



HOW TO USE TRACK20'S FAMILY PLANNING ESTIMATION TOOL (FPET)

Step-by step instructions on how to use the online tool to produce annual estimates of key family planning indicators

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Using the Family Planning Estimation Tool (FPET) to obtain annual mid-year estimates for contraceptive prevalence and related family planning indicators

Purpose

Family Planning 2020 (FP2020) is a global partnership that works with governments, civil society, multi-lateral organizations, donors, the private sector, and the research and development community to enable 120 million more women and girls to use contraceptives by 2020. Track20, implemented by Avenir Health, was established to track progress of the global FP2020 initiative. The strategy of Track20 is to support national efforts in participating FP2020 countries to collect, analyze and use data to track progress in family planning and to use data to develop effective program strategies and plans.

As part of its efforts, Track20 works with countries to produce annual estimates of FP2020's core family planning indicators. Modern contraceptive prevalence and the percentage of women with an unmet need for modern contraception are two of the key FP2020 indicators. Since the sources for these values tend to be large population-based surveys, which are conducted only every few years, a methodology was needed that allowed for the projection of annual estimates for these indicators.

In order to address this need for annual estimates, the Family Planning Estimation Tool (FPET) was produced by the Track20 Project, in collaboration with the United Nations Population Division (UNPD) and the National University of Singapore. FPET projects estimates for contraceptive prevalence and the percentage of women with an unmet need for contraception, based on historic survey data. Depending on what data is entered into the tool, FPET can be used to produce either national or sub-national estimates.

FPET is based on an estimation approach¹ used by the UNPD that draws on data for 194 countries and areas worldwide. FPET was adapted to work with a single country at a time and to accept service statistics as well as survey data to establish trends. The adaptation we use was prepared by Jin Rou New and Leontine Alkema of the National University of Singapore. FPET is a Bayesian, hierarchical model that fits logistic growth curves to historical data in order to determine the long-term trend, and adds a time series model with autocorrelation to capture the deviations around the long-term trend.

In order to obtain estimates using FPET, you will need to:

1. Prepare data using FPET Data Preparation Tool
2. Upload resulting data file into FPET (at fpet.track20.org), run FPET, view/save resulting output files

¹ Alkema L, Kantorova V, Menozzi C, Biddlecom A. National, regional, and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: a systematic and comprehensive analysis *The Lancet* 2013 May 11;381(9878): 1642-52 doi: 10.1016/So140-9736(12)62204-1.

Before you get started

Download the FPET Data Preparation Tool from:

http://www.track20.org/pages/resources/track20_resources.

If you already have this tool, check the version on the website to be sure that you are using the latest version, as it will have the most up-to-date data.

For producing **national** estimates, the data you will need for this exercise include:

- Values for contraceptive prevalence, modern contraceptive prevalence, and percentage of women with an unmet need for contraception, all for married women, from your country's most recent DHS, MICS, PMA2020 or national surveys (most of this is already pre-loaded in the Data Preparation Tool)
- The year(s) in which the survey(s) were conducted
- Descriptions of any geographical biases in the estimates. These might occur if the survey was not nationally representative (for example, some areas of the country might have been excluded from a survey due to unsafe conditions).
- Non-pregnant and other positive biases that might occur if the survey did not include all married women but excluded some, such as those who were pregnant at the time of the interview. These biases are usually not present.
- Whether or not sterilization for non-contraceptive reasons is included in modern method use
- Whether or not the contraceptive prevalence rate includes folk methods

For producing **sub-national** estimates, the data you will need for this exercise include:

- Values for contraceptive prevalence, modern contraceptive prevalence, and percentage of women with an unmet need for contraception, for married women, for the sub – national region(s) you wish to enter into the tool. You need at least 3 data points, which you obtain from your country's most recent DHS, MICS, PMA2020 or national surveys.
- The year(s) in which the survey(s) were conducted
- Descriptions of any geographical biases in the estimates. These might occur if the survey was not nationally representative (for example, some areas of the country might have been excluded from a survey due to unsafe conditions).
- Non-pregnant and other positive biases that might occur if the survey did not include all married women but excluded some, such as those who were pregnant at the time of the interview. These biases are usually not present.
- Whether or not sterilization for non-contraceptive reasons is included in modern method use
- Whether or not the contraceptive prevalence rate includes folk methods
- Annual population estimates of married women of reproductive age for each sub-national region you wish to run, from 1970 to 2035.

You will also need Microsoft Excel software on your computer.

Section 1. Prepare data using FPET Data Preparation Tool

This section walks you through how to prepare data for FPET, for producing either national or regional estimates. Directions immediately below are for preparing data for producing national estimates; instructions for preparing regional data are next.

Use the FPET Data Preparation Tool – to prepare country survey data for NATIONAL estimates

To run FPET with country survey data, you need to prepare a csv file that has information/estimates from each of your country's past population-based surveys.

1. **Open the tool called *FPETDataPreparation*** by double-clicking on FPETDataPreparation.exe
2. **Load country defaults.** At the top of the window, use the drop-down menu to choose your country and then click the 'Load Country Defaults' button. Data from all available surveys should load into the window. Below is an example of what you would see for Malawi.

Note: If you would like to upload data from a csv that you created previously using this tool, you can import it by using the 'Import Country Data from CSV' button in the bottom left hand corner. If you do import a csv file, you will need to choose your country in the drop-down menu before exporting the csv for future use.

The screenshot shows the FPET Data Preparation tool interface. The window title is "FPET Data Preparation" and the version is "Version 1.13". The interface is divided into two main sections: "Country Data" and "New Population Data".

Country Data Section:

- Country: Malawi (selected in a dropdown menu)
- Buttons: Add Row, Delete Row, Load Country Defaults
- Table with columns: Country letter code, ISO code, Country, New population, EXCLUDE?, Start year, End year, Age range, Population type.
- Table content (rows 1-5):

	Country letter code	ISO code	Country	New population	EXCLUDE?	Start year	End year	Age range	Population type
1	MWI	454	Malawi		<input type="checkbox"/>	1984.00	1984.00	15-49	MW
2	MWI	454	Malawi		<input type="checkbox"/>	1992.00	1992.00	15-49	MW
3	MWI	454	Malawi		<input type="checkbox"/>	1996.00	1996.00	15-49	MW
4	MWI	454	Malawi		<input type="checkbox"/>	2000.00	2000.00	15-49	MW
5	MWI	454	Malawi		<input type="checkbox"/>	2004.00	2004.00	15-49	MW

New Population Data Section:

- Buttons: Add Row, Delete Row
- Table with columns: Country letter code, ISO code, Country, New population, EXCLUDE?, Start year, End year, Age range, Population type, Cor e-
- Table content (row 1):

	Country letter code	ISO code	Country	New population	EXCLUDE?	Start year	End year	Age range	Population type	Cor e-
1					<input type="checkbox"/>			15-49	AL	

Bottom Section:

- Buttons: Export Country Data to CSV, Import Country Data from CSV, Select a language

3. **Inspect the data.** Take a moment to look over the data. Are any surveys missing? If a particular survey which has contraceptive prevalence values is **not** in one of the rows, go to the next step to learn how to add in the data. If not, skip ahead to step #6. Ideally the data file should contain all nationally representative surveys since 1980 (or earlier, if available) that measured contraceptive use. Except in rare cases, all of your country's surveys should already be in the tool.

Note on LAM and SDM: The FP2020 definition of modern methods includes both the lactational amenorrhea method (LAM) and standard days method (SDM). All mCPR values for your country have been adjusted, if necessary, to include these as modern and not traditional methods. Please be sure to include these in your mCPR if adding in new data.

4. **Add a new row to include additional survey data.** Click on the button 'Add Row' (on the upper left hand side in the picture below).

Note: If you need to delete a row, the 'Delete Row' button allows you to delete the bottom-most row. Checking the box in the 'Exclude' column allows you to exclude data in the 'checked' row from the FPET run.

5. **Enter in the necessary data for the survey you wish to add.** Note: The order in which you enter the data into the fields in the row does not matter, nor does the order of the rows. Fields where most users will enter data are designated with red ovals in the images below. The data fields are as follows:

- a. *Country letter code.* This is a three letter code identifying the country.
- b. *ISO Code.* Each country has a unique ISO code that will already be filled in.
- c. *Country name.* This should already be filled in for countries.
- d. *New population.* Since your data is national-level data, you can leave this field blank.
- e. *Exclude.* You can exclude any survey from an FPET run by checking this box. Normally, all surveys are used, so no boxes are checked.
- f. *Start year.* Enter the year in which the field work started. You can simply enter the year, as 2014 for example, or with two decimal points to indicate a more precise start date. For example if the field work started in October, 2014 you could enter 2014.75. In the case of PMA2020 surveys, where there is often more than one survey per year, you will need to use decimal point values to differentiate the time periods of the surveys.
- g. *End year.* Enter the year in which field work was completed. Again, this can have two decimal points to indicate the month when data collection ended.
- h. *Age range.* Enter the age range included in the survey. This is normally 15-49.
- i. *Population type.* This describes the characteristics of the women included in the survey. Most surveys are for all women or ever married women. The allowable values are
 - i. AL: All women
 - ii. BS: Both sexes
 - iii. EM: Ever-married women
 - iv. HW: Husbands and wives
 - v. MW: Married women
 - vi. SA: Sexually active

Note: If your survey has data for married women, it is recommended that you enter data for married women, as is indicated in the next two steps.

- j. *Contraceptive use-ANY*. The percentage of married women using any form of contraception. Numbers entered here should be between 0 and 100. If you don't have a value for this field, leave it blank. Do not enter 0.
- k. *Contraceptive use-MODERN*. The percentage of married women using any modern method of contraception. Numbers entered here should be between 0 and 100. If you don't have a value for this field, leave it blank. Do not enter 0. Remember to include LAM and SDM in your mCPR estimates.
- l. *GEO biases*. Normally this field is blank. It is only used if the survey had geographical biases that caused the survey to not be nationally representative.
- m. *Non-pregnant and other positive biases*. Normally this will be blank. It is only used when the population in the survey excluded some women, such as those who were pregnant at time of the interview.
- n. *Modern method bias*. Normally this is blank. It should be used if the survey excluded some women using modern methods, such as sterilization.
- o. *Folk method positive bias*. Normally this will be blank. It should only be used if the survey included folk methods (amulets, charms, etc.) in the estimates of contraceptive use and they cannot be excluded.

FPET Data Preparation

Country Data MWRA Data Version 1.13

Country: Malawi

Buttons: Add Row, Delete Row, Load Country Defaults

	Country letter code	ISO code	Country	New population	EXCLUDE?	Start year	End year	Age range	Population type	Contraceptive-use-ANY	Contraceptive-use-MODE RN
5	MWI	454	Malawi		<input type="checkbox"/>	2004.00	2004.00	15-49	MW	32.5	28.1
6	MWI	454	Malawi		<input type="checkbox"/>	2006.00	2006.00	15-49	MW	41.0	38.6
7	MWI	454	Malawi		<input type="checkbox"/>	2010.00	2010.00	15-49	MW	46.1	42.2
8	MWI	454	Malawi		<input type="checkbox"/>	2013.00	2014.00	15-49	MW	58.6	57.4
9	MWI	454	Malawi		<input type="checkbox"/>			15-49	AL		

Buttons: Add Row, Delete Row

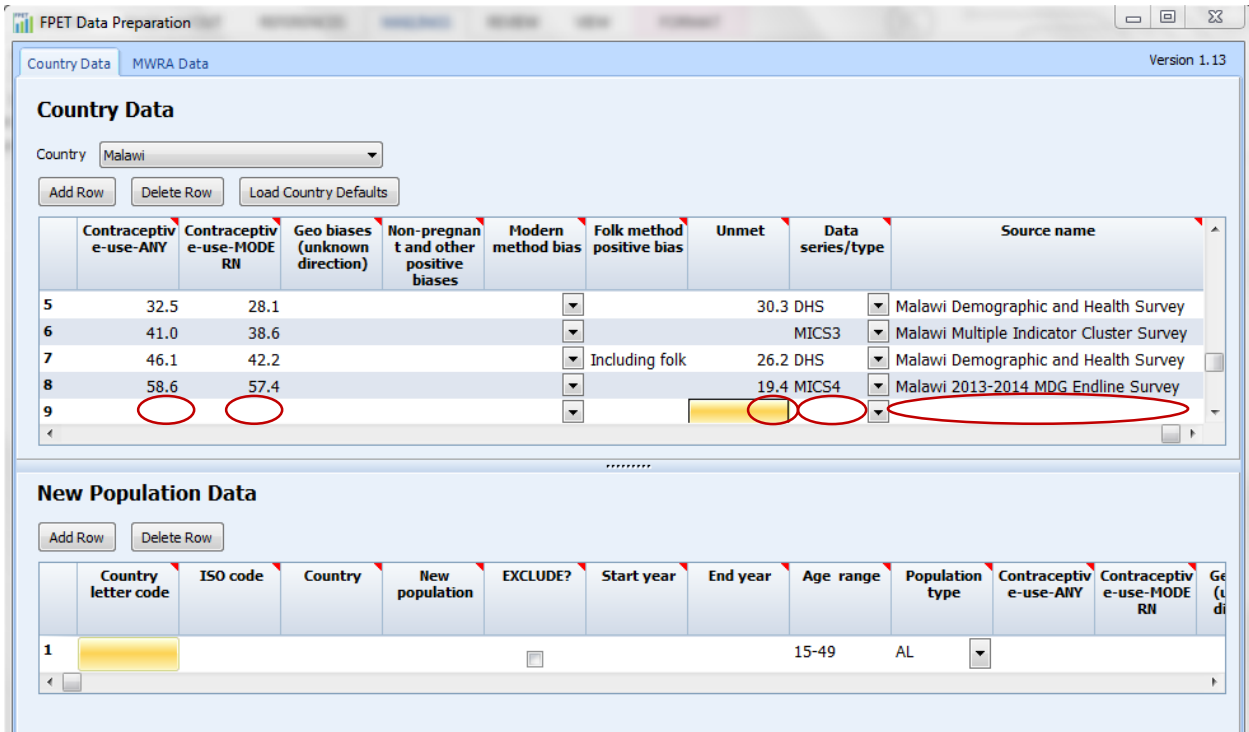
	Country letter code	ISO code	Country	New population	EXCLUDE?	Start year	End year	Age range	Population type	Contraceptive-use-ANY	Contraceptive-use-MODE	Ge
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- p. *Unmet need*. The percentage of women with an unmet need for contraception. This field can be blank if the survey did not report unmet need. Otherwise the allowable entries are from 0 to 100.
- q. *Data series/type*. Use the dropdown to enter the type of survey in this field. The allowable entries are: DHS, MICS, National survey, and Service statistics. If you are entering PMA2020 data, choose 'National survey' as the data type.

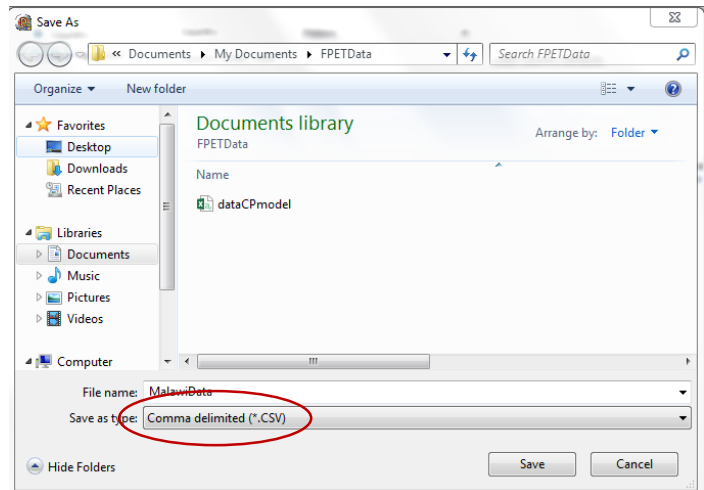
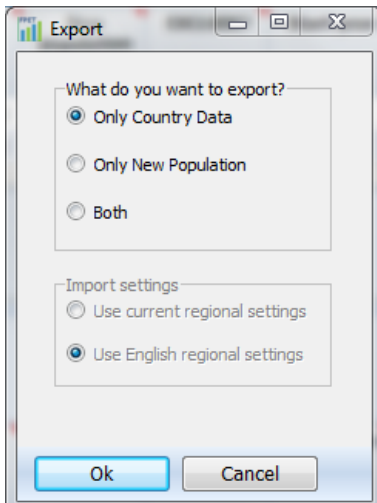
Note that if you are using service statistics then these statistics need to be converted to mCPR before being used in the model. For commodity data you would generally convert the

commodities distributed to CPR estimates by calculating the number of couple-years of protection (CYP) and then dividing by the number of married women. An analogous process is followed for conversion of visits data. Track20 has prepared a document on converting services statistics that will soon be available on the Track20 website.

- r. *Source name*: Enter the source of your data. This field can be filled in with wording of your choice.



6. **Export the data into a csv file.** At the bottom-left of the window, click the 'Export Country Data to CSV' button. Export 'Only Country Data'. You will be prompted to save the file. Save the file, being sure to save the file as a 'Comma delimited' file, with a '.csv' extension. Be sure to make note of where you save the file.



Use the FPET Data Preparation Tool – to prepare sub-national data for REGIONAL estimates

To run sub-national data, you need to prepare two csv input files for FPET; one file with family planning indicator data from historic surveys, and one file with annual population data for married women of reproductive age.

Prepare regional survey data:

1. **Open the tool called *FPETDataPreparation*** by double-clicking on FPETDataPreparation.exe
2. **Enter in the necessary data for the regions/surveys you wish to use.** Use the 'New Population Data' section only, and enter your regional data as described below. You can enter data for as many regions as you like. When running FPET later, you will then choose which region you'd like to run and see results for.

Note: The order in which you enter the data into the fields in the row does not matter, nor does the order of the rows.

Fields where most users will enter data are designated with red ovals in the images below.

The data fields are as follows:

- a. *Country letter code.* This is a three letter code identifying the sub-national region. You should assign your own three letter code to each sub-region. A good practice is to start the code with 'X' to ensure that it does not accidentally identify another country.
- b. *ISO Code.* Each country has a unique ISO code that will already be filled in. Since you are entering data for a sub-region, assign a new code starting with '9'. This ensures that the code does not accidentally identify another country.
- c. *Country name.* Enter the name of the region for which you are entering data.
- d. *New population.* Enter a categorial variable to identify your sub-national population.
- e. *Exclude.* You can exclude any survey from an FPET run by checking this box. Normally, all surveys are used, so no boxes are checked.

FPET Data Preparation

Country Data MWRA Data Version 1.13

Country: Malawi

Add Row Delete Row Load Country Defaults

	Contraceptive use-ANY	Contraceptive use-MODE RN	Geo biases (unknown direction)	Non-pregnant and other positive biases	Modern method bias	Folk method positive bias	Unmet	Data series/type	Source name
5	32.5	28.1					30.3 DHS		Malawi Demographic and Health Survey
6	41.0	38.6						MICS3	Malawi Multiple Indicator Cluster Survey
7	46.1	42.2				Including folk	26.2 DHS		Malawi Demographic and Health Survey
8	58.6	57.4					19.4 MICS4		Malawi 2013-2014 MDG Endline Survey
9									

.....

New Population Data

Add Row Delete Row

	Country letter code	ISO code	Country	New population	EXCLUDE?	Start year	End year	Age range	Population type	Contraceptive use-ANY	Contraceptive use-MODE RN	Geo (u di
1								15-49	AL			

- f. *Start year*. Enter the year in which the field work started. You can simply enter the year, as 2014 for example, or with two decimal points to indicate a more precise start date. For example if the field work started in October, 2014 you could enter 2014.75. In the case of PMA2020 surveys, where there is often more than one survey per year, you will need to use decimal point values to differentiate the time periods of the surveys.
- g. *End year*. Enter the year in which field work was completed. Again, this can have two decimal points to indicate the month when data collection ended.
- h. *Age range*. Enter the age range included in the survey. This is normally 15-49.
- i. *Population type*. This describes the characteristics of the women included in the survey. Most surveys are for all women or ever married women. The allowable values are
 - i. AL: All women
 - ii. BS: Both sexes
 - iii. EM: Ever-married women
 - iv. HW: Husbands and wives
 - v. MW: Married women
 - vi. SA: Sexually active

Note: If your survey has data for married women, it is recommended that you enter data for married women, as is indicated in the next two steps.
- j. *Contraceptive use-ANY*. The percentage of married women using any form of contraception, for your region. Numbers entered here should be between 0 and 100. If you don't have a value for this field, leave it blank. Do not enter 0.

- k. *Contraceptive use-MODERN*. The percentage of married women using any modern method of contraception, for your region. Numbers entered here should be between 0 and 100. If you don't have a value for this field, leave it blank. Do not enter 0. Note on LAM and SDM: The FP2020 definition of modern methods includes both the lactational amenorrhea method (LAM) and standard days method (SDM). All mCPR values for your country have been adjusted, if necessary, to include these as modern and not traditional methods. Please be sure to include these in your mCPR if adding in new data.
- l. *GEO biases*. This field is more relevant for national data, and can be left blank.
- m. *Non-pregnant and other positive biases*. Normally this will be blank. It is only used when the population in the survey excluded some women, such as those who were pregnant at time of the interview.
- n. *Modern method bias*. Normally this is blank. It should be used if the survey excluded some women using modern methods, such as sterilization.
- o. *Folk method positive bias*. Normally this will be blank. It should only be used if the survey included folk methods (amulets, charms, etc.) in the estimates of contraceptive use and they cannot be excluded.
- p. *Unmet need*. The percentage of women with an unmet need for contraception, for your region. This field can be blank if the survey did not report unmet need. Otherwise the allowable entries are from 0 to 100.
- q. *Data series/type*. Use the dropdown to enter the type of survey in this field. The allowable entries are: DHS, MICS, National survey, and Service statistics. If you are entering PMA2020 data, choose 'National survey' as the data type.

Note that if you are using service statistics then these statistics need to be converted to mCPR before being used in the model. For commodity data you would generally convert the commodities distributed to CPR estimates by calculating the number of couple-years of protection (CYP) and then dividing by the number of married women. An analogous process is followed for conversion of visits data. Track20 has prepared a document on converting services statistics that will soon be available on the Track20 website.

- r. *Source name*: Enter the source of your data. This field can be filled in with wording of your choice.

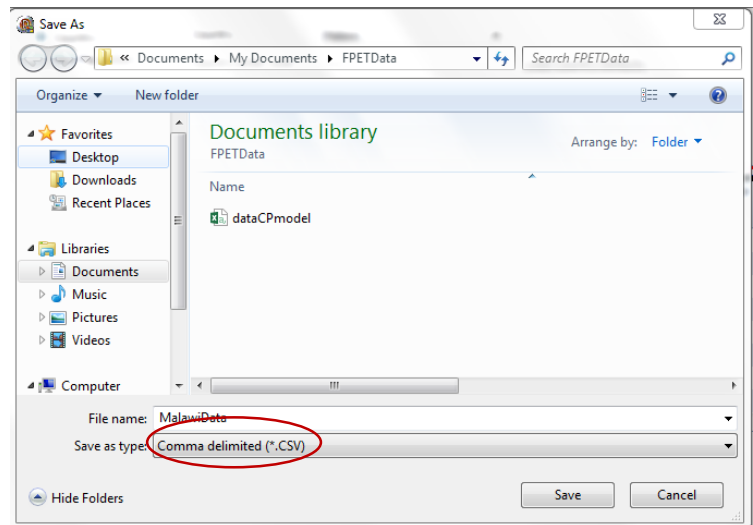
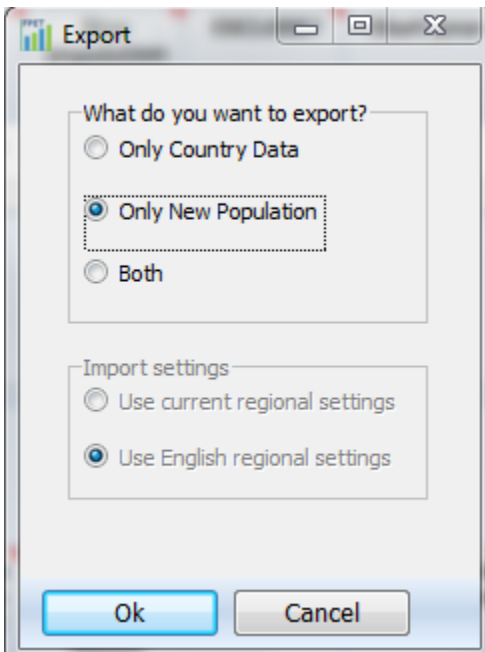
New Population Data

Add Row Delete Row

	Contraceptive use-ANY	Contraceptive use-MODERN	Geo biases (unknown direction)	Non-pregnant and other positive biases	Modern method bias	Folk method positive bias	Unmet	Data series/type	Source name
1	<input type="text"/>	<input type="text"/>			<input type="text"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>

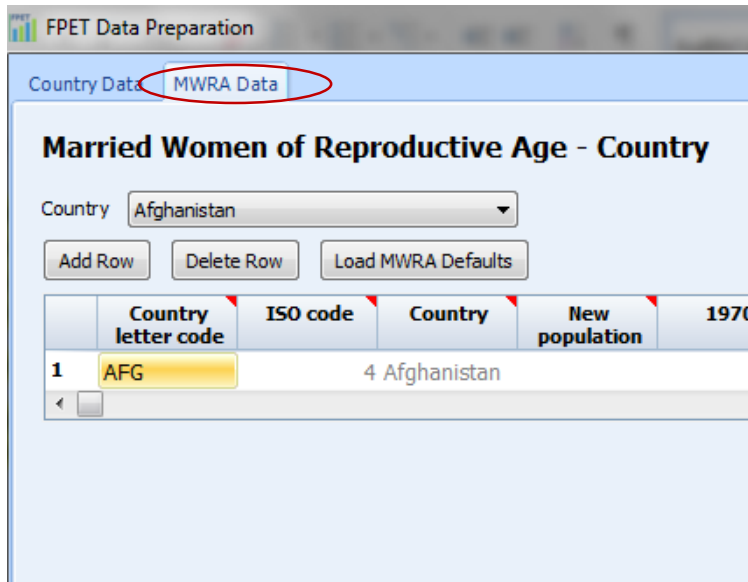
Export Country Data to CSV Import Country Data from CSV Select a language

- Add additional rows to include survey data from additional years and/or regions.** Click on the button 'Add Row' (on the upper left hand side in the picture below).
Note: If you need to delete a row, the 'Delete Row' button allows you to delete the bottom-most row. Checking the box in the 'Exclude' column allows you to exclude data in the 'checked' row from the FPET run.
- Export the data into a csv file.** At the bottom-left of the window, click the 'Export to CSV' button. Export 'Only New Population'. You will be prompted to save the file. Save the file, being sure to save the file as a 'Comma delimited' file, with a '.csv' extension. Be sure to make note of where you save the file.



Prepare regional population data:

1. **Open the tool called *FPETDataPreparation*** by double-clicking on FPETDataPreparation.exe
2. **In the upper left corner of the tool’s screen, choose ‘MWRA Data’.**



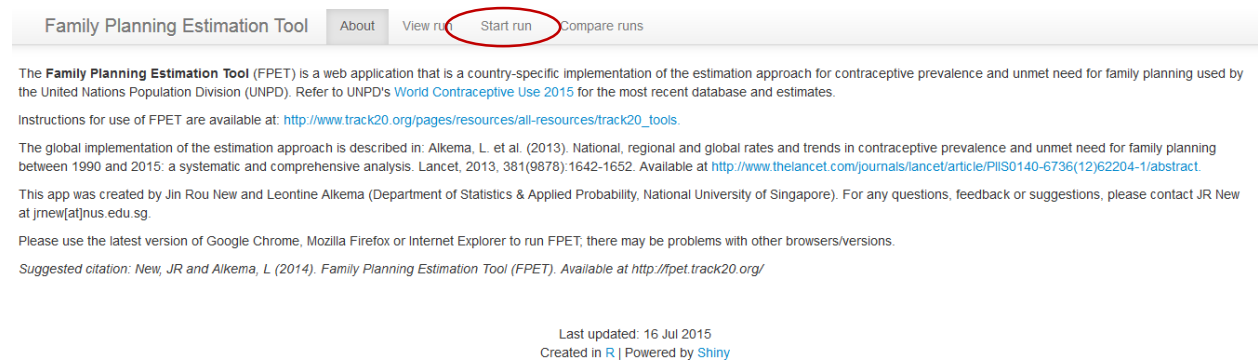
3. **Enter regional population data from 1970 to 2035.** Enter annual data into the lower portion of the tool (below the heading “Married Women of Reproductive Age – New Population”). You must add population data for all regions which you wish to run in FPET. Instructions for each field are as follows:
 - a. *Country letter code.* This is a three letter code identifying the sub-national region. This code should match the code in your csv file with regional survey indicator data.
 - b. *ISO Code.* This code should match the code in your csv file with regional survey indicator data.
 - c. *Country name.* Enter the name of the region for which you are entering data, as you did in the previous csv.
 - d. *New population.* Enter a categorial variable to identify your sub-national population.
 - e. *Fields for 1970 to 2035.* Enter estimates for married WRA for each year into each field. You may need to extrapolate your population figures backward to produce estimates back to 1970, and/or forward to produce estimates up to 2035. *Don’t forget to adjust your estimates so that they are for married WRA and not all WRA.*
4. **Add additional rows to include population data from different regions.** Click on the button ‘Add Row’ to produce additional rows, and fill in data for as many regions as you wish to run. Note: If you need to delete a row, the ‘Delete Row’ button allows you to delete the bottom-most row. Checking the box in the ‘Exclude’ column allows you to exclude data in the ‘checked’ row from the FPET run.
5. **Export the data into a csv file.** At the bottom-left of the window, click the ‘Export to CSV’ button. Export ‘Only New Population’. You will be prompted to save the file. Save the file, being sure to save the file as a ‘Comma delimited’ file, with a ‘.csv’ extension. Be sure to make note of where you save the file.

Section 2: Upload resulting data file into FPET, run FPET, save resulting output files, visualize data

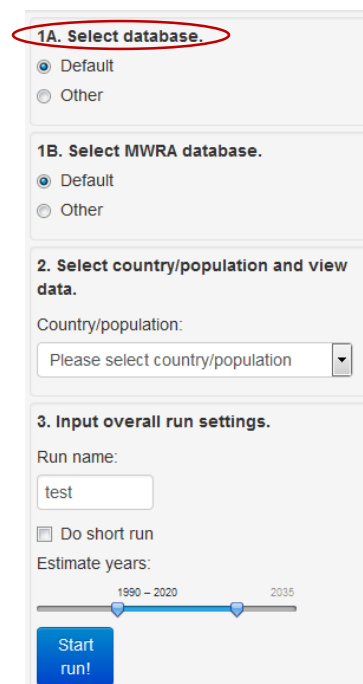
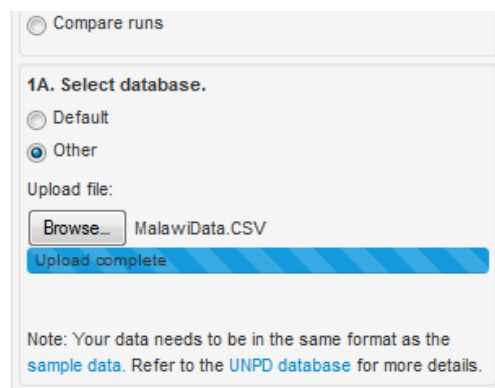
This section walks you through how to prepare data for FPET, for producing either national or regional estimates. Directions immediately below are for preparing data for producing national estimates; instructions for preparing regional data are next.

Run FPET using the csv data file that you created – for NATIONAL estimates

1. Go to the FPET website (fpet.track20.org). This is what you'll see:



2. Select 'Start run' from the menu bar going across the top of the page. You'll see a page with a menu bar along the left side.
3. Under the option '1A. Select database', choose 'Other'. Use the 'Browse' button that appears to select the csv file that you saved using the Data Prep Tool.
4. Once you have selected the file, the data will upload into FPET, and you should see a blue bar with the message *Upload complete*.



5. Skip option 1B and proceed to option 2. The dropdown should show only one country, which should be the country for which you have uploaded data. Select this country. Once you select it, you should see your country's input data appear on the right side of the screen, as shown

below. Look over the data and make sure that it matches the values that you saw/entered in the Data Prep Tool.

Family Planning Estimation Tool

Estimate family planning indicators for any country.

Choose action:

None

View an existing run

Start a new run

Compare runs

1A. Select database.

Default

Other

Upload file:

Browse... MalawiData.CSV

Upload complete

Note: Your data needs to be in the same format as the sample data. Refer to the UNPD database for more details.

1B. Select MWRRA database.

Default

Other

2. Select country/population and view data.

Country/population:

Malawi

3. Input overall run settings.

Run name:

test

Do short run

Estimate years:

1975 1982 2000 2025

Start run!

Run name: test_MWI_shortRun

Data Data (MWRRA) Log Results Graph Targets Progress About

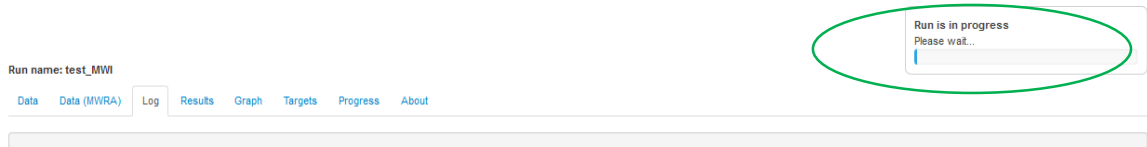
10 records per page

Country	Source type	Source name	Year	Any method	Any modern method	Unmet need	Age	Population	Folk method positive bias
Malawi	National survey	Malawi Family Formation Survey 1984	1984	6.9	3.2		15-49	MW	
Malawi	DHS	Malawi Demographic and Health Survey 1992	1992	13.0	7.4	36.5	15-49	MW	
Malawi	DHS	Malawi Knowledge, Attitudes and Practices in Health Survey 1996	1996	21.9	14.4		15-49	MW	
Malawi	DHS	Malawi Demographic and Health Survey 2000	2000	30.6	26.7	29.9	15-49	MW	Including lactational amenorrhea (LAM) and folk methods.
Malawi	DHS	Malawi Demographic and Health Survey 2004	2004	32.5	28.1	30.3	15-49	MW	
Malawi	MICS3	Malawi Multiple Indicator Cluster Survey 2005	2005	41.0	38.4		15-49	MW	
Malawi	DHS	Malawi Demographic and Health Survey 2010	2010	46.1	42.2	26.2	15-49	MW	Including folk methods.

Showing 1 to 7 of 7 entries

Previous Next

- Now that your data is loaded into FPET, it's almost time to start your run. Choose a name for your run that will allow you to distinguish it from other runs (under option 3: 'Input overall run settings').
- A 'long run' is recommended, as it yields the most accurate results. A long run should take no more than 2 to 3 minutes.
- Under 'Estimate years' choose the range of years for which you'd like to see FPET results.
- Now click on 'Start Run!'
- Once you click on 'Start Run' you will be directed to go to the 'Log tab'. Find the Log tab among the blue tabs going across the top of the FPET screen and click on it. If the run is proceeding normally, you will see a progress bar in the upper right corner, as in the image below:



Once the run is completed, you'll see output similar to this below, with the final line reading 'Done':

Run name: test_MWI

Data Data (MWRA) **Log** Results Graph Targets Progress About

```
Note: Only data for MWI is read in.
[1] "Running in parallel? Yes, with 8 cores."
Seed and data files used are written to logfile /srv/shiny-server/fpet/output/test_MWI/logfile.txt
seed.MCMC is 1
Global run Run20140520 loaded.
Note: Only data for MWI is read in.
Pre-processed data saved to /srv/shiny-server/fpet/output/test_MWI/dataCPmodel_input.csv
CP data read from /tmp/Rtmp5zc9eN/7c72689a647b8840f4a84fb/0
Country/region info read from data/Country-and-area-classification.csv
Note: Only data for MWI is read in.
Observation years are grouped into their respective calendar years.
All chains have finished!
Reading in MCMC meta from /srv/shiny-server/fpet/output/test_MWI
Reading in JAGS output files from /srv/shiny-server/fpet/output/test_MWI/temp.JAGSobjects/
Reading in chain number 1 (step 1)
Reading in chain number 1 (step 2)
Reading in chain number 1 (step 3)
Reading in chain number 1 (step 4)
Reading in chain number 2 (step 1)
Reading in chain number 2 (step 2)
Reading in chain number 2 (step 3)
Reading in chain number 2 (step 4)
Reading in chain number 3 (step 1)
Reading in chain number 3 (step 2)
Reading in chain number 3 (step 3)
Reading in chain number 3 (step 4)
Reading in chain number 4 (step 1)
Reading in chain number 4 (step 2)
Reading in chain number 4 (step 3)
Reading in chain number 4 (step 4)
Reading in chain number 5 (step 1)
Reading in chain number 5 (step 2)
Reading in chain number 5 (step 3)
Reading in chain number 5 (step 4)
mcmc.array saved to /srv/shiny-server/fpet/output/test_MWI
[1] "Constructing output for country 1 (out of 1 countries)"
Results constructed and saved to /srv/shiny-server/fpet/output/test_MWI//
Result tables written to /srv/shiny-server/fpet/tables/
Change tables written to /srv/shiny-server/fpet/tables/
[1] "Done"
```

To view results, you can choose the 'Results' tab, where you'll see the box below. The 'Result to display' menu allows you to choose whether you'd like to see percentage points or counts in thousands. The 'Indicator to display' menu allows you to choose which indicator you'd like to see estimates for.

For modern contraceptive prevalence, choose 'Modern CP'. Clicking on the 'Download results' button will result in a dialog box that prompts you to open or save the results file.

Run name: test_MWI

[Data](#) [Data \(MWRA\)](#) [Log](#) [Results](#) [Graph](#) [Targets](#) [Progress](#) [About](#)

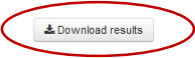
Results options

Result to display

Percentage

Indicator to display

Total CP



10 records per page

Country/population	Year	Percentile	Total CP (%)
Malawi	1990.5	2.5	8.3
Malawi	1990.5	10.0	9.3
Malawi	1990.5	50.0	11.7
Malawi	1990.5	90.0	14.5
Malawi	1990.5	97.5	16.2
Malawi	1991.5	2.5	9.3

Open results in Microsoft Excel, and you'll see something like what is in the box on the next page:

- In order to read the results for modern contraceptive prevalence for 1995, scroll down and look for the year '1995.5'. The mCPR for that year is in the 50 percentile row. The 2.5 and 97.5 percentile values give you the 95% confidence interval bounds.

Remember that this value is for married women, and that this estimate represents a mid-year estimate (which is why the year is specified as 1995.5).

When you save this file, you may continue to use the Comma-delimited format.

You can download results for other indicators by going back to the Results tab on the FPET page, and following the same steps. Saving all results files in a folder with the corresponding csv input file will allow you to keep track of your results.

- The 'Graph' tab allows you to visualize the curves produced by FPET for the various indicators. As noted in the legend of these graphs, red circles represent DHS data points, green circles represent MICS data points, etc. The middle line represents the median line estimate produced by FPET, and the outer lines represent the upper and lower bounds of the 95% confidence interval.

- The Targets and Progress tabs, for those interested, present information useful for target-setting and assessing progress.

That's it! You have successfully run FPET. If you have questions regarding this tool, please contact us at track20@avenirhealth.org

	A	B	C	D	E
1	Country/Year		Percentile	Modern CP (%)	
2	Malawi	1990.5	2.5	4.2	
3	Malawi	1990.5	10	4.8	
4	Malawi	1990.5	50	6.3	
5	Malawi	1990.5	90	8	
6	Malawi	1990.5	97.5	9.1	
7	Malawi	1991.5	2.5	5.1	
8	Malawi	1991.5	10	5.6	
9	Malawi	1991.5	50	6.9	
10	Malawi	1991.5	90	8.5	
11	Malawi	1991.5	97.5	9.3	
12	Malawi	1992.5	2.5	6.5	
13	Malawi	1992.5	10	6.9	
14	Malawi	1992.5	50	7.7	
15	Malawi	1992.5	90	8.6	
16	Malawi	1992.5	97.5	9.1	
17	Malawi	1993.5	2.5	6.9	
18	Malawi	1993.5	10	7.6	
19	Malawi	1993.5	50	9.1	
20	Malawi	1993.5	90	10.8	
21	Malawi	1993.5	97.5	11.8	
22	Malawi	1994.5	2.5	7.9	
23	Malawi	1994.5	10	8.8	
24	Malawi	1994.5	50	10.7	
25	Malawi	1994.5	90	12.8	
26	Malawi	1994.5	97.5	14	
27	Malawi	1995.5	2.5	9.6	
28	Malawi	1995.5	10	10.5	
29	Malawi	1995.5	50	12.4	
30	Malawi	1995.5	90	14.6	
31	Malawi	1995.5	97.5	15.9	
32	Malawi	1996.5	2.5	12.3	
33	Malawi	1996.5	10	13	
34	Malawi	1996.5	50	14.3	
35	Malawi	1996.5	90	15.9	
36	Malawi	1996.5	97.5	16.8	
37	Malawi	1997.5	2.5	13.2	
38	Malawi	1997.5	10	14.4	

Results MWIModern 2014-11-10

Run FPET using the csv data file that you created – for REGIONAL estimates

1. Go to the FPET website (fpet.track20.org). This is what you'll see:

The screenshot shows the FPET website interface. At the top, there is a navigation bar with the title "Family Planning Estimation Tool" and menu items: "About", "View run", "Start run", and "Compare runs". Below the navigation bar, there is a main content area with the following text:

The **Family Planning Estimation Tool** (FPET) is a web application that is a country-specific implementation of the estimation approach for contraceptive prevalence and unmet need for family planning used by the United Nations Population Division (UNPD). Refer to UNPD's [World Contraceptive Use 2015](#) for the most recent database and estimates.

Instructions for use of FPET are available at: http://www.track20.org/pages/resources/all-resources/track20_tools.

The global implementation of the estimation approach is described in: Alkema, L. et al. (2013). National, regional and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: a systematic and comprehensive analysis. *Lancet*, 2013, 381(9878):1642-1652. Available at [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)62204-1/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)62204-1/abstract).

This app was created by Jin Rou New and Leontine Alkema (Department of Statistics & Applied Probability, National University of Singapore). For any questions, feedback or suggestions, please contact JR New at [jrnw\[at\]nus.edu.sg](mailto:jrnw[at]nus.edu.sg).

Please use the latest version of Google Chrome, Mozilla Firefox or Internet Explorer to run FPET; there may be problems with other browsers/versions.

Suggested citation: New, JR and Alkema, L (2014). *Family Planning Estimation Tool (FPET)*. Available at <http://fpet.track20.org/>

At the bottom of the page, it says: "Last updated: 16 Jul 2015" and "Created in R | Powered by Shiny".

2. Select 'Start run' from the menu bar going across the top of the page. You'll see a page with a menu bar along the left side.
3. Under the option '1A. Select database', choose 'Other'. Use the 'Browse' button that appears to select the survey data csv file that you saved using the Data Prep Tool.
4. Once you have selected the file, the data will upload into FPET, and you should see a blue bar with the message *Upload complete*.

This screenshot shows the "1A. Select database." section of the FPET interface. It includes a radio button for "Default" (which is unselected) and a radio button for "Other" (which is selected). Below this, there is an "Upload file:" label, a "Browse..." button, and the filename "MalawiData.CSV" is displayed. A blue bar with the text "Upload complete" is visible at the bottom of this section. A note at the bottom states: "Note: Your data needs to be in the same format as the [sample data](#). Refer to the [UNPD database](#) for more details."

This screenshot shows the "1B. Select MWRA database." and "2. Select country/population and view data." sections. In section 1B, the "Default" radio button is selected. In section 2, there is a "Country/population:" label and a dropdown menu with the text "Please select country/population".

This screenshot shows the "3. Input overall run settings." section. It includes a "Run name:" label and a text input field containing "test". There is a checkbox for "Do short run" which is unchecked. Below this is an "Estimate years:" label and a range slider from 1990 to 2035, with a blue bar indicating the selected range. A "Start run!" button is located at the bottom of this section.

5. Under the option '1B. Select MWRA database' choose 'Other'. Use the 'Browse' button that appears to select the MWRA data csv file that you saved earlier.

6. Under the option '2. Select country/population and view data' the dropdown will now contain the region names (they will match the 'new population' text which you had entered in the Data Prep Tool to name your regions). Select the region you wish to run. Once you select the region, you will have the option to select the country in which your region falls. Once you select it, you should see your country's input data appear on the right side of the screen. Look over the data and make sure that it matches the values that you saw/entered in the Data Prep Tool.
7. For further instructions, go to step #6 under "Run FPET using the csv data file that you created – for NATIONAL estimates" and follow steps #6 through #13 to run the tool and download your results.

Note: Your data needs to be in the same format as the [sample MWRA data](#).

2. Select country/population and view data.

Country/population:
BC

Country that this population belongs to:
Democratic Republic of the Congo

3. Input overall run settings.

Run name:
test

Do short run

Estimate years:
1990 – 2020 2035

Start run!