


# Supplemental Information

## Appendix A: AMPATH Pediatric Clinical Encounter Form

		PAEDIATRIC RETURN VISIT FORM		Date: / /
1. Name:		AMPATH ID:		Previous ID:
2. DOB: / /		Age: Yrs. Mos.		Mother's AMPATH ID
3. Mother Deceased: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Father deceased: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		4. <input type="checkbox"/> Scheduled <input type="checkbox"/> Unscheduled Early <input type="checkbox"/> Unscheduled Late		
5. Clinic Location: MTRH Module: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 Chulaimbo <input type="checkbox"/> 1 <input type="checkbox"/> 2 Busia <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> Amukura <input type="checkbox"/> Burnt Forest <input type="checkbox"/> Iten <input type="checkbox"/> Kabarnet <input type="checkbox"/> Kapenguria <input type="checkbox"/> Turbo <input type="checkbox"/> Khunyangu <input type="checkbox"/> Kitale <input type="checkbox"/> Mosoriot <input type="checkbox"/> Mt. Elgon <input type="checkbox"/> Naitiri <input type="checkbox"/> Port Victoria <input type="checkbox"/> Teso <input type="checkbox"/> UG District Hospital <input type="checkbox"/> Webuye <input type="checkbox"/> Moi's Bridge <input type="checkbox"/> Moi University <input type="checkbox"/> Soy <input type="checkbox"/> Nambale <input type="checkbox"/> Mukhobola <input type="checkbox"/> Bumala A <input type="checkbox"/> Satellite: <input type="checkbox"/> Other:		6. Category: <input type="checkbox"/> Pilot <input type="checkbox"/> MTCT Plus <input type="checkbox"/> NASCOP <input type="checkbox"/> Self Pay <input type="checkbox"/> Awaiting Assignment <input type="checkbox"/> Research <input type="checkbox"/> Other:		7. Person Bringing Patient: <input type="checkbox"/> Mother <input type="checkbox"/> Father <input type="checkbox"/> Sibling <input type="checkbox"/> Grandparent <input type="checkbox"/> P <input type="checkbox"/> M <input type="checkbox"/> Auntie <input type="checkbox"/> P <input type="checkbox"/> M <input type="checkbox"/> Uncle <input type="checkbox"/> P <input type="checkbox"/> M <input type="checkbox"/> Children's home <input type="checkbox"/> Other
8. Current Feeding: tick all that apply <input type="checkbox"/> Breast <input type="checkbox"/> Formula <input type="checkbox"/> Cow's/Animal milk <input type="checkbox"/> Expressed Breast milk <input type="checkbox"/> Other liquids <input type="checkbox"/> Water <input type="checkbox"/> Solid Food		9. Previous Immunizations: <input type="checkbox"/> BCG <input type="checkbox"/> Hib Dose#: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> Measles Dose#: <input type="checkbox"/> 1 <input type="checkbox"/> HEP B Dose#: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> Polio Dose#: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> DTP Dose#: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> Completed all <input type="checkbox"/> Unknown		
10. If breastfeeding, is mother on ARVs? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		11. Are there Siblings < 18 months? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, are they registered in Pediatric HIV clinic? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes AMPATH ID's: 1. _____ 2. _____		
12. Child's Current HIV Status: <input type="checkbox"/> HIV exposed, status indeterminate <input type="checkbox"/> HIV infected <input type="checkbox"/> HIV Negative				
13. Has patient been hospitalized since last visit? <input type="checkbox"/> Yes <input type="checkbox"/> No Reason: _____				
14. Does Child have a disability? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, Specify: _____				
15. Current Medications:				
15a. ARVs: <input type="checkbox"/> Yes <input type="checkbox"/> No Is this the patient's Primary Regimen? <input type="checkbox"/> Yes <input type="checkbox"/> No Reason for ARV's: <input type="checkbox"/> pMTCT <input type="checkbox"/> Clinical disease <input type="checkbox"/> 3TC (4mg/kg): <input type="checkbox"/> Syrup _____ mg _____ ml <input type="checkbox"/> Tabs _____ mg <input type="checkbox"/> Kaletra (0.125ml/kg): <input type="checkbox"/> Syrup _____ mg _____ ml <input type="checkbox"/> Tabs _____ mg <input type="checkbox"/> d4T (1mg/kg): <input type="checkbox"/> Tabs _____ 15 <input type="checkbox"/> 20 <input type="checkbox"/> 30 mg <input type="checkbox"/> ABC (8mg/kg): <input type="checkbox"/> Syrup _____ mg _____ ml <input type="checkbox"/> Tabs _____ mg <input type="checkbox"/> AZT: (180mg/m2): <input type="checkbox"/> Syrup _____ mg _____ ml <input type="checkbox"/> Tabs _____ mg <input type="checkbox"/> DDI (100mg/m2): <input type="checkbox"/> Syrup _____ mg _____ ml <input type="checkbox"/> Tabs _____ mg <input type="checkbox"/> NVP: <input type="checkbox"/> Syrup _____ mg _____ ml <input type="checkbox"/> Tabs _____ mg <input type="checkbox"/> Nelfinavir: <input type="checkbox"/> Powder _____ mg <input type="checkbox"/> Tabs _____ mg <input type="checkbox"/> EFV: <input type="checkbox"/> Syrup _____ mg _____ ml <input type="checkbox"/> Tabs _____ mg <input type="checkbox"/> Other: <input type="checkbox"/> Syrup _____ ml <input type="checkbox"/> Tabs _____ mg				
15b. PCP Prophylaxis: <input type="checkbox"/> None <input type="checkbox"/> Septrin <input type="checkbox"/> Dapsone		15c. TB Prophylaxis: <input type="checkbox"/> None <input type="checkbox"/> INH		
15d. TB Treatment: <input type="checkbox"/> None <input type="checkbox"/> Completed (Date: / / ) <input type="checkbox"/> Rifater <input type="checkbox"/> Rifinah (Rifampin/INH) <input type="checkbox"/> Rifampicin <input type="checkbox"/> INH <input type="checkbox"/> Pyrazinamide <input type="checkbox"/> Ethambutol <input type="checkbox"/> Streptomycin Start Date of TB treatment: / /				
15e. Cryptococcus Tx: <input type="checkbox"/> None <input type="checkbox"/> Diflucan				
15f. Other Drugs: _____				
16. Adherence:				
16a. Who has been giving the medicine to the patient? (Please tick all that apply): <input type="checkbox"/> Mother <input type="checkbox"/> Father <input type="checkbox"/> Sibling <input type="checkbox"/> Grandparent <input type="checkbox"/> Auntie <input type="checkbox"/> Uncle <input type="checkbox"/> Self <input type="checkbox"/> Children's Home <input type="checkbox"/> Other (Specify): _____				
16b. During the last month has the patient missed any medications? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> ARVS <input type="checkbox"/> PCP Prophylaxis <input type="checkbox"/> TB Prophylaxis <input type="checkbox"/> Anti-TB Medication Drug(s) Missed: _____ Reason: _____				
16c. During the last seven days how many of his/her pills did the patient take? <input type="checkbox"/> ARVS: <input type="checkbox"/> None <input type="checkbox"/> Few <input type="checkbox"/> Half <input type="checkbox"/> Most <input type="checkbox"/> All Drug(s) missed _____ <input type="checkbox"/> PCP Prophylaxis: <input type="checkbox"/> None <input type="checkbox"/> Few <input type="checkbox"/> Half <input type="checkbox"/> Most <input type="checkbox"/> All Drug(s) missed _____ <input type="checkbox"/> TB Prophylaxis: <input type="checkbox"/> None <input type="checkbox"/> Few <input type="checkbox"/> Half <input type="checkbox"/> Most <input type="checkbox"/> All Drug(s) missed _____ <input type="checkbox"/> Anti-TB Medication: <input type="checkbox"/> None <input type="checkbox"/> Few <input type="checkbox"/> Half <input type="checkbox"/> Most <input type="checkbox"/> All Drug(s) missed _____				
Reasons for missing pills in the last 7 days: _____				
17. Does the patient have any interval complaints? <input type="checkbox"/> Yes <input type="checkbox"/> No				
<input type="checkbox"/> Diarrhea: <input type="checkbox"/> days <input type="checkbox"/> weeks <input type="checkbox"/> Months <input type="checkbox"/> continuous		<input type="checkbox"/> Vomiting: <input type="checkbox"/> days <input type="checkbox"/> weeks <input type="checkbox"/> Months <input type="checkbox"/> Continuous		
<input type="checkbox"/> Abdominal pain: <input type="checkbox"/> days <input type="checkbox"/> weeks <input type="checkbox"/> Months <input type="checkbox"/> Continuous		<input type="checkbox"/> Cough: <input type="checkbox"/> days <input type="checkbox"/> weeks <input type="checkbox"/> Months <input type="checkbox"/> Continuous		
<input type="checkbox"/> Difficulty breathing: <input type="checkbox"/> days <input type="checkbox"/> weeks <input type="checkbox"/> Months <input type="checkbox"/> Continuous		<input type="checkbox"/> Fever: <input type="checkbox"/> days <input type="checkbox"/> weeks <input type="checkbox"/> Months <input type="checkbox"/> Continuous		
<input type="checkbox"/> Sore throat: <input type="checkbox"/> days <input type="checkbox"/> weeks <input type="checkbox"/> Months <input type="checkbox"/> Continuous		<input type="checkbox"/> Ear discharge: <input type="checkbox"/> days <input type="checkbox"/> weeks <input type="checkbox"/> Months <input type="checkbox"/> Continuous		
<input type="checkbox"/> Skin rash: <input type="checkbox"/> days <input type="checkbox"/> weeks <input type="checkbox"/> Months <input type="checkbox"/> Continuous		<input type="checkbox"/> Swelling( specify) _____ <input type="checkbox"/> days <input type="checkbox"/> weeks		
<input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> days <input type="checkbox"/> weeks		<input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> days <input type="checkbox"/> weeks		
Comments: _____				
18. Physical Exam:				
Vitals: RR: _____ P: _____ Temp: _____ Weight: _____ Height: _____ Head Circ: _____ (if < 2 yrs) BSA: _____ SaO <sub>2</sub> : _____				
General: <input type="checkbox"/> Jaundice <input type="checkbox"/> Pale <input type="checkbox"/> Adenopathy <input type="checkbox"/> Edema <input type="checkbox"/> Thrush <input type="checkbox"/> Kaposi <input type="checkbox"/> Rash <input type="checkbox"/> Parotid enlargement				
RS: <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal		CNS: <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal		CVS: <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal
MS: <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal		PA: <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal		HEENT: <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal
Exam Notes: _____				

**19. Test Results:** (Please record date test was drawn, rather than date test was run)

Test	Result	Test Date	Test	Result	Test Date
WBC/mm <sup>3</sup>			CD4		
Hgb g/dL			CD8		
MCV			CD4%		
Platelets/mm <sup>3</sup>			HIV Long Elisa		
ALC/mm <sup>3</sup>			HIV DNA PCR		
SGPT			Viral Load		
Creat mmol/L			Other:		
CXR:	Code:		Codes: 0-normal 1-PI Effusion 2-Infiltrate 3-Miliary		
			4-Diffuse abn/non-miliary 5-Cavity 6-Cardiomegaly 7-Other abnormality		

**20. Current Pediatric Staging:**

CDC Class:  N  A  B  C Criteria \_\_\_\_\_ New Stage  Yes  No  
WHO Stage:  1  2  3  4 Criteria \_\_\_\_\_ New Stage  Yes  No  
Not-applicable:  HIV negative  HIV Exposed, status indeterminate

**Tuberculosis:**

21a. Household member diagnosed with TB?  Yes  No  
21b. Has the patient been diagnosed with TB since the last visit  
 Yes  No  
21c. Have you diagnosed this child with TB today?  
 Yes  No  Already on anti-TB

21d. If diagnosed, TB Diagnosis was done on basis of:  
 Household contact  Chronic cough (> 2 weeks)  
 FTT/weight loss  Persistent fever  
 Suggestive CXR  AAFB positive  
 TST positive \* Keith Jones score \_\_\_\_\_  Other (specify): \_\_\_\_\_  
\* Edward Keith score \_\_\_\_\_ \* (Refer to the manual)

**22. ARV Side-effects/Toxicity:** Any side-effects attributable to ARV since the last visit?  Yes  No  
If yes, tick all that apply:  Rash  Anemia  Lipo-dystrophy  Hepatitis  Neuropathy  IRIS  Steven-Johnson syndrome  
 Lactic Acidosis  Diarrhoea  Persistent Vomiting  Other (specify): \_\_\_\_\_

**23. Diagnosis:** New Diagnosis (\* Tick "Add" to add to summary sheet. Tick "Remove" to delete to from summary sheet)

Diagnosis	New	Ongoing	Resolved	Diagnosis	New	Ongoing	Resolved
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**24. Plan:**

24a. ARVs:  None  Start ARVs  Continue Regimen  Change Formulation  Change Regimen  Re-dose  Stop All  
Reason for stop/change/re-dose:  Failure  Toxicity (Specify) \_\_\_\_\_  Weight Change  Other \_\_\_\_\_  
If start or change or re-dose, tick new regimen:  
 3TC (4mg/kg):  Syrup \_\_\_\_\_ mg \_\_\_\_\_ ml  Tabs \_\_\_\_\_ mg  Kaletra (0.125ml/kg):  Syrup \_\_\_\_\_ mg \_\_\_\_\_ ml  Tabs \_\_\_\_\_ mg  
 d4T (1mg/kg):  Syrup \_\_\_\_\_ mg \_\_\_\_\_ ml  Tabs \_\_\_\_\_ mg  ABC (8mg/kg):  Syrup \_\_\_\_\_ mg \_\_\_\_\_ ml  Tabs \_\_\_\_\_ mg  
 AZT: (180mg/m2):  Syrup \_\_\_\_\_ mg \_\_\_\_\_ ml  Tabs \_\_\_\_\_ mg  DDI (100mg/m2):  Syrup \_\_\_\_\_ mg \_\_\_\_\_ ml  Tabs \_\_\_\_\_ mg  
 NVP:  Syrup \_\_\_\_\_ mg \_\_\_\_\_ ml  Tabs \_\_\_\_\_ mg  Nelfinavir:  Powder \_\_\_\_\_ mg  Tabs \_\_\_\_\_ mg  
 EFV:  Syrup \_\_\_\_\_ mg \_\_\_\_\_ ml  Tabs \_\_\_\_\_ mg  Other: \_\_\_\_\_

24b. PCP Prophylaxis:  None  Start  Continue Regimen  Change Regimen  Re-dose  Stop  
Reason for stop/change/re-dose:  Failure  Toxicity (Specify) \_\_\_\_\_  Weight Change  Other \_\_\_\_\_  
New Drugs:  Septrin \_\_\_\_\_ tabs/day or \_\_\_\_\_ ml/day  Dapsone \_\_\_\_\_ mg/day

24c. TB Prophylaxis:  None  Start INH  Continue INH  Re-dose  Stop INH  
Reason for stop/change/re-dose:  Completed  Toxicity (Specify) \_\_\_\_\_  Active TB  
 Weight Change  Other \_\_\_\_\_ Drug Dose:  INH \_\_\_\_\_ mg/day

24d. TB Treatment:  None  Start Induction  Change to Continuation  Continue Regimen  Re-dose  Stop  
Reason for stop/change/re-dose:  Completed  Toxicity (Specify) \_\_\_\_\_  Weight Change  Other \_\_\_\_\_  
New Drugs:  Rifater \_\_\_\_\_ tabs/day  Rifinah \_\_\_\_\_ tabs/day  Rifafour \_\_\_\_\_ tabs/day  Ethambutol \_\_\_\_\_ mg/day  
 Streptomycin \_\_\_\_\_ mg  Rifampicin \_\_\_\_\_ mg  INH \_\_\_\_\_ mg  Pyrazinamide \_\_\_\_\_ mg

24e. Immunizations Ordered Today:  None  
Pentavalent Vaccine  HIB Dose#:  1  2  3  BCG  
 DPT Dose#:  1  2  3  Measles Dose#:  1  
 HEP B Dose#:  1  2  3  Polio Dose#:  1  2  3  4

24f. Feeding plan:  Breast  Expressed Breast milk  Formula  Cow's/Animal milk  
 Other liquids (Uji, tea, soup, juice)  Solid food (ugali, potatoes, bananas)  
If this is a change, reason for change:  Age  Affordability  Intolerance  Other (Specify): \_\_\_\_\_

24g. Other Drugs Started or Re-dosed at this Visit:

Drug	Dose	Freq & Duration	New	DoseΔ
1.			<input type="checkbox"/>	<input type="checkbox"/>
2.			<input type="checkbox"/>	<input type="checkbox"/>
3.			<input type="checkbox"/>	<input type="checkbox"/>

**25. Tests Ordered:**

Full Haemogram  Hgb  SGPT  CD4 Panel  Viral Load  
 HIV Elisa  HIV DNA PCR  Creatinine  CXR  Other (Specify): \_\_\_\_\_

**26. Referrals:**

None  TB treatment/DOT program  Adherence Counseling  Nutritional support  Mental Health Services  
 Psychosocial counseling  Social Support Services  Disclosure Counseling  OVC  Express care  
 Inpatient care/Hospitalization: ( MTRH  Health Center  Other \_\_\_\_\_ )  Other referral (specify): \_\_\_\_\_

Additional Comments:  
Return to Clinic: Weeks \_\_\_\_\_ Months \_\_\_\_\_ Date \_\_\_\_\_ CO/Physician: \_\_\_\_\_ Provider #: \_\_\_\_\_  
 HIV Negative, Discontinue from Clinic Nurse: \_\_\_\_\_ Provider #: \_\_\_\_\_  
 Transfer care to other centre: \_\_\_\_\_  
 AMPATH  non-AMPATH TO: \_\_\_\_\_ Pediatric Return Version 4.5 16<sup>th</sup> March, 2009

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## APPENDIX C

### Details of Statistical Analysis Methods Used for Primary Outcome

We consider a discrete survival model for the analysis of the probability of completing an overdue task. First, we consider the probability of completing the overdue task at the initial visit to be  $\Phi(\alpha_1 + \gamma)$  in the control arm and  $\Phi(\beta_1 + \gamma)$  in the intervention arm. Here,  $\Phi(g)$  is the cumulative distribution function of a standard normal variable,  $(\alpha_1, \beta_1)$  are fixed model parameters, and  $\gamma$  represents the random effect due to the specific health care provider on that visit. Conditional on the fact that the overdue task was

not completed at visit  $k - 1$  ( $k \geq 2$ ), the probability of completing the overdue task at visit  $k$  is  $\Phi(\alpha_k + \gamma)$  and  $\Phi(\beta_k + \gamma)$  for the control and intervention arm, respectively. Setting the random effect  $\gamma$  to follow a normal distribution with mean 0 and variance  $\sigma^2$ , we fitted such a model by using SAS PROC GLIMMIX. In our model-fitting process, we found that a parsimonious model with  $\alpha_k = \alpha_3$  and  $\beta_k = \beta_3$  ( $k > 3$ ) is sufficient to fit the data. Therefore, this model is used to compare the intervention and control arms.

The null hypothesis that the intervention is not effective in improving completion of overdue tasks is translated to the following hypothesis in terms of the model described above:

$$H_0 : \alpha_k = \beta_k, k=1, 2, 3.$$

The  $P$  values in Table 3 are based on the Wald test of the  $H_0$ . The cumulative rate of correcting overdue task (CR( $k$ )) by visit  $k$  for the control arm is calculated based on the following formula:

$$\text{CR}(k) = 1 - \int_{-\infty}^{\infty} \Phi(-\hat{\alpha}_1 + \gamma) \Phi(-\hat{\alpha}_2 + \gamma) \dots \Phi(-\hat{\alpha}_k + \gamma) (1/\hat{\sigma}) \phi(\gamma/\hat{\sigma}) d\gamma$$

where  $\hat{\alpha}_1, \hat{\alpha}_2, \dots, \hat{\alpha}_k$  and  $\hat{\sigma}$  are parameter estimates and  $\phi(g)$  is the probability density function of a standard normal variable. CR( $k$ ) for the intervention arm can be similarly calculated with  $\hat{\alpha}_j$  replaced by  $\hat{\beta}_j$  ( $j=1, 2, \dots, k$ ).