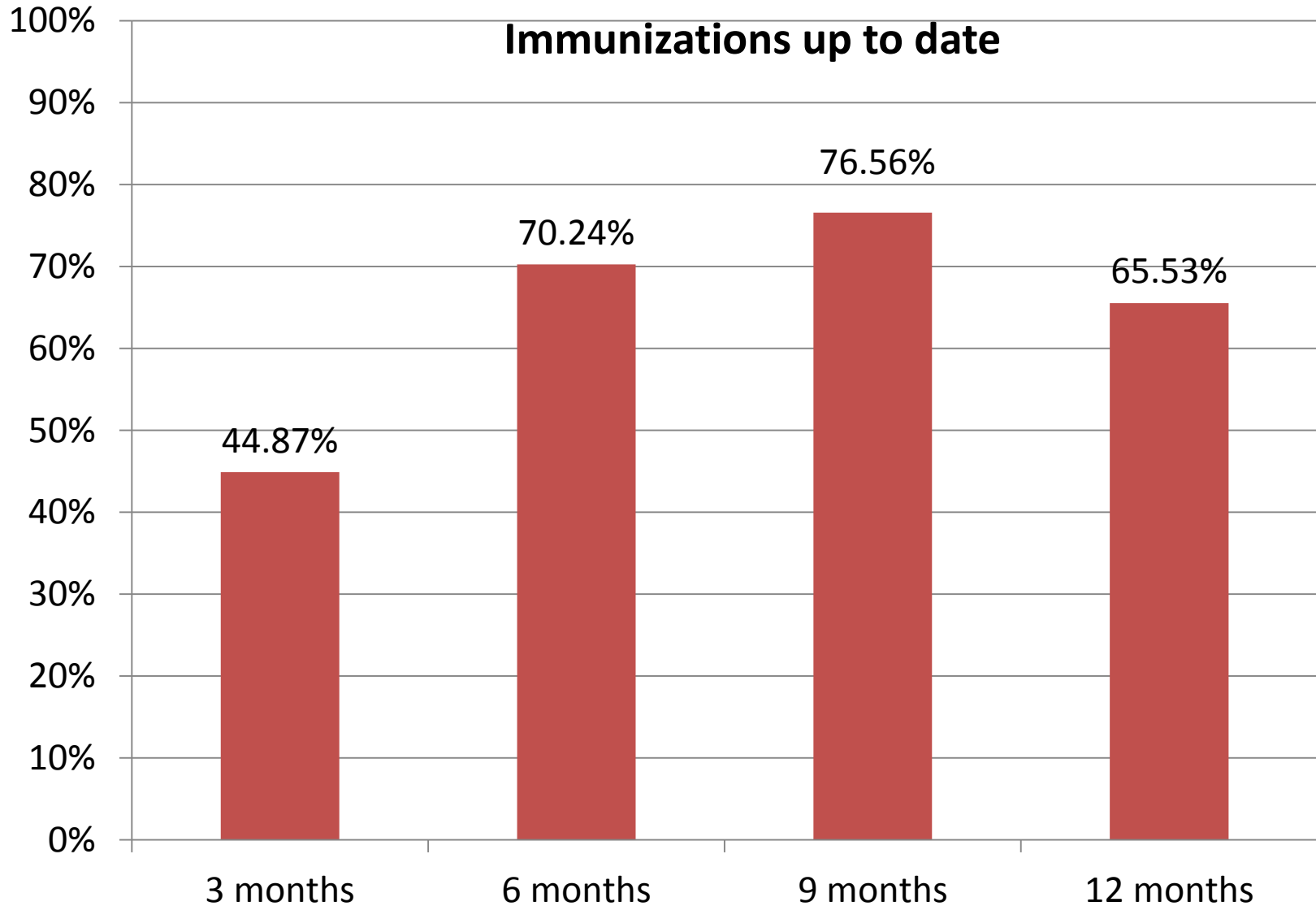


Birth

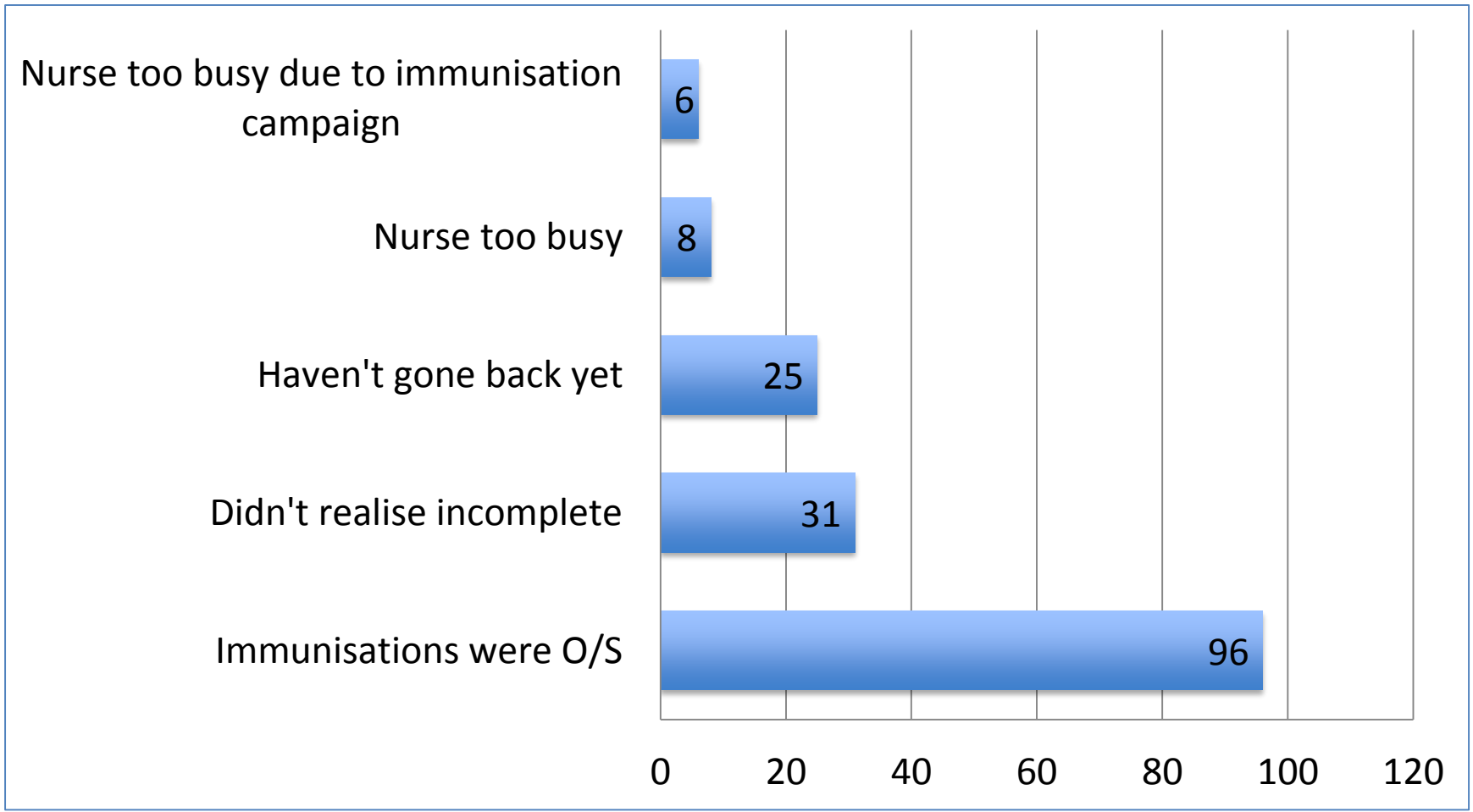
Birth place



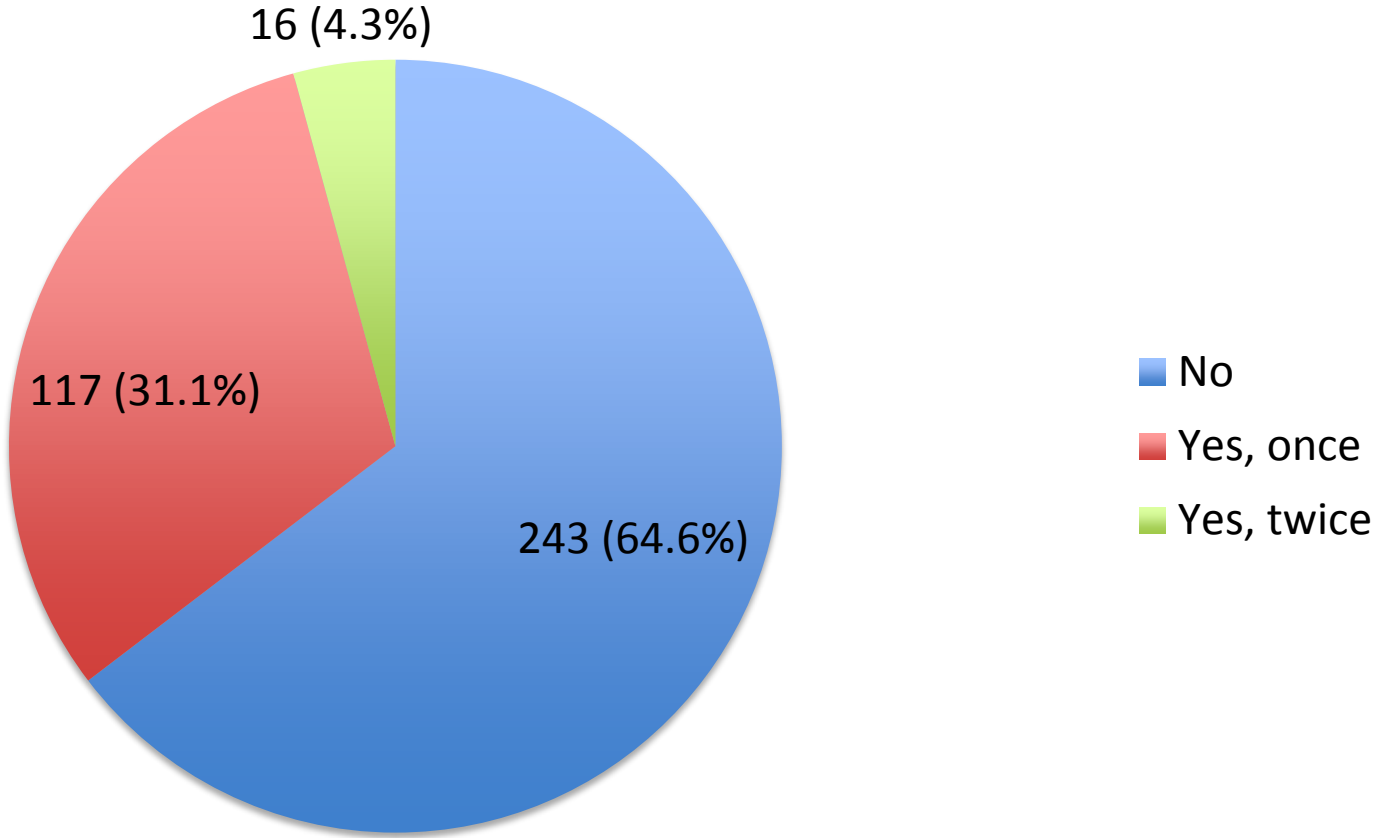
Immunizations



Why are immunisations incomplete? (At 3 months: n = 166/185)

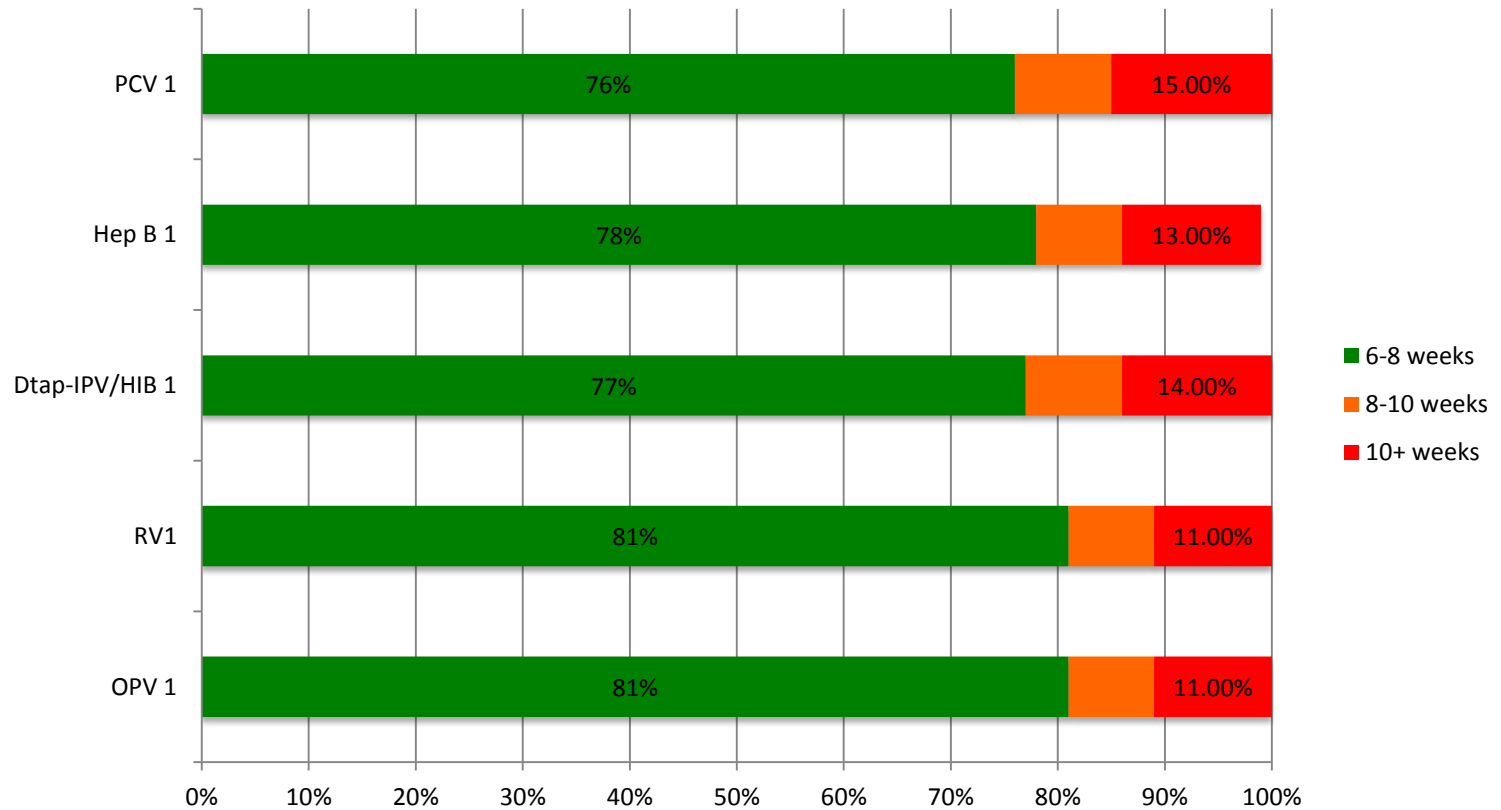


Told return for immunisations due to O/S? (n = 376)



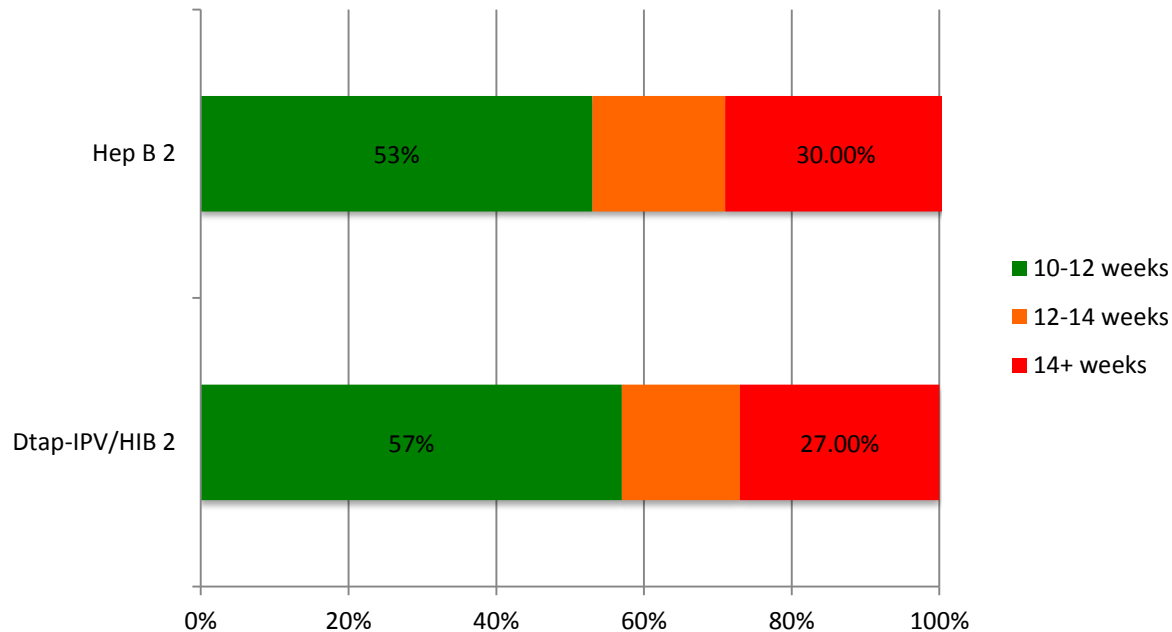
6 Weeks Immunizations

Timeliness of Immunizations



10 Weeks Immunizations

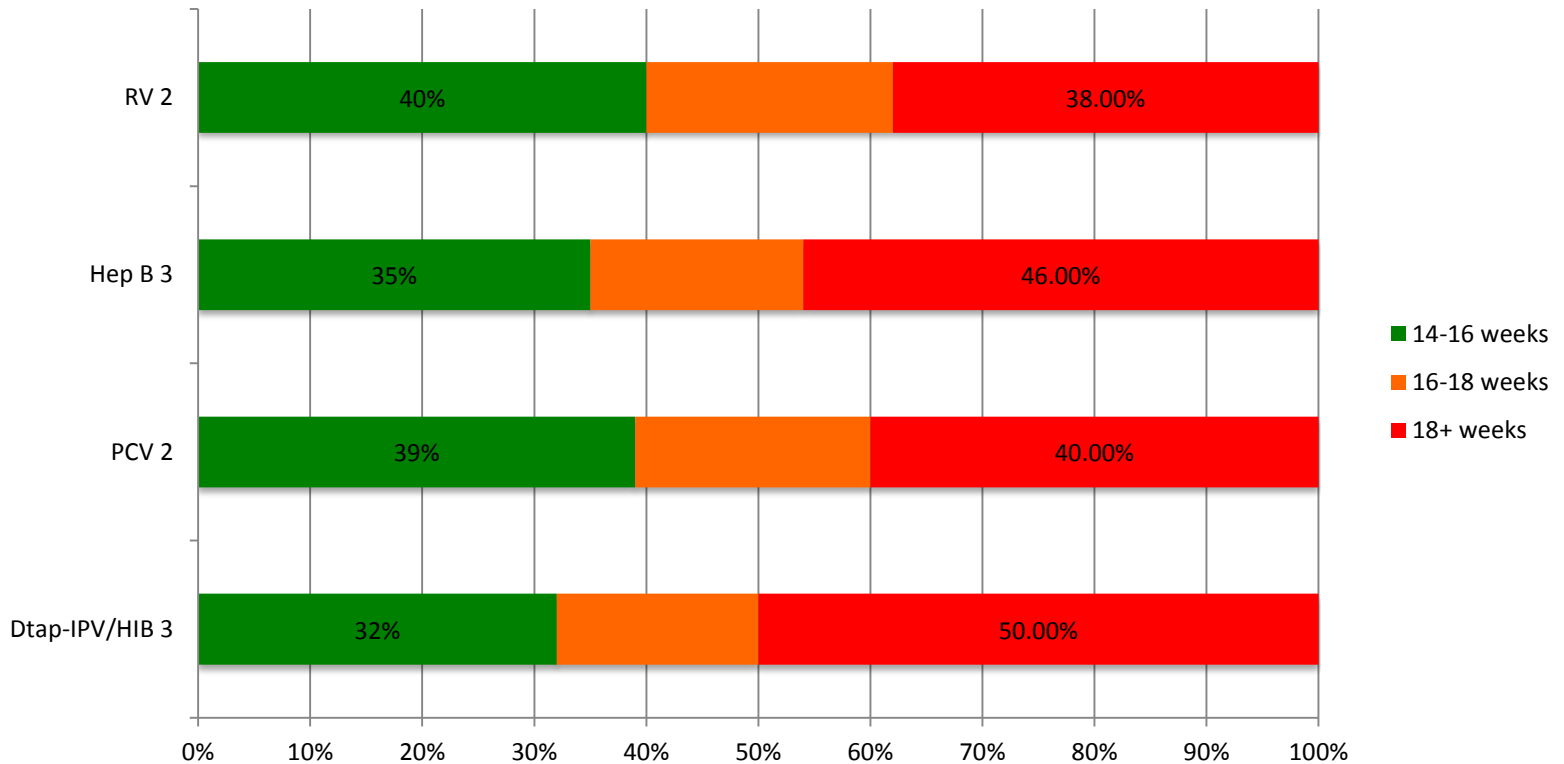
Timeliness of Immunizations



- According to ZIBFUS data, the 3 month interview data had the lowest up to date rate (44.87%). This is because $\approx 30\%$ of 10 weeks immunization is given later than 14 weeks from birth.

14 weeks Immunizations

Timeliness of Immunizations



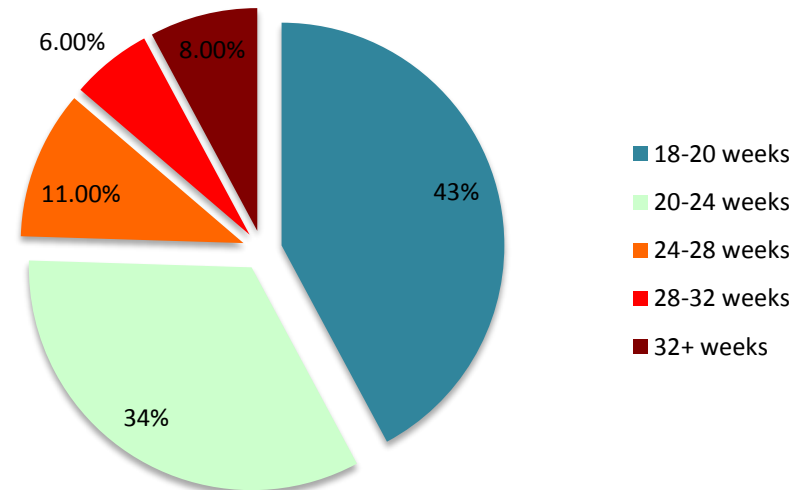
Rotavirus II

NDLELENDWOLO					
Age group	Batch no.	Vaccine	Site	Date given dd/mm/yy	Signature
Birth	418275	BCG	Right arm	14/09/13	M. G. [Signature]
	55076	OPV0	Oral		
6 weeks	15112	OPV1	Oral	20/6/13	[Signature]
	15028	RV1	Oral	20/6/13	[Signature]
	2019110	DTaP-IPV-Hib1	Left thigh	20/6/13	[Signature]
	15028	Hep B1	Right thigh	20/6/13	[Signature]
	15028	PCV 1	Right thigh	20/6/13	[Signature]
10 weeks	15112	DTaP-IPV-Hib2	Left thigh	20/6/13	[Signature]
	16028	Hep B2	Right thigh	24/10/13	[Signature]
	17165	DTaP-IPV-Hib3	Left thigh	24/10/13	[Signature]
	2019110	Hep B3	Right thigh	21/01/14	[Signature]
14 weeks		PCV2	Right thigh	21/01/14	[Signature]
		RV2	Oral		
		Measles1	Left thigh	21/01/14	[Signature]
9 months	17165	PCV3	Right thigh	21/01/14	[Signature]
18 months	17165	DTaP-IPV-Hib4	Left arm		
6 years		Measles2	Right arm		
12 years		Td	Left arm		
		Td	Left arm		

HEAD CIRCUMFERENCE AT 14 WEEKS AND AT 12 MONTHS
 14 Weeks: _____ (Range: 38 - 43 cm) 12 Months: _____ (Range: 43.5 - 48.5)
 REFER if head circumference is outside range

- 38% of Rotavirus II is given later than 18 weeks.
- Improper vaccination can *potentially* lead to a condition called intussusception.
- 25% of the late Rotavirus fall outside the maximum age that the last dose should be given.

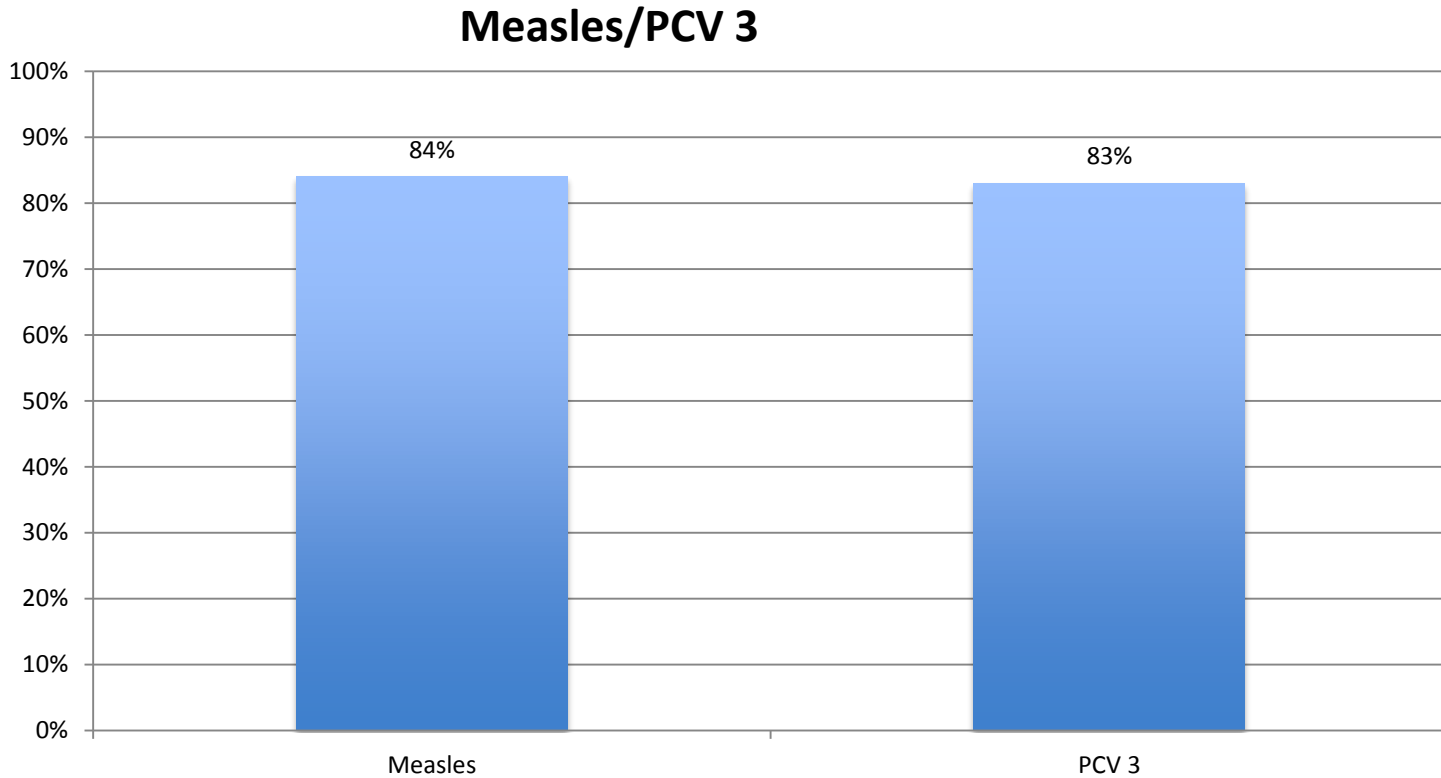
Late Rotavirus II



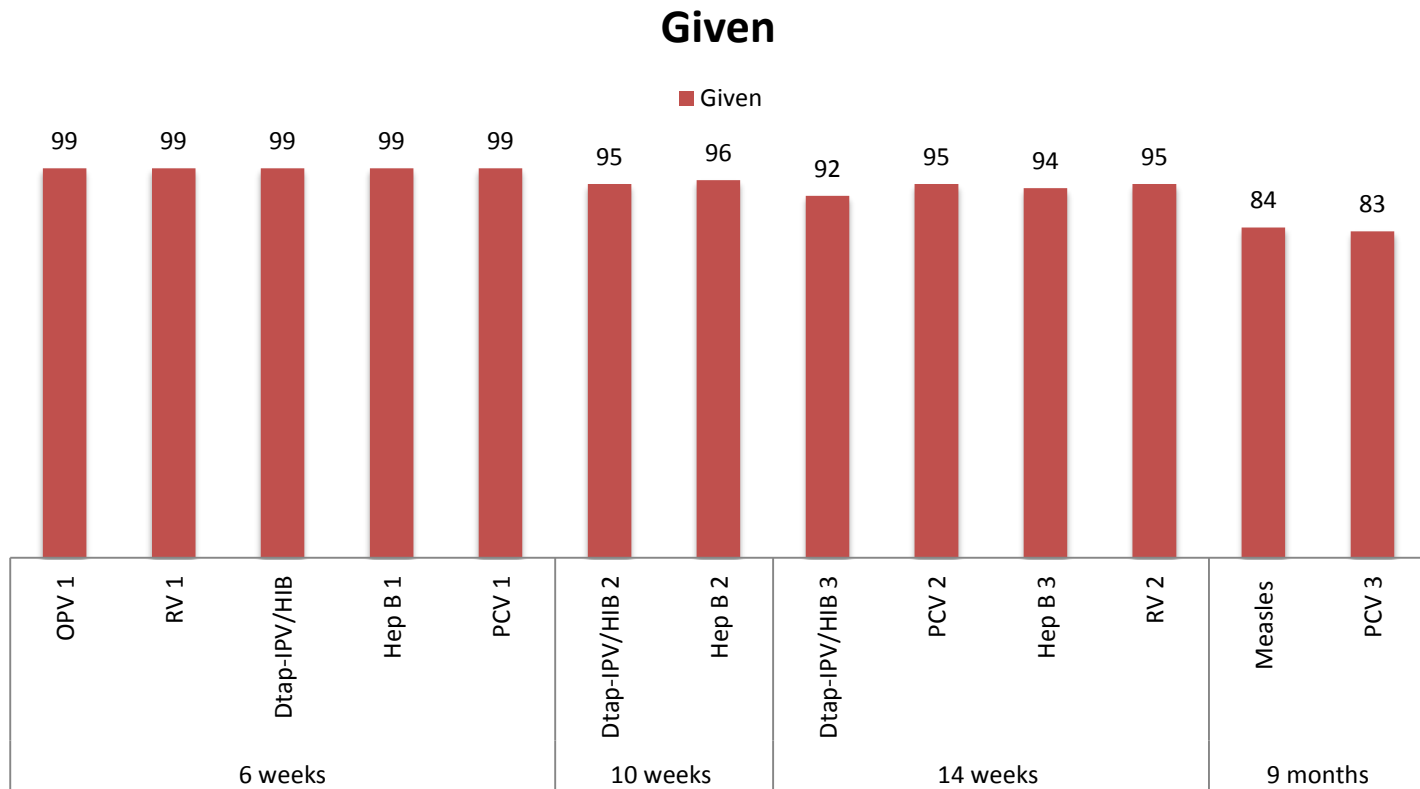
Rotarix: 24 weeks and 6 days

RotaTeq: 32 weeks and 0 days

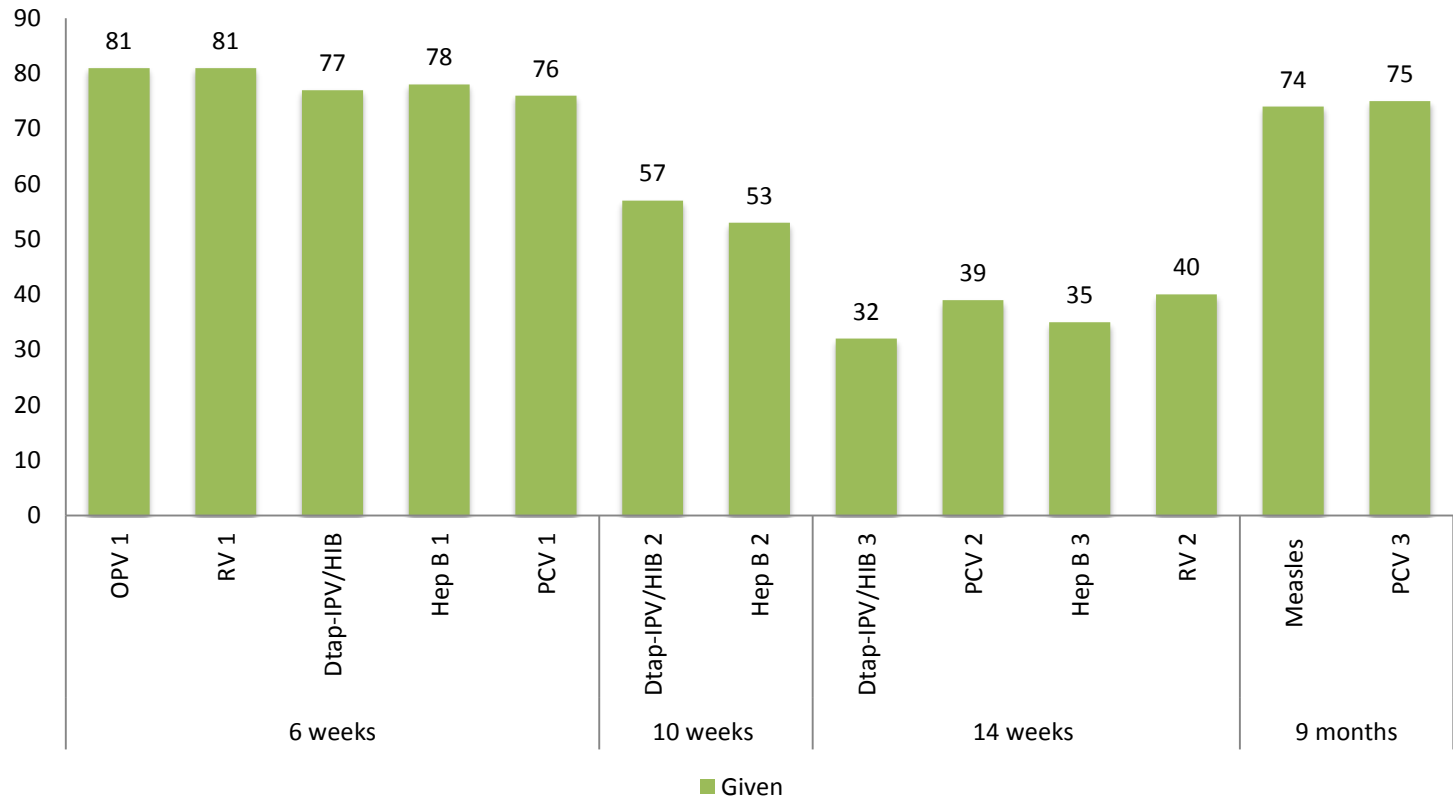
Measles/PCV 3 Uptake (12 months)



Immunizations Given



Immunizations Given *On Time*(2 wks)



Effect of stock-outs?

- Shortages and stock-outs
 - Shortages
 - Need to return more regularly
 - Unnecessary overload of facilities
 - Waste of clinicians and patient time
 - Patient:
 - Untreated: morbidity and mortality - suffering
 - Inconvenience, cost, impairs their dignity
 - Loss of confidence in the health system

Effect of stockouts...2

- On the doctor, nurse and/or pharmacist:
 - Without meds, a lot of what we do is a waste of time
 - Causes extra work and extra costs, e.g. virological failure
 - Wastes scarce clinician resources..
 - Frustrating, feeling of helplessness - highly discouraging!

Effects of stock-outs : in your opinion?

1. Patient morbidity or even mortality – i.e. patient suffering
2. Extra work for all in healthcare facilities
3. Undermines the dignity of patients
4. Demotivates staff
5. Patients loose confidence in the facility or public healthcare system as a whole

Case in point



Infant death in Zibfus study

- No immunisations apart from those given at birth
 - Went to Mapuzi Clinic 3 times, but always o/s
- Went to private doctor in Mqanduli 65 km away
 - Cost: R180 to see doctor
 - R70 transport
 - For cough, not helped...
 - Didn't improve, died on way to hospital

Stock-outs : conclusion

- This is never OK – we should not tolerate it, and should do something about it
- Needs clinicians at all levels to be involved
- Complex reasons - system failures, we need a holistic view
- Poor reporting, Impact on patient and HCW
- Preventing stock-outs arguably even more important in rural facilities

With thanks to:

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Christina Laurenzi

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Brianna Leahy

Elma Foundation

Questions ?



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www.zibfus.org

www.zithulele.org

Facebook: Clinical Team at Zithulele