

**PAEDIATRIC HIV TREATMENT FAILURE:
CONTRASTING RESULTS BETWEEN CHILDREN AND
ADOLESCENTS IN A DEDICATED PROGRAMME TO
ADDRESS HIGH VIRAL LOADS IN KHAYELITSHA, SOUTH
AFRICA**

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ZITHEMBE
BELIEVE



Background

- High treatment failure rates are seen in children and adolescents in South Africa (40% 0-14 year olds)¹
- Since 2013, Medecins Sans Frontieres (MSF) has run a programme to address high viral loads (VLs) in Khayelitsha, South Africa
- Failing patients 0-19 years old enrolled
- Intervention includes:
 - Clinical Care
 - Adherence support: (individual counseling, support groups)
 - Genotyping
 - Regimen changes when indicated

1. The continuum of HIV care in South Africa: implications for achieving the second and third UNAIDS 90-90-90 targets Simbarashe Takuva, Alison E. Brown, Yogan Pillay, Valerie Delpech, and Adrian J. Puren, AIDS 2017, Vol 31 No 4



**Series of visits:
(Bi-weekly, then
monthly)**

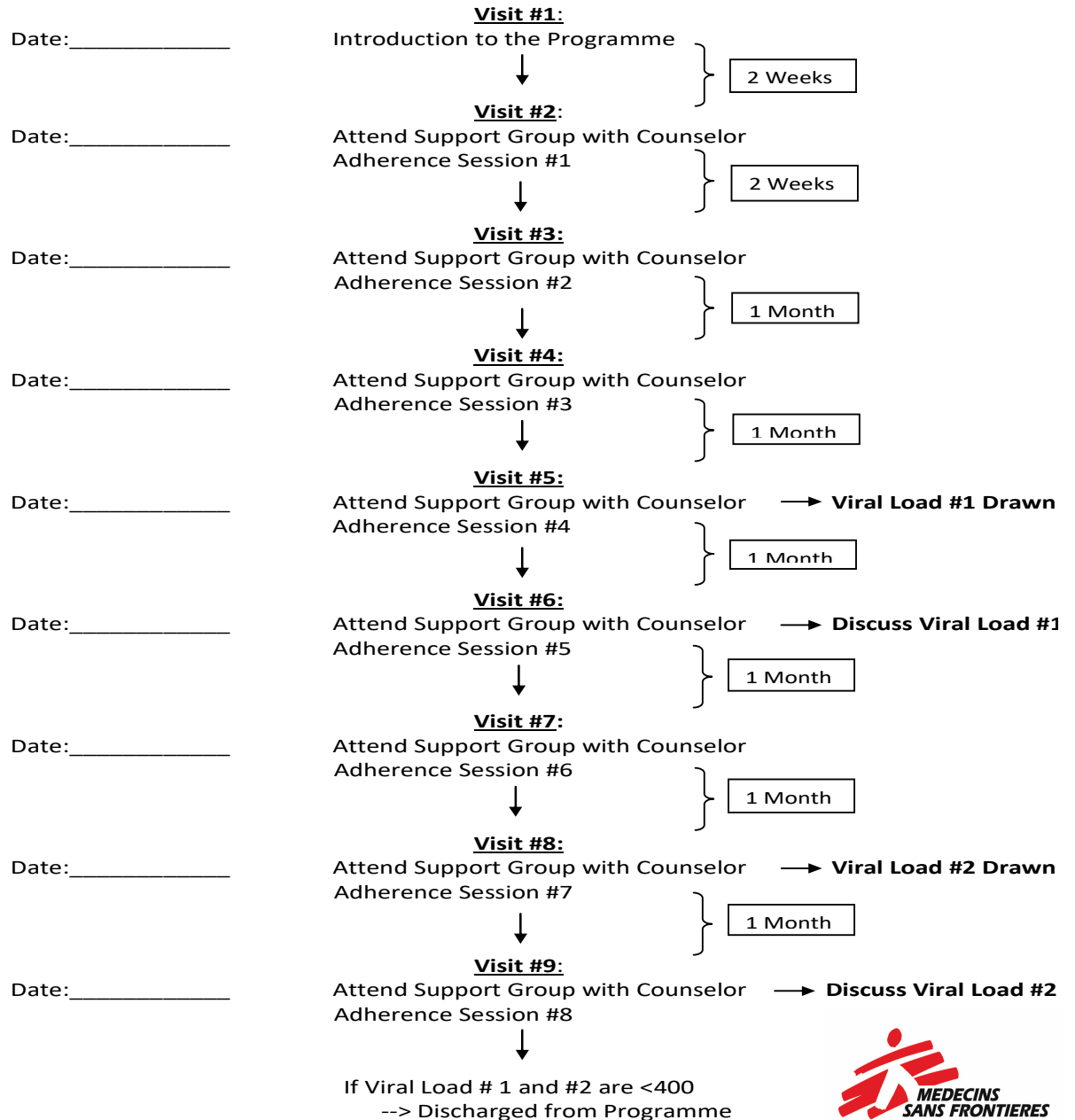
**3 months adherence
then VL**

**Two consecutive
suppressed VLs needed
to be discharged**



Appendix 1:

Patient Journey through the Programme



Results: Achieving VL suppression once by age

174 Total Patients 0-19 years of age
(166 total patients with at least one viral load + 8 patients LTFU before VL 1)

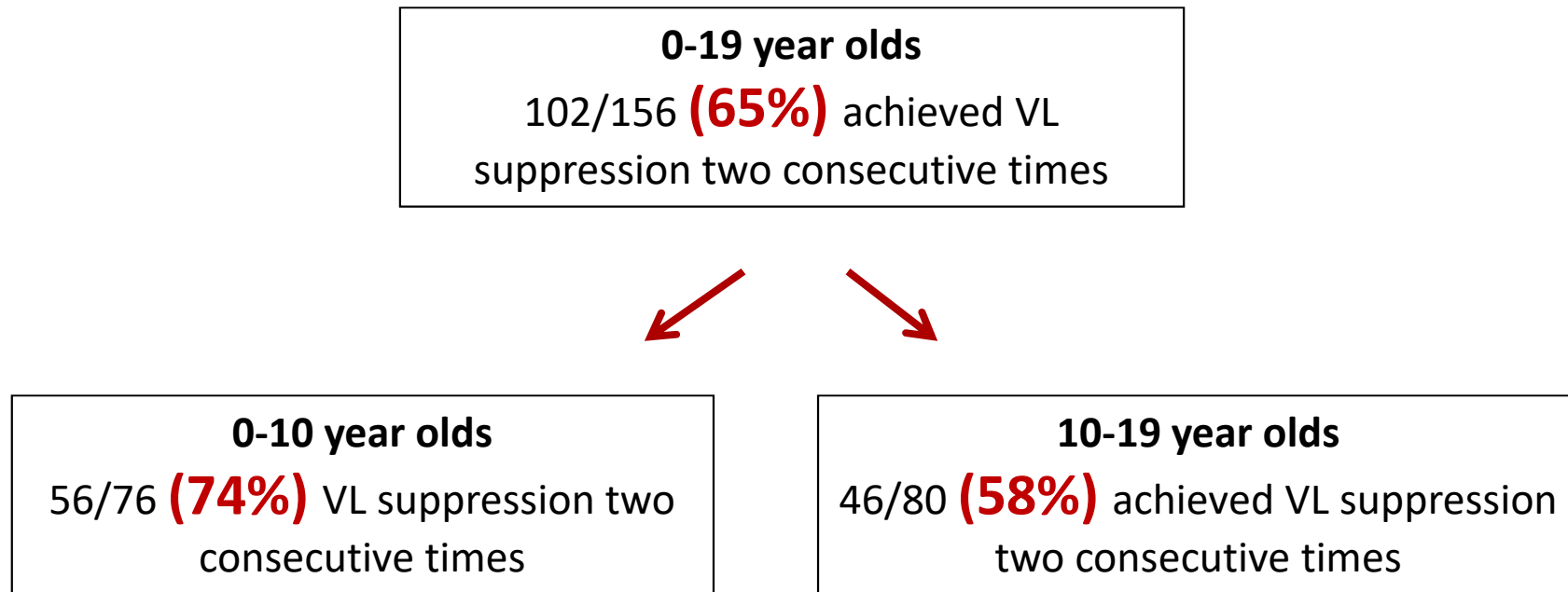
141/174 **(81%)**
achieved VL suppression at least
once during intervention

0-10 year olds
74/83 **(89%)** achieved VL
suppression at least once during
intervention

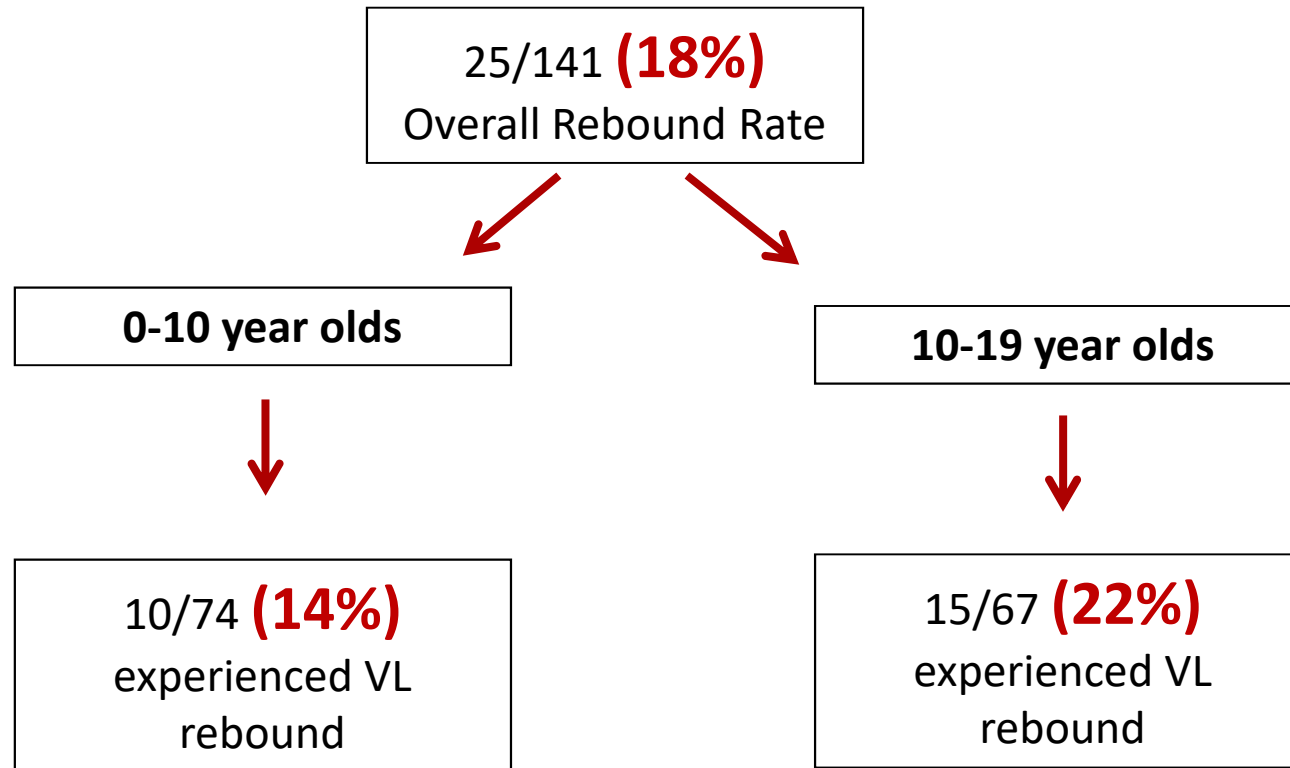
10-19 year olds
67/91 **(74%)** achieved VL
suppression at least once during
intervention

Results:

Achieving VL suppression two consecutive times by age



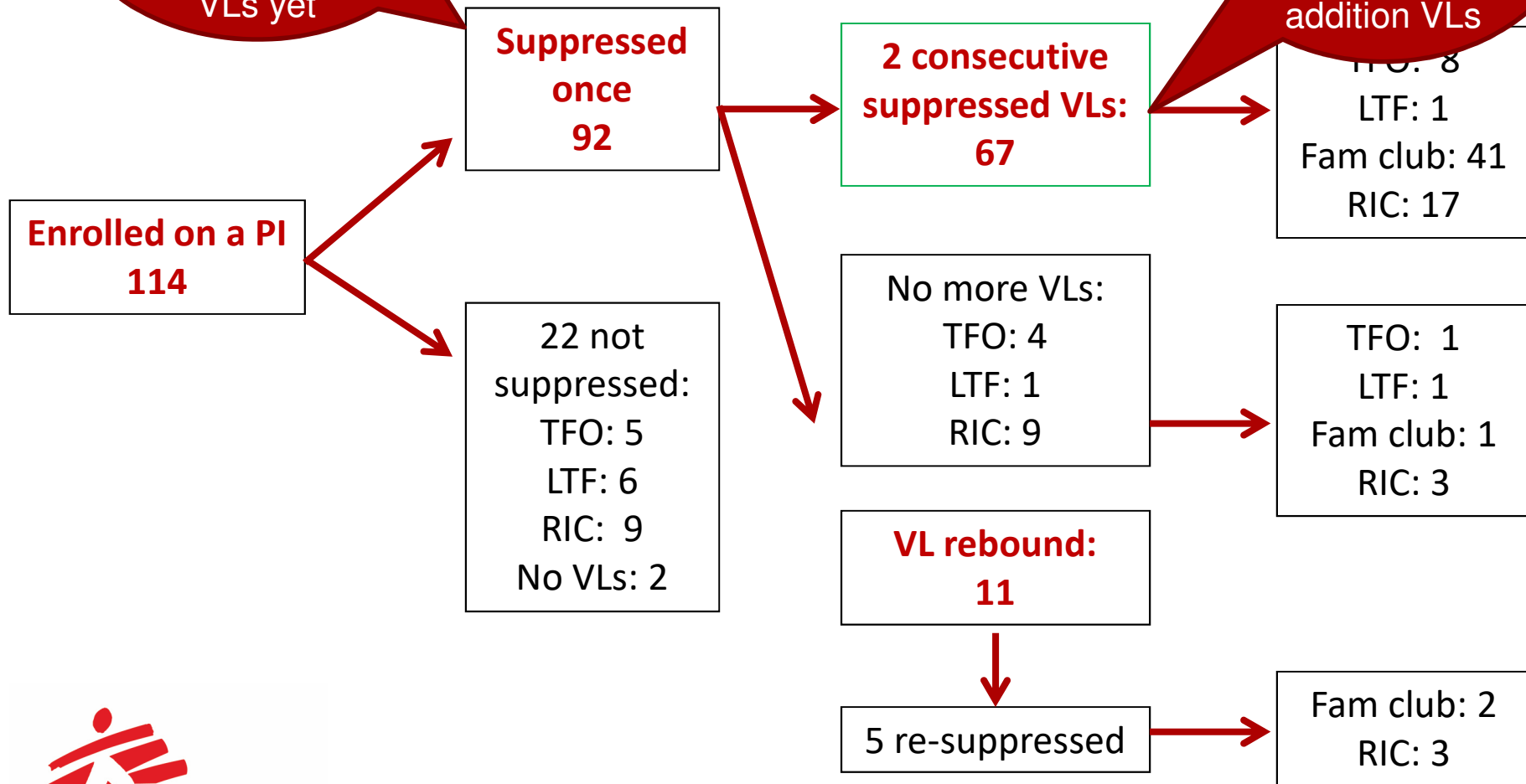
Results: VL Rebound



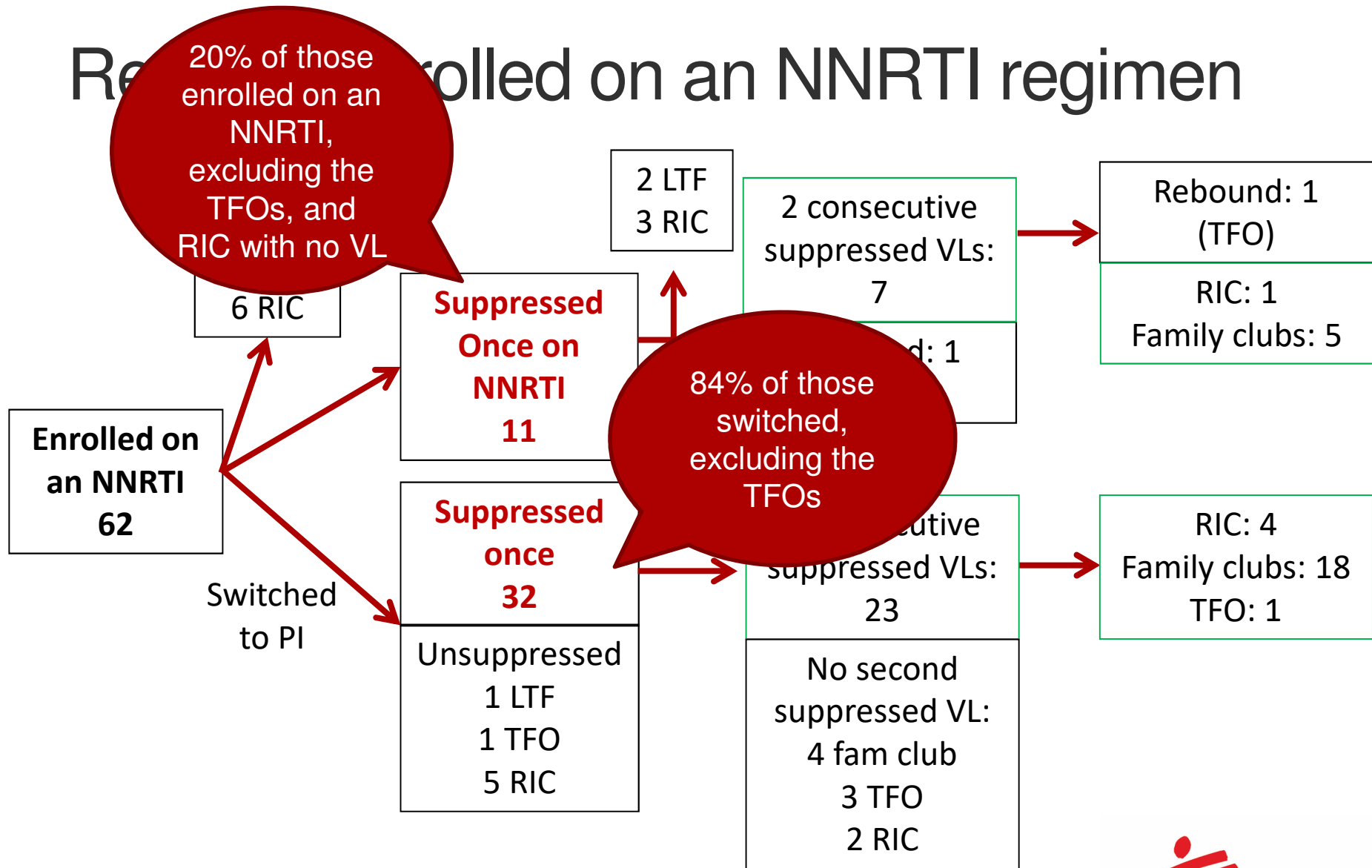
Enrolled on an PI regime

87% of those enrolling, excluding the TFOs and those with no VLs yet

70% of those enrolling, excluding TFOs and those with no addition VLs



Re-enrolled on an NNRTI regimen



Results: Suppression and rebound by regimen and age

Enrolled on PI

	Suppressed 1	Suppressed 2	Rebound
0-10 years	63 (91%)	48 (76%)	9 (14%)
10-19 years	29 (74%)	19 (56%)	8 (28%)

Enrolled on NNRTI

	Suppressed 1 (without switch)	Suppressed 2 (without switch)	Rebound (without switch)
0-10 years	3 (27%)	2 (20%)	0 (0%)
10-19 years	8 (17%)	5 (12%)	2 (11%)

Results: Time to suppression by regimen

	Baseline regimen		
	PI	NNRTI	All Patients
Time to 1 st suppression (median time in months)	3.9	6.2	4.4
Time to 2 nd suppression (median time in months)	7.37	9	8
Time to rebound after 1 st suppression (median time in months)	4.5	3	3.9

Resistance

- **100% (24/24)** patients genotyped while on a NNRTI while on showed resistance
- Only 12 patients on a PI were selected to have a genotype, of which 5 were resistant (41%)
- Only **4%** of patients enrolled on a PI were found to have PI resistance

Discussion:

- High rates of VL suppression were achieved in patients enrolled on a PI and in those enrolled on a NNRTI who were switched to a PI.
- Achieving durable suppression more difficult, especially among older children.
- All patients on NNRTI regimens who did not suppress who were genotyped showed resistance.
- PI resistance is low (most patients did not require genotyping).
- Patients 10-19 years old experienced VL rebound at a higher rate than younger patients.
- Time to suppress once and twice was short, as was the time to rebounding.

Conclusions:

- High VL suppression rates are possible for patients on a PI regimen through addressing adherence barriers in a thorough manner.
- Continued monitoring and support is needed to achieve long term suppression and to avoid rebound, especially in adolescents.
- The vast majority of patients failing an NNRTI regimen will require switching to PI regimens.
- Viral suppression can be achieved in a short period of time (within 6 months) for most patients.

Thanks!

Questions?



Results: Age by baseline regimen

agegroup	Started on PI	NNRTI		Total
		didn't switch	Switched	
1-5 y/o	45 (98%)	0 (0%)	1 (2%)	46
5-10 y/o	28 (74%)	5 (13%)	5 (13%)	38
10-15 y/o	31 (45%)	12 (17%)	26 (38%)	69
15+ y/o	10 (43%)	6 (26%)	7 (30%)	23
Total	114 (65%)	23 (13%)	39 (22%)	176

Slide 15

M7 Not sure overall about putting in this slide. Not really sure what it shows....

Is it correct that 24 patients enrolled on a NNRTI did not switch to a PI? I thought it was most of them....

MSFUser, 11/06/2017

M14 this was in response to the request to break down by age. I mentioned in email - the numbers get small and it will be way too complicated.

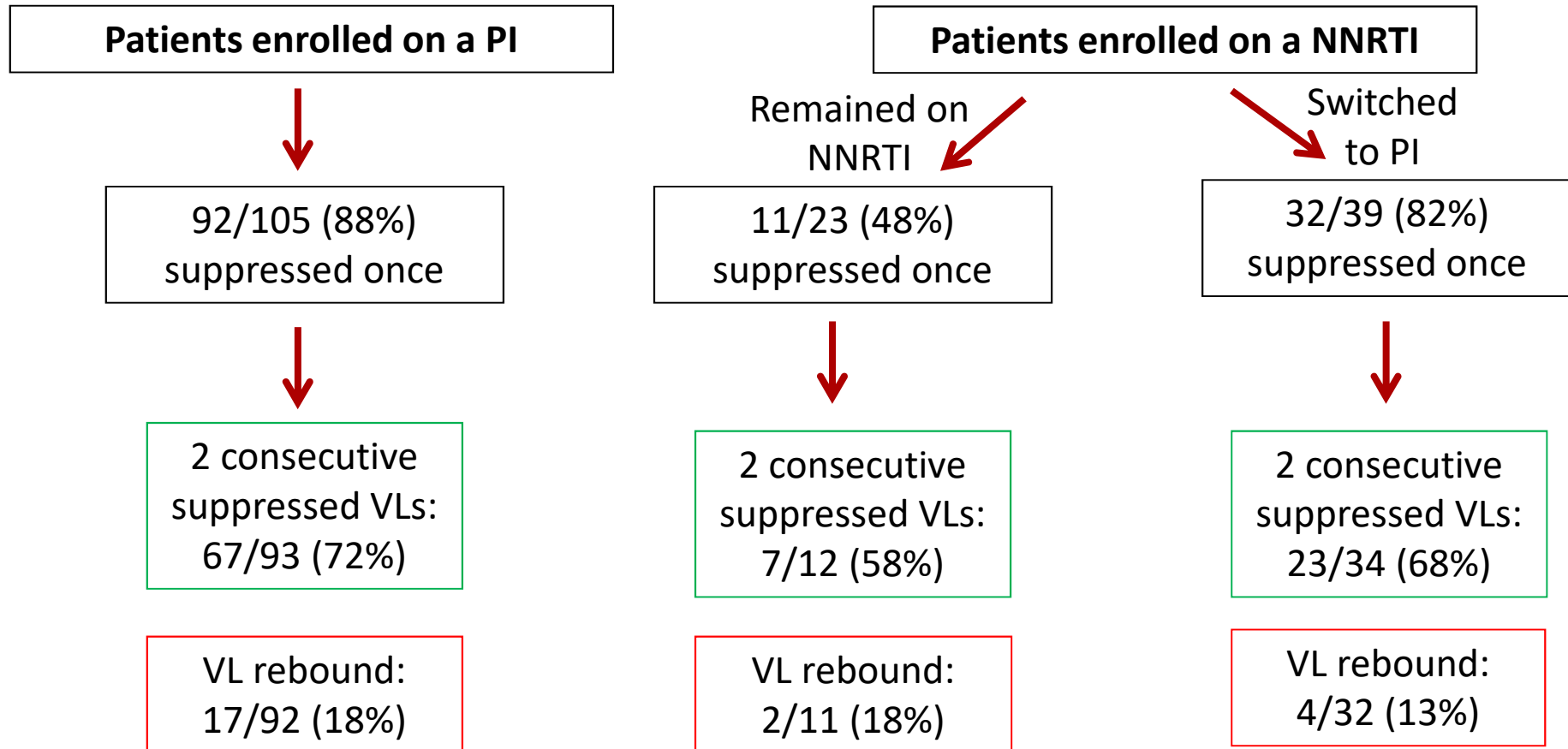
Maybe you can move it to the end as an extra slide and if people ask if there was a difference between PI and NNRTI by age, you can show?

re switches: this includes those 12 that were LTF, no VL yet, etc.

PS I corrected this slide - there was one unswitched that I moved to switch. need to check - inconsistent PI NNRTI data for him

MSFUser, 11/06/2017

Results: PI versus NNRTI regimen



Slide 16

JB5

I think since we have the next 2 slides that I will remove this one. I don't think I will have the time to talk about all of it.....

MSFUser, 11/06/2017

M12

Ya I agree - made the other two slides as alternatives. we should chat about cutting down on the content of next 2 slides too - probably too much detail, but I wanted you to see all data before deciding what to cut

MSFUser, 11/06/2017

Results: Outcomes by regimen

Outcomes	PI			NNRTI		
	N	median days	IQR	N	median days	IQR
Family Club	45	378	(322-490)	27	436	(308-511)
RIC	43	499	(110-870)	22	203	(57-406)
LTF	8	427	(304-582)	6	66	(28-763)
TFO	18	499	(110-870)	7	203	(57-406)
Total	113			63		

87% of those leaving the program, excluding TFOs were transferred to FC

82% of those leaving the program, excluding TFOs were transferred to FC

Slide 17

JB7

Not entirely sure I understand this - For Pls it looks like 45 patients were transferred to a family club. It doesn't seem like this is 87% even with excluding LFT/TFO.

Same with the 82% - not understanding these numbers...

MSFUser, 11/06/2017

M10

See notes and see if you agree with how i worked it out. My feeling is that we shouldn't include the RIC (hence 'completed the program - which i changed to 'leavin gthe program) because they haven't had a chance to complete the program yet, but we should probably note that there are some children that have been in the program for a llong time, which is also probably an unfavorable outcome.

(note the animations - you might want to change the order of how things appear etc.)

MSFUser, 11/06/2017

CD4 counts among rebounds

	N	mean	medianIQR
Baseline CD4	25	759.96	617(442-1159)
Last CD4 before rebound	21	887	643(534-1011)

Slide 18

JB11 Why 25 at baseline and only 21 at the last CD4 before rebound?

May not show this slide - time will be short I think....

MSFUser, 11/06/2017

M8 missing data. Can look up on NHLS for those 4 if you want. let me know if you want to keep this.

MSFUser, 11/06/2017











