---
title: "Perinatal"
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date: "1/7/2018"
output: word_document
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r notes

The report of perinatal death in Nakuru County from 2014 to 2017 dataset. Perinata Death review forms are filled in the facility where the event occured and uploaded to DHIS2.Of more than 2000 events are available from the system. The dataset were downloaded and data cleaning done to remove data elements that does not fit definition of perinatal death, multiple entries and duplicates were deleted as well as empty columns.

```
perdatn %>%
  with(table(Org_unit, Year)) %>%
  prop.table(margin=2)*100
```

```
##                                          Year
## Org_unit                                       2014       2015
##   Annex Hospital (Nakuru)                 0.0000000  6.0465116
##   Bahati District Hospital                0.2487562  0.9302326
##   Baraka Maternity Home                   0.0000000  0.0000000
##   Elburgon Sub-District Hospital          0.0000000  0.4651163
##   Molo District Hospital                  0.0000000  0.4651163
##   Naivasha District Hospital              0.0000000  0.0000000
##   Nakuru Nursing Home                     0.0000000  0.0000000
##   Nakuru Provincial General Hospital (PGH) 99.7512438 92.0930233
##   Njoro Sub-County Hospital               0.0000000  0.0000000
##                                          Year
## Org_unit                                       2016       2017
##   Annex Hospital (Nakuru)                 8.3916084 17.1597633
##   Bahati District Hospital                0.6993007  4.1420118
##   Baraka Maternity Home                   2.0979021  0.0000000
##   Elburgon Sub-District Hospital          0.6993007  0.0000000
##   Molo District Hospital                  3.4965035  0.0000000
##   Naivasha District Hospital              2.0979021  0.0000000
##   Nakuru Nursing Home                     1.3986014  0.0000000
##   Nakuru Provincial General Hospital (PGH) 78.3216783 78.6982249
##   Njoro Sub-County Hospital               2.7972028  0.0000000
```

```
perdatn %>% ## reported no of perinatal deaths by year in 2015 we had 431  deaths
  group_by(Org_unit) %>%
  summarise(count = n()) %>%
  mutate(rfreq = count/sum(count)*100) %>%     ## relative frequency
  arrange(desc(rfreq))
```

```
## # A tibble: 9 x 3
##                                 Org_unit count      rfreq
##                                    <chr> <int>      <dbl>
## 1 Nakuru Provincial General Hospital (PGH)   844 90.8503767
## 2                  Annex Hospital (Nakuru)    54  5.8127018
## 3                Bahati District Hospital    11  1.1840689
## 4                  Molo District Hospital     6  0.6458558
## 5               Njoro Sub-County Hospital     4  0.4305705
```

```
## 6                    Baraka Maternity Home     3  0.3229279
## 7                Naivasha District Hospital     3  0.3229279
## 8           Elburgon Sub-District Hospital     2  0.2152853
## 9                       Nakuru Nursing Home     2  0.2152853
```

rmarkdown

Babies delivered by Nulliparous women are at greater risk of perinatal risk than multiparous women.The dataset is recorded on number of gravida mother ever had from 22 weeks gestation including the current pregnancy.

```
perdatn %>%
  group_by(Mgravrec) %>%
  summarise(count=n()) %>%
  mutate(rfreq= count/sum(count)*100) %>%
  arrange(desc(rfreq))
```

```
## # A tibble: 3 x 3
##      Mgravrec count      rfreq
##         <chr> <int>      <dbl>
## 1 Multiparous   501 53.9289559
## 2 Nulliparous   419 45.1022605
## 3        <NA>     9  0.9687836
```

Gestational Weeks

Using WHO classification of preterm, gestational weeks were classified on extremely preterm (Less than 28 weeks), very preterm(28-32 weeks) moderate to late preterm(32-37weeks) and post mature from 41 weeks and above. From the dataset 794 varibales were complete with mean gestational of 34.5+/- 5.43, Min of 18 weeks and max of 48 weeks with skew of -0.59 and kurtosis of -0.45.

```
perdatn %>%
  group_by(rmgest) %>%
  summarise(count=n()) %>%
  mutate(rfreq= count/sum(count)*100) %>%
  arrange(desc(rfreq))
```

```
## # A tibble: 6 x 3
##         rmgest count     rfreq
##          <chr> <int>     <dbl>
## 1    Full term   263 28.310011
## 2 Late preterm   184 19.806243
## 3  Ext preterm   144 15.500538
## 4 Very preterm   139 14.962325
## 5         <NA>   135 14.531755
## 6    post term    64  6.889128
```

Type of pregnancy

A total of 765 (82%) of the cases were singleton, less than 15% being twin or triplet.

```
perdatn %>%
  group_by(preg_type) %>%
```

```
  summarise(count=n()) %>%
  mutate(rfreq= count/sum(count)*100) %>%
  arrange(desc(rfreq))
```

```
## # A tibble: 5 x 3
##   preg_type count      rfreq
##       <chr> <int>      <dbl>
## 1    Single   765 82.3466093
## 2      Twin   124 13.3476857
## 3   Triplet    29  3.1216362
## 4    Others    10  1.0764263
## 5      <NA>     1  0.1076426
```

Presentation of foetus

Cephalic account for 77% of the perinatal death

```
perdatn %>%
  group_by(foetus_pres) %>%
  summarise(count=n()) %>%
  mutate(rfreq= count/sum(count)*100) %>%
  arrange(desc(rfreq))
```

```
## # A tibble: 9 x 3
##     foetus_pres count      rfreq
##           <chr> <int>      <dbl>
## 1      Cephalic   717 77.1797632
## 2        Breech   124 13.3476857
## 3        Others    52  5.5974166
## 4    Transverse    24  2.5834230
## 5          <NA>     6  0.6458558
## 6           BBA     2  0.2152853
## 7           C/S     2  0.2152853
## 8           c/s     1  0.1076426
## 9 Face to pubis     1  0.1076426
```

Time of Newborn death

Of the deaths, 60% (557/929) died with 7 days of live.

```
perdatn %>%
  group_by(t_nb_death) %>%
  summarise(count=n()) %>%
  mutate(rfreq= count/sum(count)*100) %>%
  arrange(desc(rfreq))
```

```
## # A tibble: 2 x 3
##                      t_nb_death count    rfreq
##                           <chr> <int>    <dbl>
## 1                Within 7 days   557 59.95694
## 2 Before delivery (Still birth)   372 40.04306
```

Antenatal Care

Did mother receive Antenatal care

```
perdatn %>%
  group_by(anr_attend) %>%
  summarise(count=n()) %>%
  mutate(rfreq= count/sum(count)*100) %>%
  arrange(desc(rfreq))
```

```
## # A tibble: 3 x 3
##   anr_attend count      rfreq
##        <chr> <int>      <dbl>
## 1        Yes   715 76.9644779
## 2         No   211 22.7125942
## 3       <NA>     3  0.3229279
```

How many antenatal visits done

```
perdatn %>%
  group_by(anc_visits) %>%
  summarise(count=n()) %>%
  mutate(rfreq= count/sum(count)*100) %>%
  arrange(desc(rfreq))
```

```
## # A tibble: 7 x 3
##             anc_visits count     rfreq
##                  <chr> <int>     <dbl>
## 1           Four times   220 23.681378
## 2                 None   194 20.882670
## 3               Thrice   186 20.021529
## 4                Twice   167 17.976319
## 5                 Once   101 10.871905
## 6 More than four times    40  4.305705
## 7                 <NA>    21  2.260495
```

Use of partograph

Partograph is important in monitoring process of labour. More than 50% (459/884) monitor labour progress with partograph.

```
perdatn %>%
  filter (!(loc_del=="Home")) %>%
  filter (!(loc_del=="BBA")) %>%
  group_by(part_use) %>%
  summarise(count=n()) %>%
  mutate(rfreq= count/sum(count)*100) %>%
  arrange(desc(rfreq))
```

```
## # A tibble: 3 x 3
##   part_use count      rfreq
##      <chr> <int>      <dbl>
```

```
## 1      Yes   459 51.8058691
## 2       No   425 47.9683973
## 3     <NA>     2  0.2257336
```