MC_MNCHW_Baseline

2025-07-07

```
# Convert both age fields to numeric if not already
df <- df %>%
  mutate(
    selected_chi_age = as.numeric(selected_chi_age),
    selected_chi_monthe = as.numeric(selected_chi_monthe)
  )

# Create the cleaned age in months variable
df <- df %>%
  mutate(
    child_age_months_cleaned = case_when(
      !is.na(selected_chi_monthe) & selected_chi_monthe >= 3 & selected_chi_monthe <= 59 ~ selected_chi
      is.na(selected_chi_monthe) & !is.na(selected_chi_age) & selected_chi_age >= 1 & selected_chi_age
      !is.na(selected_chi_monthe) & selected_chi_monthe > 59 & !is.na(selected_chi_age) ~ selected_chi_a
      is.na(selected_chi_age) & is.na(selected_chi_monthe) ~ 3,
      is.na(selected_chi_monthe) & selected_chi_age < 12 ~ selected_chi_age,
      selected_chi_monthe > 59 & selected_chi_age < 5 ~ selected_chi_age * 12,
      TRUE ~ selected_chi_monthe
    )
  )

# Check distribution of the new variable
summary(df$child_age_months_cleaned)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    0.00   12.00   24.00   27.42   38.00   59.00
```

```
df <- df %>%
  mutate(
    age_group = case_when(
      child_age_months_cleaned >= 6 & child_age_months_cleaned <= 11 ~ "6-11 months",
      child_age_months_cleaned >= 12 & child_age_months_cleaned <= 59 ~ "12-59 months",
      TRUE ~ NA_character_
    )
  )
```

```
# 4. Summarize household head demographics
df <- df %>%
  mutate(lga = as.factor(lga),
         ward = as.factor(ward),
         hhh_sex = as.factor(hhh_sex),
         hhh_employment = as.factor(hhh_employment),
         hhh_occupation = as.factor(hhh_occupation),
```

```
         hhh_age = as.numeric(hhh_age),
         caregiver_age =  as.numeric(caregiver_age),
         caregiver_sex = as.factor(caregiver_sex),
         caregiver_marital_status = as.factor(caregiver_marital_status),
         caregiver_religion = as.factor(caregiver_religion),
         caregiver_edu = as.factor(caregiver_edu),
         caregiver_edu_level = as.factor(caregiver_edu_level),
         caregiver_employment = as.factor(caregiver_employment),
         caregiver_occupation = as.factor(caregiver_occupation))

lga_fq <- df %>%
  count(lga, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

hhh_sex_fq <- df %>%
  count(hhh_sex, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

hhh_employ_fq <- df %>%
  count(hhh_employment, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

hhh_occu_fq <- df %>%
  count(hhh_occupation, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))


caregiver_sex_fq <- df %>%
  count(caregiver_sex, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

caregiver_marital_status_fq <- df %>%
  count(caregiver_marital_status, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

caregiver_religion_fq <- df %>%
  count(caregiver_religion, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

caregiver_edu_fq <- df %>%
  count(caregiver_edu, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

caregiver_edu_level_fq <- df %>%
  count(caregiver_edu_level, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

caregiver_employment_fq <- df %>%
  count(caregiver_employment, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

caregiver_occupation_fq <- df %>%
  count(caregiver_occupation, name = "Frequency") %>%
```

```
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

print(lga_fq)
```

```
## # A tibble: 20 x 3
##    lga            Frequency Percentage
##    <fct>              <int>      <dbl>
##  1 Alkaleri             499        6.2
##  2 Bauchi               502        6.2
##  3 Bogoro               325        4
##  4 DAMBAM               398        4.9
##  5 Darazo               418        5.2
##  6 Dass                 325        4
##  7 Gamawa               449        5.6
##  8 Ganjuwa              400        5
##  9 Giade                325        4
## 10 Itas/Gadau           400        5
## 11 Jama'are             325        4
## 12 Katagum              501        6.2
## 13 Kirfi                323        4
## 14 Misau                400        5
## 15 Ningi                400        5
## 16 Shira                474        5.9
## 17 Tafawa-Balewa        400        5
## 18 Toro                 425        5.3
## 19 Warji                325        4
## 20 Zaki                 450        5.6
```

```
print(hhh_sex_fq)
```

```
## # A tibble: 2 x 3
##   hhh_sex Frequency Percentage
##   <fct>       <int>      <dbl>
## 1 Female        221        2.7
## 2 Male         7843       97.3
```

```
print(hhh_employ_fq)
```

```
## # A tibble: 3 x 3
##   hhh_employment Frequency Percentage
##   <fct>              <int>      <dbl>
## 1 Employed            1040       12.9
## 2 Self-employed       5960       73.9
## 3 Unemployed          1064       13.2
```

```
print(caregiver_sex_fq)
```

```
## # A tibble: 2 x 3
##   caregiver_sex Frequency Percentage
##   <fct>             <int>      <dbl>
## 1 Female             7710       95.6
## 2 Male                354        4.4
```

```r
print(caregiver_marital_status_fq)
```

```
## # A tibble: 4 x 3
##   caregiver_marital_status Frequency Percentage
##   <fct>                       <int>      <dbl>
## 1 Divorced                       70        0.9
## 2 Married                      7901       98
## 3 Single                         33        0.4
## 4 Widowed                        60        0.7
```

```r
print(caregiver_religion_fq)
```

```
## # A tibble: 2 x 3
##   caregiver_religion Frequency Percentage
##   <fct>                  <int>      <dbl>
## 1 Christianity             500        6.2
## 2 Islam                   7564       93.8
```

```r
print(caregiver_edu_fq)
```

```
## # A tibble: 2 x 3
##   caregiver_edu Frequency Percentage
##   <fct>             <int>      <dbl>
## 1 No                 4953       61.4
## 2 Yes                3111       38.6
```

```r
print(caregiver_edu_level_fq)
```

```
## # A tibble: 6 x 3
##   caregiver_edu_level      Frequency Percentage
##   <fct>                        <int>      <dbl>
## 1 Don't know                      31        0.4
## 2 Higher                         312        3.9
## 3 Pre-primary/kindergarten        92        1.1
## 4 Primary                       1317       16.3
## 5 Secondary                     1359       16.9
## 6 <NA>                          4953       61.4
```

```r
print(caregiver_employment_fq)
```

```
## # A tibble: 3 x 3
##   caregiver_employment Frequency Percentage
##   <fct>                    <int>      <dbl>
## 1 Employed                   264        3.3
## 2 Self-employed             3096       38.4
## 3 Unemployed                4704       58.3
```

```r
print(caregiver_occupation_fq)
```

```
## # A tibble: 8 x 3
##   caregiver_occupation Frequency Percentage
##   <fct>                    <int>      <dbl>
## 1 Cattle rearing              66        0.8
## 2 Civil Servant              117        1.5
## 3 Farming                    433        5.4
## 4 Fishing                      5        0.1
## 5 Other                      506        6.3
## 6 Technician                  32        0.4
## 7 Trading                   2201       27.3
## 8 <NA>                      4704       58.3
```

```r
# 5. Summarize eligible children

select_chi_fq <- df %>%
  count(age_group, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))

select_chi_sex <- df %>%
  count(selected_chi_sex, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))


# 6. Summarize women of childbearing age
wcba_sex_fq <- df %>%
  count(selected_wcba_sex, name = "Frequency") %>%
  mutate(Percentage = round((Frequency/sum(Frequency))*100,1))


# 8. Optional: Cross-tabulations
table(df$lga, df$selected_chi_sex)
```

```
##
##                 Female Male
##   Alkaleri         249  250
##   Bauchi           243  259
##   Bogoro           150  173
##   DAMBAM           168  230
##   Darazo           202  216
##   Dass             152  173
##   Gamawa           229  220
##   Ganjuwa          210  190
##   Giade            156  169
##   Itas/Gadau       189  211
##   Jama'are         168  157
##   Katagum          267  234
##   Kirfi            165  158
##   Misau            201  199
##   Ningi            186  213
##   Shira            245  229
##   Tafawa-Balewa    188  212
##   Toro             215  210
##   Warji            176  149
##   Zaki             240  208
```

```r
table(df$lga, df$selected_wcba_sex)
```

```
##
##                 Female
##   Alkaleri         496
##   Bauchi           499
##   Bogoro           321
##   DAMBAM           398
##   Darazo           417
##   Dass             325
##   Gamawa           449
##   Ganjuwa          400
##   Giade            325
##   Itas/Gadau       400
##   Jama'are         325
##   Katagum          501
##   Kirfi            323
##   Misau            400
##   Ningi            398
##   Shira            465
##   Tafawa-Balewa    400
##   Toro             424
##   Warji            325
##   Zaki             450
```

```r
# Disaggregation by LGA and Child Sex
lga_sex_tab <- table(df$lga, df$selected_chi_sex)
lga_sex_pct <- round(prop.table(lga_sex_tab, margin = 1) * 100, 1)
print("LGA by Child Sex (%)")
```

```
## [1] "LGA by Child Sex (%)"
```

```r
print(lga_sex_pct)
```

```
##
##                 Female Male
##   Alkaleri        49.9 50.1
##   Bauchi          48.4 51.6
##   Bogoro          46.4 53.6
##   DAMBAM          42.2 57.8
##   Darazo          48.3 51.7
##   Dass            46.8 53.2
##   Gamawa          51.0 49.0
##   Ganjuwa         52.5 47.5
##   Giade           48.0 52.0
##   Itas/Gadau      47.2 52.8
##   Jama'are        51.7 48.3
##   Katagum         53.3 46.7
##   Kirfi           51.1 48.9
##   Misau           50.2 49.8
##   Ningi           46.6 53.4
##   Shira           51.7 48.3
```

```
##   Tafawa-Balewa   47.0 53.0
##   Toro            50.6 49.4
##   Warji           54.2 45.8
##   Zaki            53.6 46.4
```

```
# Disaggregation by LGA and WCBA Sex (if needed)
lga_wcba_sex_tab <- table(df$lga, df$selected_wcba_sex)
lga_wcba_sex_pct <- round(prop.table(lga_wcba_sex_tab, margin = 1) * 100, 1)
print("LGA by WCBA Sex (%)")
```

```
## [1] "LGA by WCBA Sex (%)"
```

```
print(lga_wcba_sex_pct)
```

```
##
##                 Female
##   Alkaleri         100
##   Bauchi           100
##   Bogoro           100
##   DAMBAM           100
##   Darazo           100
##   Dass             100
##   Gamawa           100
##   Ganjuwa          100
##   Giade            100
##   Itas/Gadau       100
##   Jama'are         100
##   Katagum          100
##   Kirfi            100
##   Misau            100
##   Ningi            100
##   Shira            100
##   Tafawa-Balewa    100
##   Toro             100
##   Warji            100
##   Zaki             100
```

```
# Disaggregation by LGA and Age Group (6-11 vs 12-59 months)
lga_age_group_tab <- table(df$lga, df$age_group)
lga_age_group_pct <- round(prop.table(lga_age_group_tab, margin = 1) * 100, 1)
print("LGA by Child Age Group (%)")
```

```
## [1] "LGA by Child Age Group (%)"
```

```
print(lga_age_group_pct)
```

```
##
##                 12-59 months 6-11 months
##   Alkaleri              84.4        15.6
##   Bauchi                72.0        28.0
##   Bogoro                77.6        22.4
```

```
##   DAMBAM                83.8        16.2
##   Darazo                96.1         3.9
##   Dass                  90.1         9.9
##   Gamawa                90.9         9.1
##   Ganjuwa               77.3        22.7
##   Giade                 97.4         2.6
##   Itas/Gadau            89.0        11.0
##   Jama'are              95.4         4.6
##   Katagum               94.1         5.9
##   Kirfi                 89.2        10.8
##   Misau                 94.6         5.4
##   Ningi                 96.2         3.8
##   Shira                 89.0        11.0
##   Tafawa-Balewa         83.9        16.1
##   Toro                  88.5        11.5
##   Warji                 88.7        11.3
##   Zaki                  92.4         7.6
```

```r
# Disaggregation by LGA and Caregiver Education Level
lga_edu_tab <- table(df$lga, df$caregiver_edu_level)
lga_edu_pct <- round(prop.table(lga_edu_tab, margin = 1) * 100, 1)
print("LGA by Caregiver Education Level (%)")
```

```
## [1] "LGA by Caregiver Education Level (%)"
```

```r
print(lga_edu_pct)
```

```
##
##                 Don't know Higher Pre-primary/kindergarten Primary Secondary
##   Alkaleri              0.0    2.6                       1.8    64.9      30.7
##   Bauchi                1.6   29.1                       1.1    25.9      42.3
##   Bogoro                0.0   14.6                       0.0    11.2      74.1
##   DAMBAM                0.0    2.9                       0.0    67.1      30.0
##   Darazo                0.0    5.2                       3.0    53.3      38.5
##   Dass                  0.0    8.7                       0.0    38.3      53.1
##   Gamawa                0.0    7.2                       0.0    40.5      52.3
##   Ganjuwa               0.0    3.2                      18.9    57.9      20.0
##   Giade                 0.9    5.3                      11.5    47.8      34.5
##   Itas/Gadau            4.4   11.0                       1.1    51.6      31.9
##   Jama'are              0.0   15.1                       0.0    34.5      50.4
##   Katagum               2.2   14.0                       0.6    34.1      49.2
##   Kirfi                 3.3    3.3                       3.3    76.7      13.3
##   Misau                 1.0    5.7                       1.0    39.9      52.3
##   Ningi                 0.0   16.7                       5.1    35.9      42.3
##   Shira                 1.8    0.9                      15.5    63.7      18.1
##   Tafawa-Balewa         0.0    6.4                       0.0    35.9      57.7
##   Toro                  1.4    2.3                       0.9    65.7      29.6
##   Warji                 0.0   11.1                       3.2    52.4      33.3
##   Zaki                  5.0    1.7                       2.5    52.1      38.7
```