The CQUIN Learning Network

The Science & Practice of Scale Up

Optimizing Human Resources in the context of DSD: An interactive Tool for HIV Clinic and Program Managers

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HIV LEARNING NETWORK
The CQUIN Project for Differentiated Service Delivery

The Science & Practice of SCALE-UP

Empowering Health for 15 years ICAP
Columbia University Mailman School of Public Health

Presentation Outline

- Why a new HRH tool for DSD?
- Tool functions, target audience and development process.
- DSD models in the tool
- How does the tool work and what does it look like?
- Unit of measure and calculation of FTE requirements and gaps
- Applying the tool and its limitations

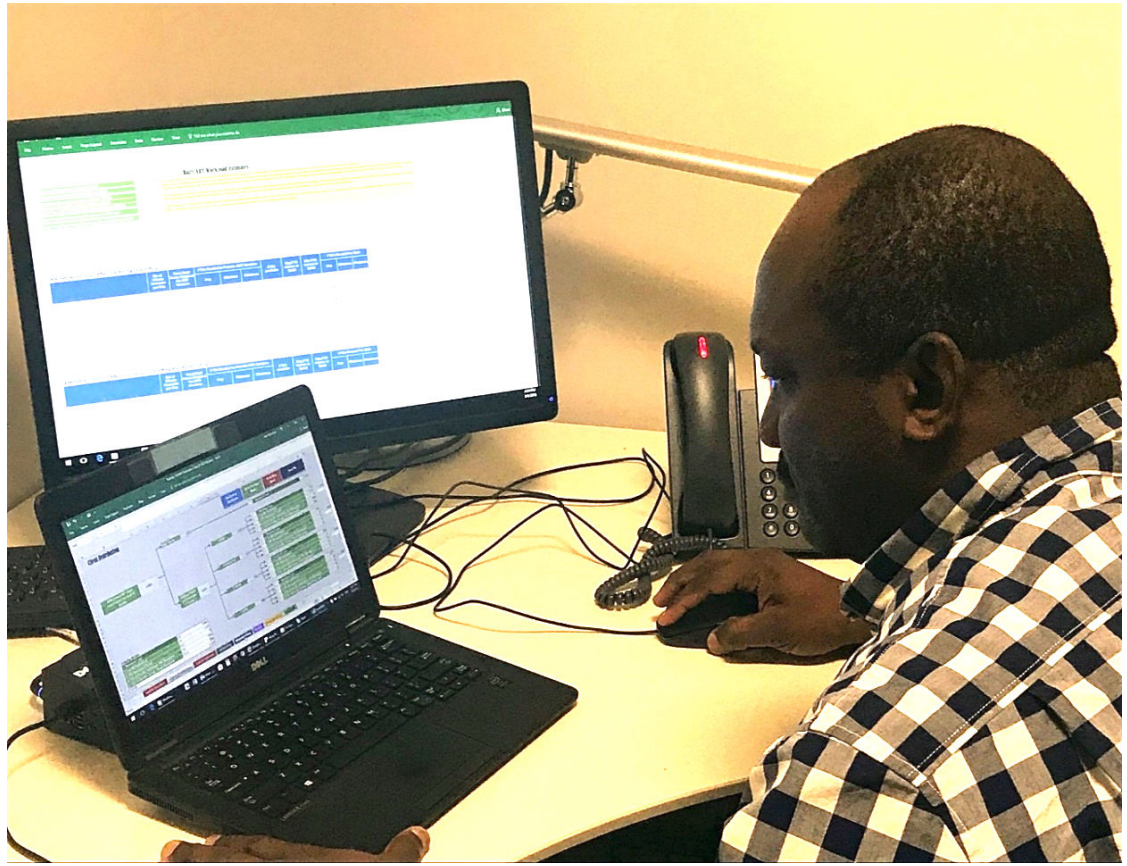
Why new HRH tool for DSD?

- Test and treat leading to a huge number of clients on ART
- DSD introducing diverse delivery models
  - Varying models per site
  - Varying client volumes per site
  - Varying client volumes per model per site
- HRH size has stagnated in many settings
  - Varying staffing norms and levels
- Need for efficient use of this limited resource
  - Hence the need for a new HRH tool to help optimize HRH

Tool Functions

The tool functions to optimize use of staff to deliver differentiated ART services

- Identify gaps/excess in current staffing
- Apply task shifting/sharing for critical ART tasks
- Redistribute ART clients to differentiated service delivery (DSD) models
- Provide evidence for decision-making: *e.g.*, staffing mix, capacity building needs and human resource requests



Target Audience

- Site-level ART clinic managers, facility in-charges
- Above-site HIV program managers, *e.g.*
  - PEPFAR country coordinators
  - USAID Mission HIV Treatment and Health Systems Strengthening staff
  - USG Implementing Partner/Global Fund Principal Recipient staff
  - National AIDS Control Program managers
  - District HIV program managers
  - Others planning resources for ART service delivery

Tool Development Process (1)

- Developed by HRH 2030 project with support from USAID
- USG agencies (including USAID/Washington, USAID/Uganda, USAID/Cameroon, CDC/ Cameroon and PEPFAR) were closely consulted
- The Ministry of Health AIDS Control Program and the Uganda Differentiated Service Delivery Technical Working Group provided expert guidance via stakeholder meetings
- Prototype tool piloting in Cameroon and Uganda was done in close collaboration with the Ministries of Health
- Data for tool development were collected at 20 'experienced' ART sites in Uganda; pilot testing was done at 10 sites each in both Cameroon and Uganda
  - A local firm was contracted to collect data from the 20 'experienced' ART sites
- At 'experienced' ART sites, data collection was iterative and was done in 3 phases to incorporate learning

Tool Development Process (2)

Development involved:

- Key informant interviews (168)
- ART client interviews (329)
- focus group discussions (18);
- individual timesheet completion (130);
- ART client flow observations (395); and
- Expert panel consultations (two in-country meetings)

Continued…

Tool Development Process (3)

Development also involved:

- Observation of 1,791 discrete critical tasks along the ART service delivery continuum with > 64,000 minutes of observation time
- ART client 'contact times' with various types of service providers were used to model the benchmarks that drive the Tool
- Lessons learned from pilot exercises and demos were used to improve the prototype version of the Tool

DSD Models in the Tool

In the Tool, countries can map their specific DSD models to the 'Global' models

Global differentiated ART delivery model	Model as presented in Tool	Uganda Example: Ugandan model equivalent(s)
	Standard Care	Facility-based individual management (FBIM)
Health care worker-managed groups (at facility or out-of-facility)	Health care worker-managed group model	Facility-based groups (FBGs)
Client-managed groups (out-of-facility)	Out-of-facility client managed group model	Community-client led ART distribution (CCLAD)
Facility-based individual models	Facility Individual (Fast track)	Fast track drug refills (FTDR)
Out-of-facility individual models	Out-of-facility individual healthcare worker-managed model	Community drug distribution points (CDDPs)

How Does the Tool Work?

User-provided inputs

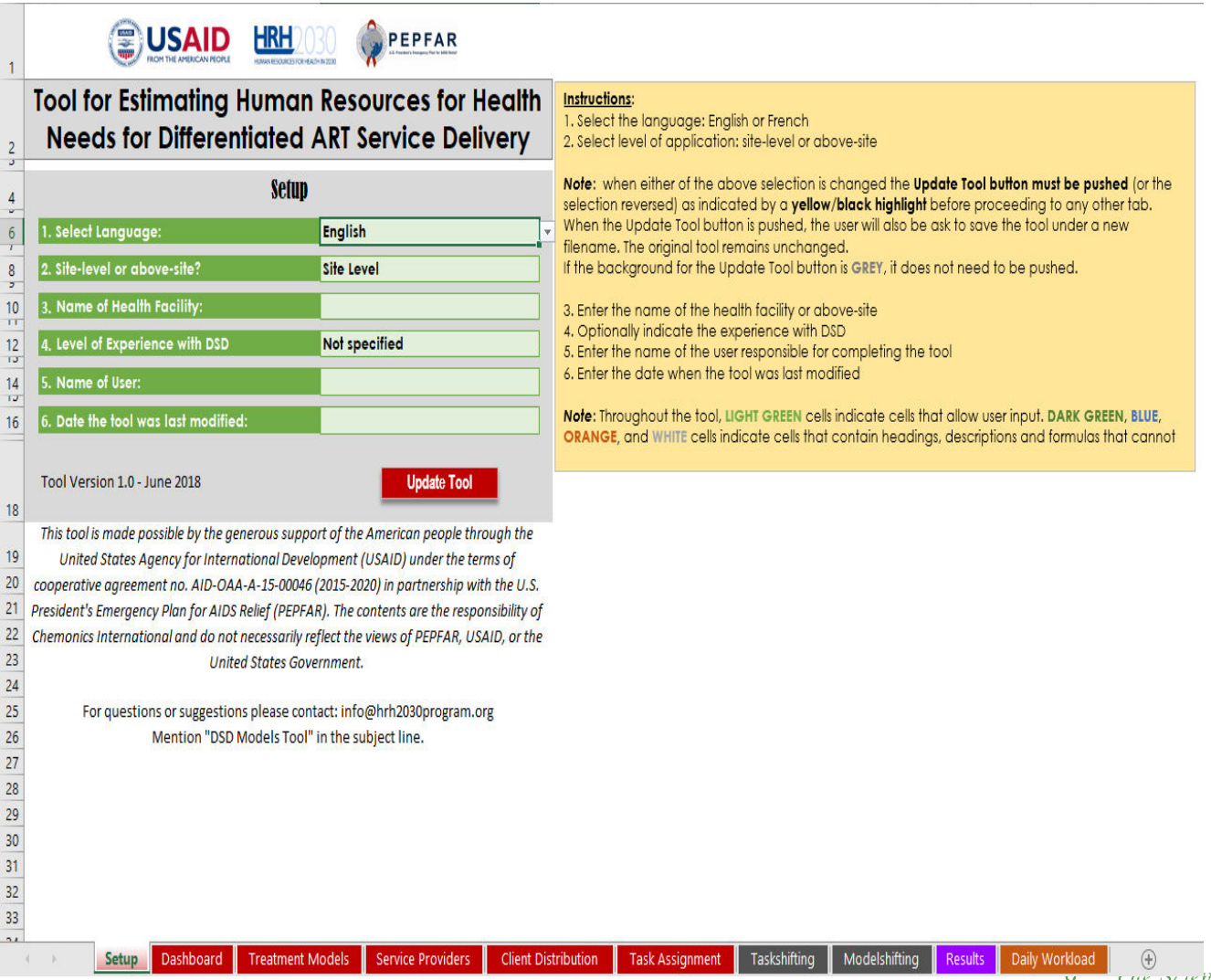
- Estimated # ART clients (stable/unstable, by sub-population group) to be served over next 12 months
- # service providers (skilled and lay) by cadre type
- Types of DSD offered

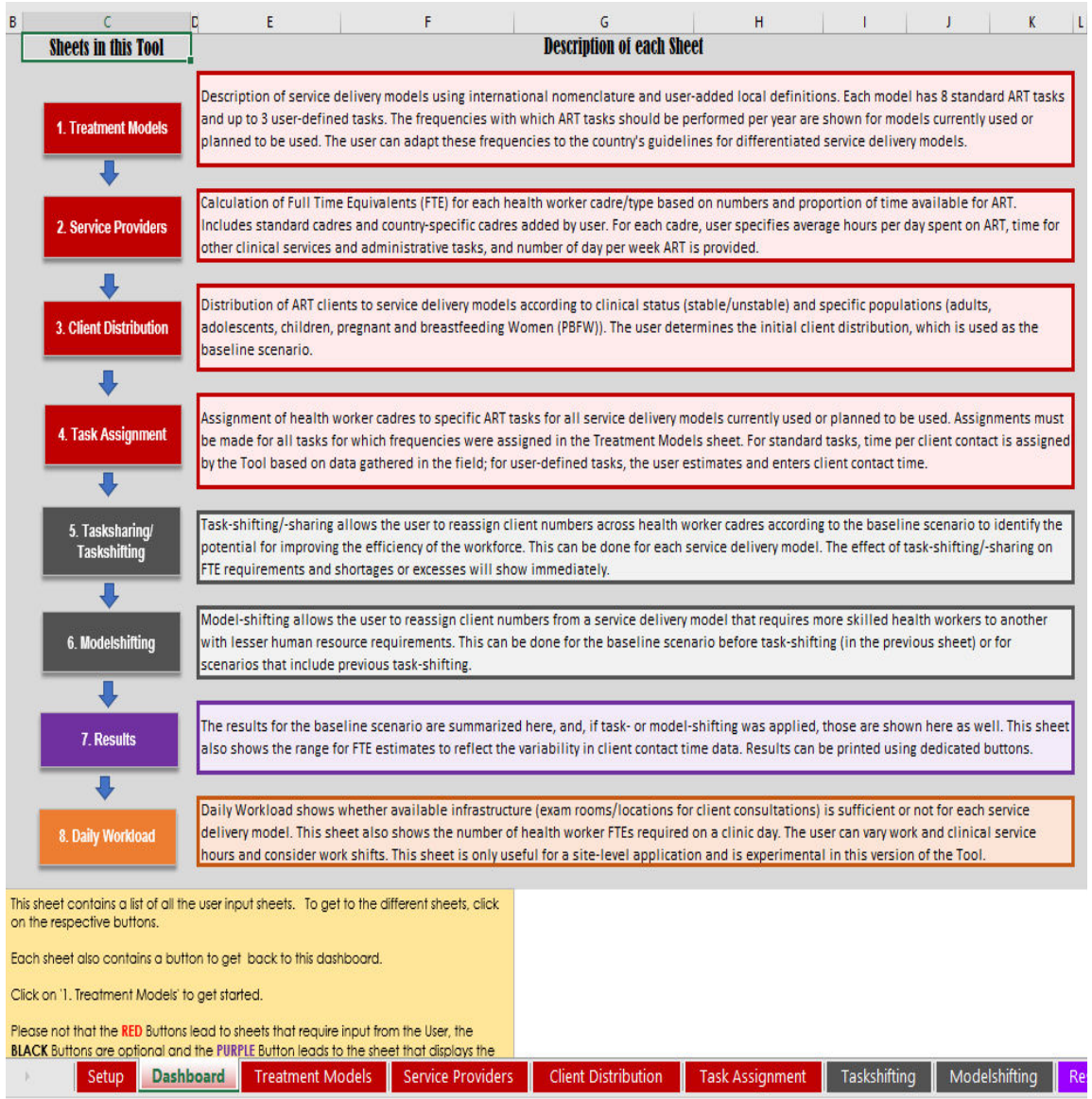
Tool outputs

- Human resource needs/gaps for DSD models implemented
- Task shifting/sharing options to decrease gaps/optimize personnel
- Visualization of DSD model/ service provider arrays

What does the tool look like? (1)

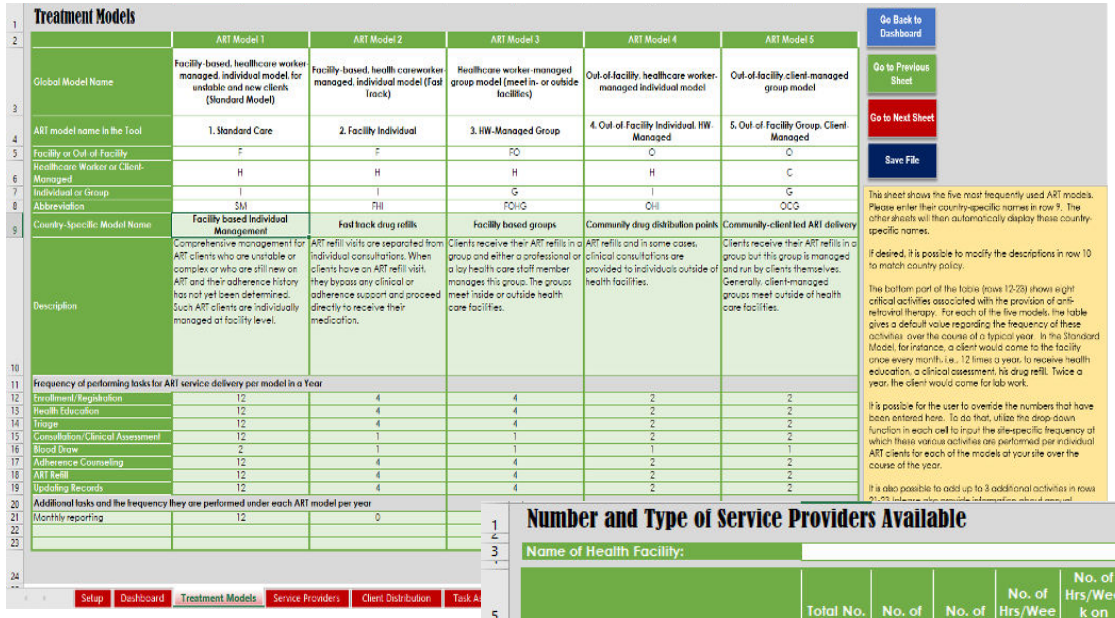
- In the tool, users interact with several sheets…

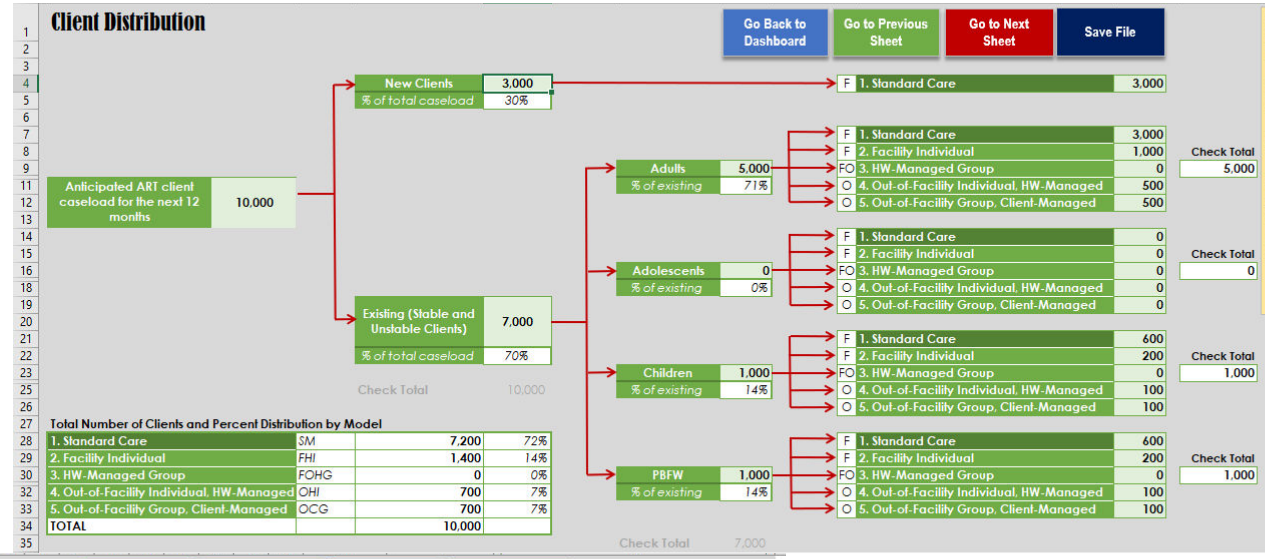


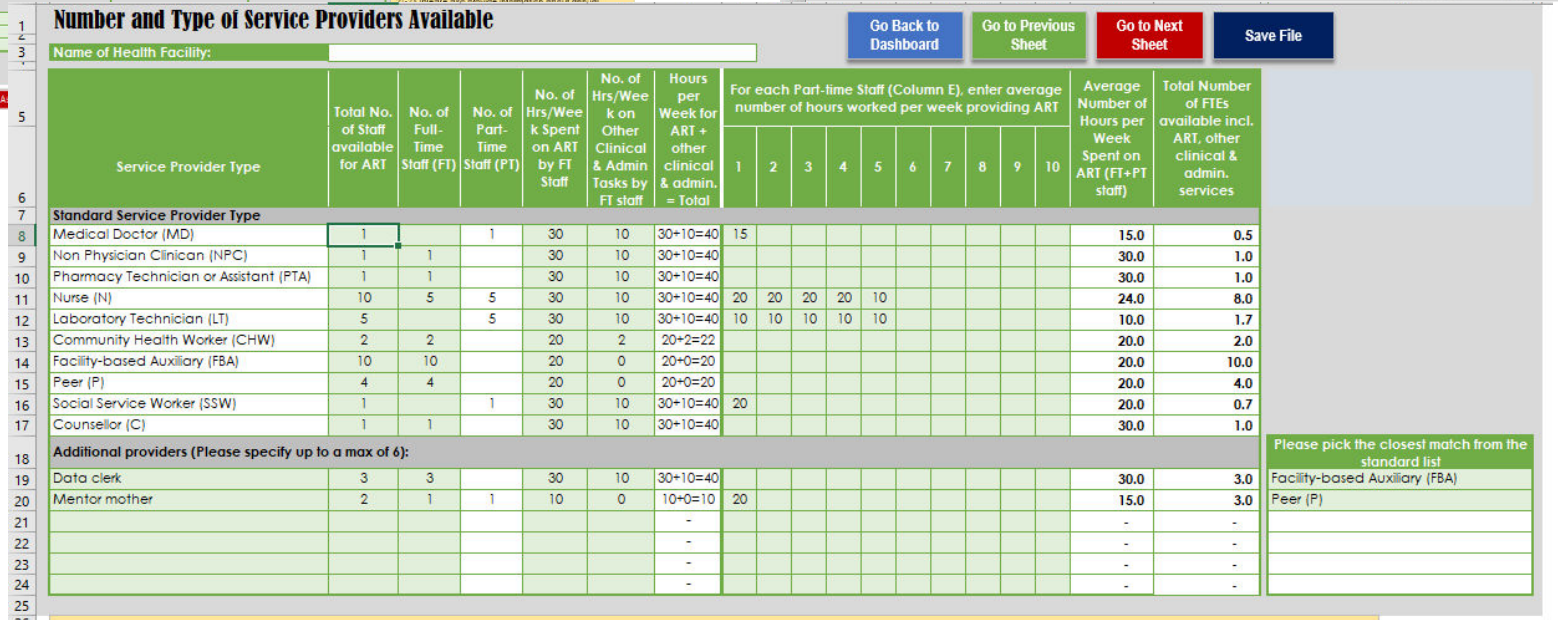


What does the tool look like? (2)

Then provide required inputs into several sheets…

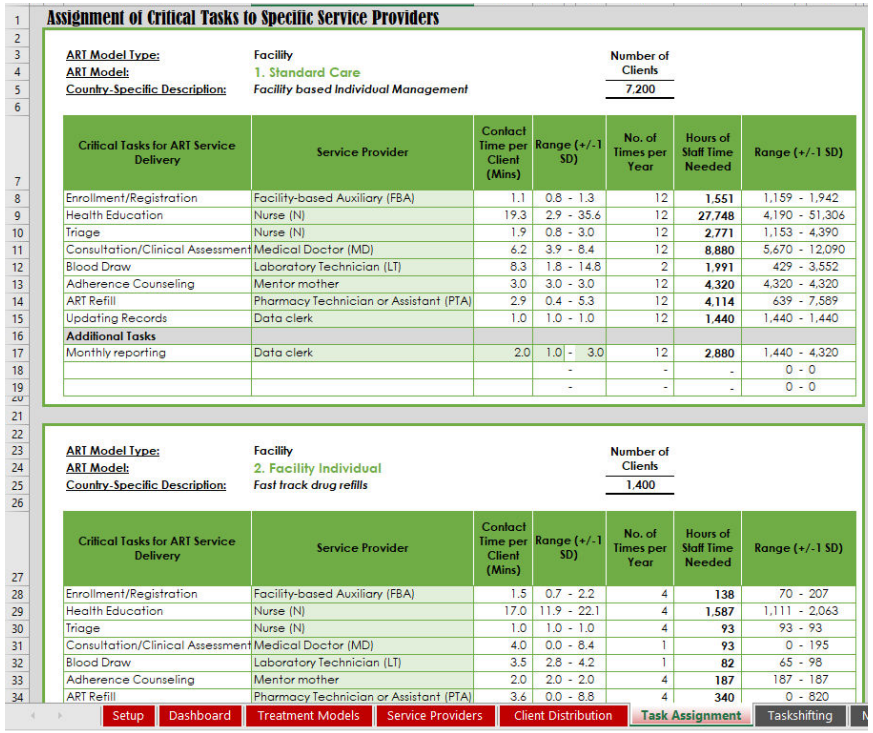






What does the tool look like? (3)

- Then review the outputs and make adjustments as necessary…



Assignment of Critical Tasks to Specific Service Providers

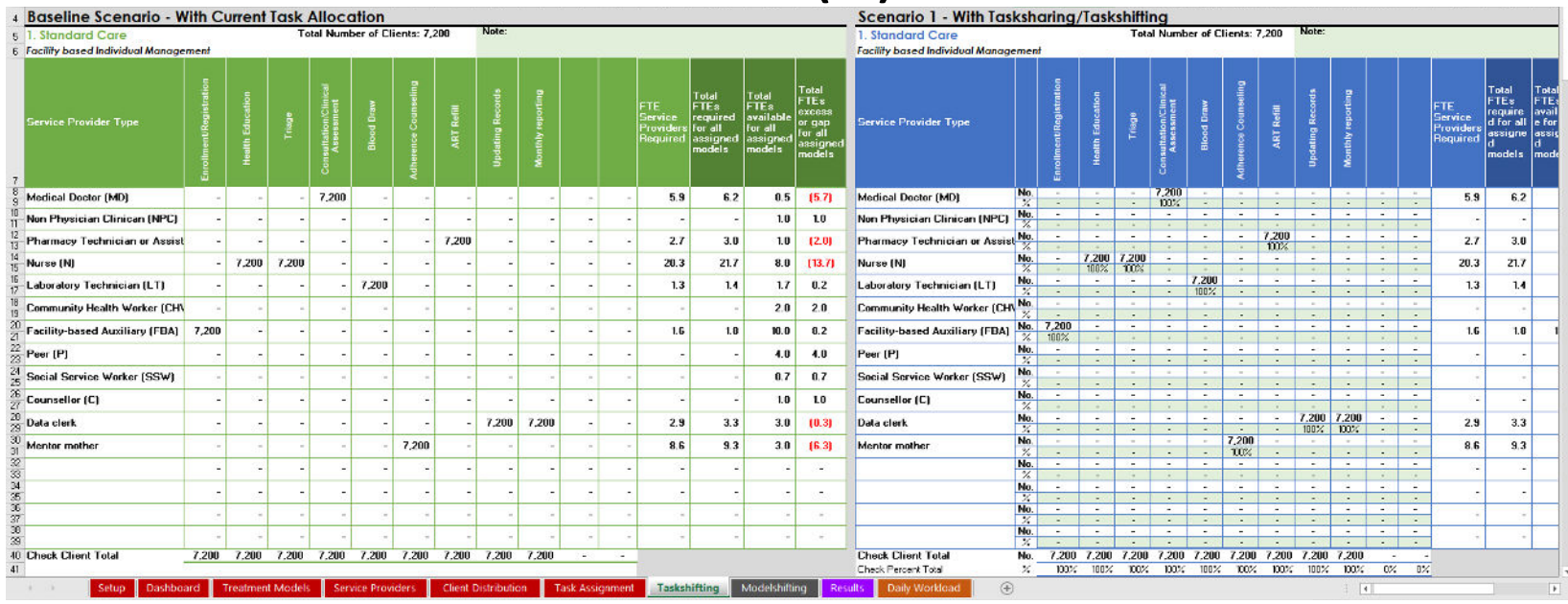
ART Model Type: Facility
ART Model: 1. Standard Care
Country-Specific Description: *Facility based Individual Management*
Number of Clients: 7,200

Critical Tasks for ART Service Delivery	Service Provider	Contact Time per Client (Mins)	Range (+/-1 SD)	No. of Times per Year	Hours of Staff Time Needed	Range (+/-1 SD)
Enrollment/Registration	Facility-based Auxiliary (FBA)	1.1	0.8 - 1.3	12	1,551	1,159 - 1,942
Health Education	Nurse (N)	19.3	2.9 - 35.6	12	27,748	4,190 - 51,306
Triage	Nurse (N)	1.9	0.8 - 3.0	12	2,771	1,153 - 4,390
Consultation/Clinical Assessment	Medical Doctor (MD)	6.2	3.9 - 8.4	12	8,880	5,670 - 12,090
Blood Draw	Laboratory Technician (LT)	8.3	1.8 - 14.8	2	1,991	429 - 3,552
Adherence Counseling	Mentor mother	3.0	3.0 - 3.0	12	4,320	4,320 - 4,320
ART Refill	Pharmacy Technician or Assistant (PTA)	2.9	0.4 - 5.3	12	4,114	639 - 7,589
Updating Records	Data clerk	1.0	1.0 - 1.0	12	1,440	1,440 - 1,440
Additional Tasks						
Monthly reporting	Data clerk	2.0	1.0 - 3.0	12	2,880	1,440 - 4,320
			-	-	-	0 - 0
			-	-	-	0 - 0

ART Model Type: Facility
ART Model: 2. Facility Individual
Country-Specific Description: *Fast track drug refills*
Number of Clients: 1,400

Critical Tasks for ART Service Delivery	Service Provider	Contact Time per Client (Mins)	Range (+/-1 SD)	No. of Times per Year	Hours of Staff Time Needed	Range (+/-1 SD)
Enrollment/Registration	Facility-based Auxiliary (FBA)	1.5	0.7 - 2.2	4	138	70 - 207
Health Education	Nurse (N)	17.0	11.9 - 22.1	4	1,587	1,111 - 2,063
Triage	Nurse (N)	1.0	1.0 - 1.0	4	93	93 - 93
Consultation/Clinical Assessment	Medical Doctor (MD)	4.0	0.0 - 8.4	1	93	0 - 195
Blood Draw	Laboratory Technician (LT)	3.5	2.8 - 4.2	1	82	65 - 98
Adherence Counseling	Mentor mother	2.0	2.0 - 2.0	4	187	187 - 187
ART Refill	Pharmacy Technician or Assistant (PTA)	3.6	0.0 - 8.8	4	340	0 - 820

Setup | Dashboard | Treatment Models | Service Providers | Client Distribution | Task Assignment | Taskshifting



Baseline Scenario - With Current Task Allocation

1. Standard Care — Total Number of Clients: 7,200 — Note:
Facility based Individual Management

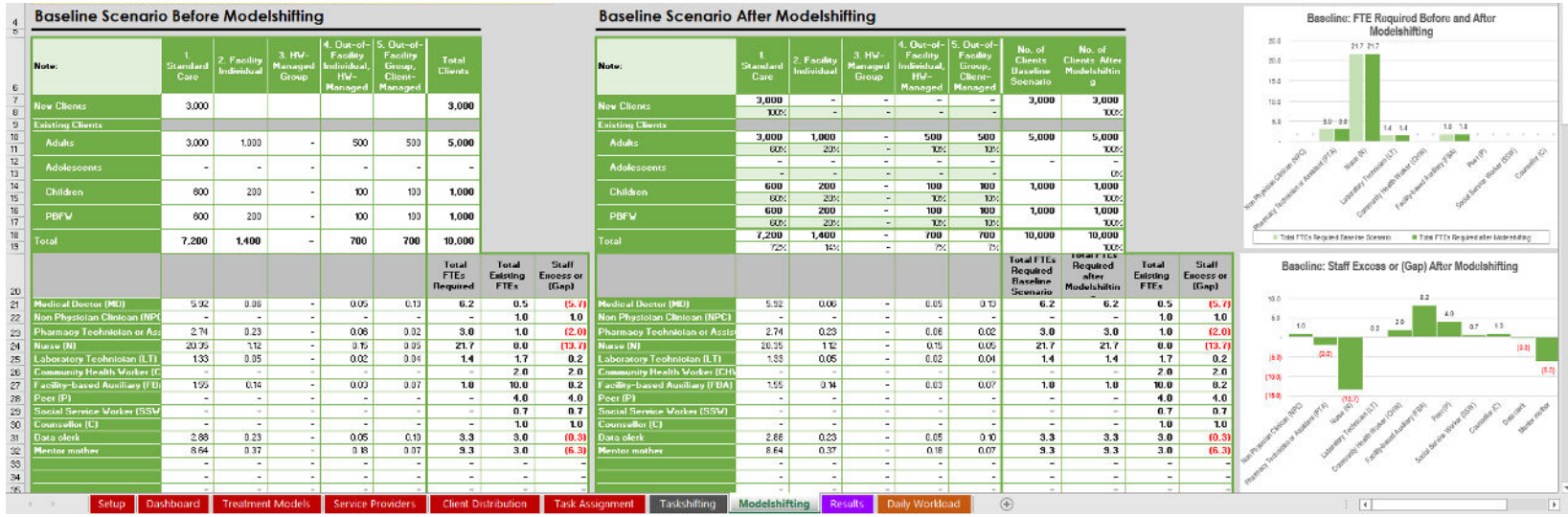
Service Provider Type	Enrollment/Registration	Health Education	Triage	Consultation/Clinical Assessment	Blood Draw	Adherence Counseling	ART Refill	Updating Records	Monthly reporting			FTE Service Providers Required	Total FTEs required for all assigned models	Total FTEs available for all assigned models	Total FTEs excess or gap for all assigned models
Medical Doctor (MD)	-	-	-	7,200	-	-	-	-	-	-	-	5.9	6.2	0.5	(5.7)
Non Physician Clinician (NPC)	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	1.0
Pharmacy Technician or Assist	-	-	-	-	-	-	7,200	-	-	-	-	2.7	3.0	1.0	(2.0)
Nurse (N)	-	7,200	7,200	-	-	-	-	-	-	-	-	20.3	21.7	8.0	(13.7)
Laboratory Technician (LT)	-	-	-	-	7,200	-	-	-	-	-	-	1.3	1.4	1.7	0.2
Community Health Worker (CH	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	2.0
Facility-based Auxiliary (FBA)	7,200	-	-	-	-	-	-	-	-	-	-	1.6	1.0	10.0	0.2
Peer (P)	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0	4.0
Social Service Worker (SSW)	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	0.7
Counsellor (C)	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	1.0
Data clerk	-	-	-	-	-	-	-	7,200	7,200	-	-	2.9	3.3	3.0	(0.3)
Mentor mother	-	-	-	-	-	7,200	-	-	-	-	-	8.6	9.3	3.0	(6.3)
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Check Client Total	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	-	-				

Scenario 1 - With Tasksharing/Taskshifting

1. Standard Care — Total Number of Clients: 7,200 — Note:
Facility based Individual Management

Service Provider Type		Enrollment/Registration	Health Education	Triage	Consultation/Clinical Assessment	Blood Draw	Adherence Counseling	ART Refill	Updating Records	Monthly reporting			FTE Service Providers Required	Total FTEs required for all assigned models	Total FTEs available for all assigned models
Medical Doctor (MD)	No.	-	-	-	7,200	-	-	-	-	-	-	-	5.9	6.2	
	%	-	-	-	100%	-	-	-	-	-	-	-			
Non Physician Clinician (NPC)	No.	-	-	-	-	-	-	-	-	-	-	-		-	-
	%	-	-	-	-	-	-	-	-	-	-	-			
Pharmacy Technician or Assist	No.	-	-	-	-	-	-	7,200	-	-	-	-	2.7	3.0	
	%	-	-	-	-	-	-	100%	-	-	-	-			
Nurse (N)	No.	-	7,200	7,200	-	-	-	-	-	-	-	-	20.3	21.7	
	%	-	100%	100%	-	-	-	-	-	-	-	-			
Laboratory Technician (LT)	No.	-	-	-	-	7,200	-	-	-	-	-	-	1.3	1.4	
	%	-	-	-	-	100%	-	-	-	-	-	-			
Community Health Worker (CH	No.	-	-	-	-	-	-	-	-	-	-	-		-	-
	%	-	-	-	-	-	-	-	-	-	-	-			
Facility-based Auxiliary (FBA)	No.	7,200	-	-	-	-	-	-	-	-	-	-	1.6	1.0	
	%	100%	-	-	-	-	-	-	-	-	-	-			
Peer (P)	No.	-	-	-	-	-	-	-	-	-	-	-		-	-
	%	-	-	-	-	-	-	-	-	-	-	-			
Social Service Worker (SSW)	No.	-	-	-	-	-	-	-	-	-	-	-		-	-
	%	-	-	-	-	-	-	-	-	-	-	-			
Counsellor (C)	No.	-	-	-	-	-	-	-	-	-	-	-		-	-
	%	-	-	-	-	-	-	-	-	-	-	-			
Data clerk	No.	-	-	-	-	-	-	-	7,200	7,200	-	-	2.9	3.3	
	%	-	-	-	-	-	-	-	100%	100%	-	-			
Mentor mother	No.	-	-	-	-	-	7,200	-	-	-	-	-	8.6	9.3	
	%	-	-	-	-	-	100%	-	-	-	-	-			
	No.	-	-	-	-	-	-	-	-	-	-	-		-	-
	%	-	-	-	-	-	-	-	-	-	-	-			
	No.	-	-	-	-	-	-	-	-	-	-	-		-	-
	%	-	-	-	-	-	-	-	-	-	-	-			
	No.	-	-	-	-	-	-	-	-	-	-	-		-	-
	%	-	-	-	-	-	-	-	-	-	-	-			
Check Client Total	No.	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	-	-			
Check Percent Total	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	0%			

Setup | Dashboard | Treatment Models | Service Providers | Client Distribution | Task Assignment | Taskshifting | Modelshifting | Results | Daily Workload



Baseline Scenario Before Modelshifting

Note:	1. Standard Care	2. Facility Individual	3. HIV-Managed Group	4. Out-of-Facility Individual, HIV-Managed	5. Out-of-Facility Group, Client-Managed	Total Clients
New Clients	3,000					3,000
Existing Clients						
Adults	3,000	1,000	-	500	500	5,000
Adolescents	-	-	-	-	-	-
Children	600	200	-	100	100	1,000
PBFW	600	200	-	100	100	1,000
Total	7,200	1,400	-	700	700	10,000

	Total FTEs Required	Total Existing FTEs	Staff Excess or (Gap)
Medical Doctor (MD)	6.2	0.5	(5.7)
Non Physician Clinician (NPC)	-	1.0	1.0
Pharmacy Technician or Ass	3.0	1.0	(2.0)
Nurse (N)	21.7	8.0	(13.7)
Laboratory Technician (LT)	1.4	1.7	0.2
Community Health Worker (C	-	2.0	2.0
Facility-based Auxiliary (FBA)	1.0	10.0	8.2
Peer (P)	-	4.0	4.0
Social Service Worker (SSW	-	0.7	0.7
Counsellor (C)	-	1.0	1.0
Data clerk	3.3	3.0	(0.3)
Mentor mother	9.3	3.0	(6.3)

Baseline Scenario After Modelshifting

Note:	1. Standard Care	2. Facility Individual	3. HIV-Managed Group	4. Out-of-Facility Individual, HIV-Managed	5. Out-of-Facility Group, Client-Managed	No. of Clients Baseline Scenario	No. of Clients After Modelshifting
New Clients	3,000	-	-	-	-	3,000	3,000
	100%	-	-	-	-		100%
Existing Clients							
Adults	3,000	1,000	-	500	500	5,000	5,000
	60%	20%	-	10%	10%		100%
Adolescents	-	-	-	-	-	-	-
	-	-	-	-	-		0%
Children	600	200	-	100	100	1,000	1,000
	60%	20%	-	10%	10%		100%
PBFW	600	200	-	100	100	1,000	1,000
	60%	20%	-	10%	10%		100%
Total	7,200	1,400	-	700	700	10,000	10,000
	72%	14%	-	7%	7%		100%

	Total FTEs Required Baseline Scenario	Total FTEs Required after Modelshifting	Total Existing FTEs	Staff Excess or (Gap)
Medical Doctor (MD)	6.2	6.2	0.5	(5.7)
Non Physician Clinician (NPC)	-	-	1.0	1.0
Pharmacy Technician or Assis	3.0	3.0	1.0	(2.0)
Nurse (N)	21.7	21.7	8.0	(13.7)
Laboratory Technician (LT)	1.4	1.4	1.7	0.2
Community Health Worker (CH	-	-	2.0	2.0
Facility-based Auxiliary (FBA)	1.0	1.0	10.0	8.2
Peer (P)	-	-	4.0	4.0
Social Service Worker (SSW)	-	-	0.7	0.7
Counsellor (C)	-	-	1.0	1.0
Data clerk	3.3	3.3	3.0	(0.3)
Mentor mother	9.3	9.3	3.0	(6.3)

Setup | Dashboard | Treatment Models | Service Providers | Client Distribution | Task Assignment | Taskshifting | Modelshifting | Results | Daily Workload

Unit of measure

Standard metric used in Tool is the Full-time Equivalent (FTE)

FTE = "hours worked by one employee on a full-time basis"

- Takes into account that some staff only work part-time on ART delivery
- Same measurement used for existing and required staff
- Accounts for time spent on clinical and administrative tasks
- All FTE estimates in Tool are annual

Tool guides users in determining staffing excesses or gaps based on context-specific inputs

Calculation of FTE Requirements and Gaps

$$\frac{\text{Client \#} \times \text{Task frequency} \times \text{Task duration}}{\text{Hours available for ART per FTE}} = \text{Total FTEs required for ART}$$

$$\text{Total FTEs available for ART} - \text{Total FTEs required for ART} = \text{FTE gap/ excess}$$

Applying the Tool

- What is the current staffing situation?
- How can I reduce staffing gaps by task shifting/ sharing?
- How can I reduce the workload on facility staff by DSD model shifting?

User's Opinion

"This Tool is going to help us a lot in task shifting. During the national DSD model training, they said we needed to carry out task shifting but we were not told how to do this...."

- *Staff at ART Clinic, Uganda*

Limitations of Tool

- Some HIV management tasks (e.g., HIV testing services) are not included as part of the critical tasks. Tool focuses on ART service delivery
- FTE estimates are only as good as the quality of data on ART critical task duration by service provider type
- Tool is not predictive/cannot recommend the optimal DSD models to use at the facility level
- No cost component is included for the various options of DSD models that can be implemented at a site

Acknowledgements

- PEPFAR
- USAID: Washington, Cameroon and Uganda Country Missions
- CDC Cameroon
- Ministry of Health, Uganda
- Ministry of Public Health, Cameroon
- DSD Technical Working Group, Uganda
- EGPAF – Uganda (DELTA Project)
- Facility in-charges and staff at participating sites in Uganda and Cameroon
- ART clients who were interviewed
- HRH 2030 project
- ICAP and CQUIN