Graduation project documentation

Project Title: Healthcare Analytics for supporting Decision Making

Course/Track: Microsoft Power Bi Engineer

Team Members:

1. Asaad El-Saadany Badir Abdel Karim
2. Reda Ibrahim Al-Zaki Mohamed
3. Ahmed Fathy Mahmoud Al-Adl
4. Omnia Abdel Aziz Ibrahim
5. Ghada Khader Abu Bakr
6. Amira Ashraf Abdel Basset Saeed Al-Gamal

Group code: NEXT22 _ DKH1_DAT2_G1e

1. Project Information

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- **Course/Track**: Microsoft Power Bi Engineer
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2 Project Overview

- **Objective**:

The objective of this project is to develop a healthcare reporting and analytics dashboard that provides key health indicators such as new pregnancies, newborns, heart disease, diabetes cases, and other critical health data, categorized by city. The goal is to provide decision-makers with valuable insights into health trends for better resource allocation and policy planning.

- **Scope of Work:**

The project involves designing and implementing a dashboard using real-time data from healthcare facilities across multiple cities. Data on pregnancies, births, heart diseases, diabetes, and other relevant health metrics will be collected, processed, and visualized. This system will also include trend analysis, geographical data mapping, and statistical reports.

- **Expected Outcomes:**

The project will produce a fully functioning, user-friendly dashboard that offers interactive data visualizations of healthcare metrics. This will help healthcare providers and policymakers to identify trends, track health outcomes, and make data-driven decisions. Expected outcomes include:

- Reduction in manual reporting efforts

- Real-time health tracking by city
- Enhanced health management and resource distribution

3 Problem Statement

Managing health outcomes and trends across multiple cities is challenging without centralized, real-time data reporting systems. This leads to inefficiencies in healthcare resource allocation, delayed responses to emerging health concerns, and an inability to identify trends quickly.

4 Proposed Solution

- **Technologies Used:**

   Python, SQL, Tableau/Power BI, Pandas, Matplotlib/Seaborn,

- **System Architecture:**

   The system will consist of a data collection layer, which receives input from city health departments. This data will be processed and stored in a central database. A real-time analytics engine will compute metrics, and the front-end dashboard will display visualizations using interactive charts and maps.

5 Resources Needed

- Hardware/Software:
   - Data visualization software (e.g., Tableau, Power BI)
   - Analytical tools (Python, Jupyter Notebook)

6 Approval

- Instructor/Advisor: Ahmed Alaa
- Signature: Ahmed Alaa

Data Analysis

Data analysis is the process of collecting, cleaning, transforming, and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making. It's the backbone of many fields, from business and science to healthcare and government.

Why is Data Analysis Important?

- **Informed Decision Making:** Data analysis provides the insights needed to make data-driven decisions rather than relying on intuition or guesswork.
- **Problem Solving:** By identifying patterns and trends in data, analysts can uncover the root causes of problems and develop effective solutions.
- **Innovation:** Data analysis can reveal new opportunities and drive innovation.
- **Efficiency:** By optimizing processes and resource allocation, data analysis can improve efficiency and reduce costs.
- **Competitive Advantage:** Organizations that can effectively leverage their data are better positioned to outperform their competitors.

Types of Data Analysis

- **Descriptive Analysis:** Summarizes historical data to gain insights into what has happened. This includes calculating measures of central tendency (mean, median, mode) and dispersion (range, variance, standard deviation).
- **Diagnostic Analysis:** Investigates the causes of a particular event or outcome. It involves techniques such as correlation analysis and root cause analysis.
- **Predictive Analysis:** Uses historical data to forecast future trends and outcomes. Techniques include regression analysis, time series analysis, and machine learning.
- **Prescriptive Analysis:** Recommends actions to take based on the insights gained from predictive analysis. It involves optimization techniques and simulation modeling.

Key Tools for Data Analysis

- **Power BI:** A popular business analytics service that provides interactive visualizations and business intelligence capabilities.
- **Python:** A versatile programming language with a rich ecosystem of data science libraries such as Pandas, NumPy, and Scikit-learn.
- **R:** Another powerful language for statistical computing and graphics.
- **SQL:** Used for managing and manipulating relational databases.
- **Tableau:** A data visualization tool that allows users to create interactive dashboards.

Features of Power BI

- **Interactive Visualizations:** Create engaging and customizable visualizations to explore data.
- **Data Connectivity:** Connect to a wide variety of data sources, including Excel, SQL Server, and cloud-based services.
- **Natural Language Queries:** Ask questions about your data in plain language.
- **Collaboration:** Share insights and reports with colleagues.
- **Mobile Accessibility:** Access your dashboards and reports on the go.

Steps in the Data Analysis Process

1. **Data Collection:** Gather relevant data from various sources.
2. **Data Cleaning:** Ensure data is accurate, complete, and consistent.
3. **Data Exploration:** Explore the data to identify patterns and anomalies.
4. **Data Modeling:** Create statistical models to represent the relationships between variables.
5. **Data Visualization:** Create visual representations of the data to communicate findings effectively.
6. **Interpretation:** Draw conclusions based on the analysis and communicate the results.

Improving Maternal and Child Health in Dakahlia Governorate

A Data-Driven Approach

This study aims to analyze a comprehensive dataset of maternal and child health records from various health facilities in Dakahlia Governorate, Egypt. By leveraging the power of data analytics, we seek to identify trends, patterns, and disparities in healthcare utilization and outcomes. The findings of this study will inform evidence-based decision-making and contribute to the improvement of maternal and child health services in the region.

Data was collected from [mention the specific departments] and includes information on maternal health, pregnancy outcomes, newborn health, and child immunization. The data was cleaned and prepared using Python, and subsequently visualized and analyzed using Power BI. This analysis will help answer critical questions such as:

- What are the most common risk factors for adverse pregnancy outcomes?
- How effective are immunization programs in the region?
- Are there geographic disparities in healthcare access and quality?

By answering these questions, we can identify areas for targeted interventions and resource allocation.

Sample Methodology Section

Data Collection and Preparation Data was collected from the Health Directorate of Dakahlia Governorate. The dataset comprised multiple files, each containing information on different aspects of maternal and child health. These files were initially in a raw format and required significant cleaning and preprocessing. Using Python, the data was standardized, missing values were handled, and variables were translated into English for analysis.

الإدارة	جملة حوامل جدد	درن للأم	درن للأسرة	قيصرية	بكرية	ثانى أو ثالث	رابع فأكثر	مرة واحدة	أكثر من مرة	مولود حى	مولود ميت	وفيات المواليد في عمر أقل من7أيام	ضغط دم 90 / 140 فأكثر	ضغط دم أقل من 140 / 90	نعم	لا	حا
المنصورة	11584	0	0	2903	4534	5940	1097	317	109	7161	13	38	69	11496	4	11501	
أجا	10288	0	0	3510	3545	5724	1019	200	54	6687	54	29	20	10268	1	10287	
ميت غمر	12933	0	0	3437	4672	6900	1339	425	183	8208	75	27	49	12835	116	12792	
السنبلاوين	10385	0	0	0	3942	5267	1176	303	110	6509	26	13	20	10358	0	10217	
دكرنس	5084	0	1	1486	1915	2645	523	186	81	4289	20	11	14	5070	11	4996	
منية النصر	3774	0	0	692	1602	2004	168	27	11	2161	3	1	1	3768	0	3774	
المنزلة	4212	0	0	1977	1611	2040	561	162	81	2571	34	0	0	4209	69	4143	
المطرية	1479	0	1	763	530	754	195	83	39	941	10	11	2	1477	0	1479	
شربين	6687	0	0	1930	2305	3767	602	106	52	4336	35	6	24	6660	5	6680	
بلقاس	8496	0	2	1815	3229	4444	823	214	115	5210	51	29	19	8477	36	8459	
طلخا	5158	0	1	1499	1941	2567	649	216	112	3235	55	16	10	5148	2	5156	
الجمالية	2847	0	0	1474	1016	1454	377	101	46	1816	7	36	6	2819	22	2813	
نبى الأمديد	3543	0	0	351	1279	1892	376	130	68	2221	15	18	1	3543	0	3544	
جمصة	1056	0	0	49	395	614	50	2	0	708	1	0	0	1052	0	1036	
نبروه	4977	0	0	948	1930	2576	471	128	49	2985	21	7	33	4941	143	4831	
ميت سلسيل	1164	0	0	647	395	628	141	38	18	780	8	7	2	1162	1	1162	
بنى عبيد	1907	0	0	356	732	1040	135	40	7	1126	1	1	1	1906	5	1902	
محلة دمنة	807	1	0	263	321	436	50	14	9	486	2	1	5	802	0	807	
الاجمالى	96381	1	5	24100	35894	50692	9752	2692	1144	61430	431	251	276	95991	415	95579	

administration	Location	Newpregnant	Mother_tuberculosis	family_tuberculosis	Caesarean	pregnancy1	pregnancy2_3	pregnancy4_more	Abortion1
Mansoura	31.042419097547718, 31.377753068857352	10190	0	1	1943	4065	5194	1012	2
Aga	30.940254739908944, 31.28822633827354	9599	0	0	2168	3856	4969	774	1
Mitt Ghamr	30.718154680195559, 31.2547884888 1682	13392	0	0	2365	5317	6773	1316	4
Sinbilawin	30.885991352005 23, 31.459459239580188	10143	0	0	0	4126	4973	1044	2
Dekernes	31.085172650102244, 31.590005501391335	5370	0	0	1197	2107	2782	481	1
Menia Elnasr	31.164477685303 19, 31.69056401006461	4034	6	0	499	1804	2066	164	
Elmanzala	31.155341196641488, 31.937476092238512	3928	0	0	1587	1510	1942	476	1
Elmataria	31.044086637295404, 31.396349474553993	1708	0	0	736	646	806	255	1
Sherbin	31.195636872658625, 31.518384423753492	6615	0	0	1485	2514	3541	524	
Belkas	31.214451927725 8, 31.356330400187037	7774	0	0	909	3322	3955	497	1
Talkha	31.054268280471675, 31.3803441470 7063	4884	0	0	1039	1976	2369	539	2
Elgamalia	31.178471638214965, 31.859554710 5067	2702	0	0	1108	1011	1400	283	
Timai Elamdide	30.942594141206893, 31.52847964220 1606	3192	0	0	154	1227	1652	313	1
Gamasa	31.440203495571936, 31.535975691875 77	930	0	0	0	403	518	9	
Nabroh	31.092186154 1372, 31.301202746171253	4917	0	0	536	2014	2494	409	1
Meet Salsil	31.166243920127346, 31.801226744466203	1197	0	0	516	453	643	101	
Bani Ubaid	31.023954615206843, 31.645231381395327	1928	0	0	279	806	988	134	
Mihala Damanh	31.074065790682297, 31.493394128049 15	525	0	0	102	217	253	55	
Mansoura	31.042419097547718, 31.377753068857352	9869	0	0	2189	3865	4941	1026	2
Aga	30.940254739908944, 31.28822633827354	9762	0	0	2473	3704	5235	823	1
Mitt Ghamr	30.718154680195559, 31.2547884888 1682	13028	0	0	2912	5118	6615	1248	2
Sinbilawin	30.885991352005 23, 31.459459239580188	10063	22	0	0	4071	4876	1116	2
Dekernes	31.085172650102244, 31.590005501391335	4987	0	0	1248	1872	2650	448	1
Menia Elnasr	31.164477685303 19, 31.69056401006461	3886	0	0	559	1692	1977	217	
Elmanzala	31.155341196641488, 31.937476092238512	4200	0	0	1842	1618	2089	493	2
Elmataria	31.044086637295404, 31.396349474553993	1622	0	0	748	554	803	261	1
Sherbin	31.195636872658625, 31.518384423753492	6611	0	0	1610	2494	3547	518	

Table: DATA (72 rows)

Building Upon Spatial Relationships

Linking healthcare data to geographic locations provides invaluable insights into the distribution of health services and outcomes. By overlaying health data with geographic information, we can uncover hidden patterns and identify areas that require additional support.
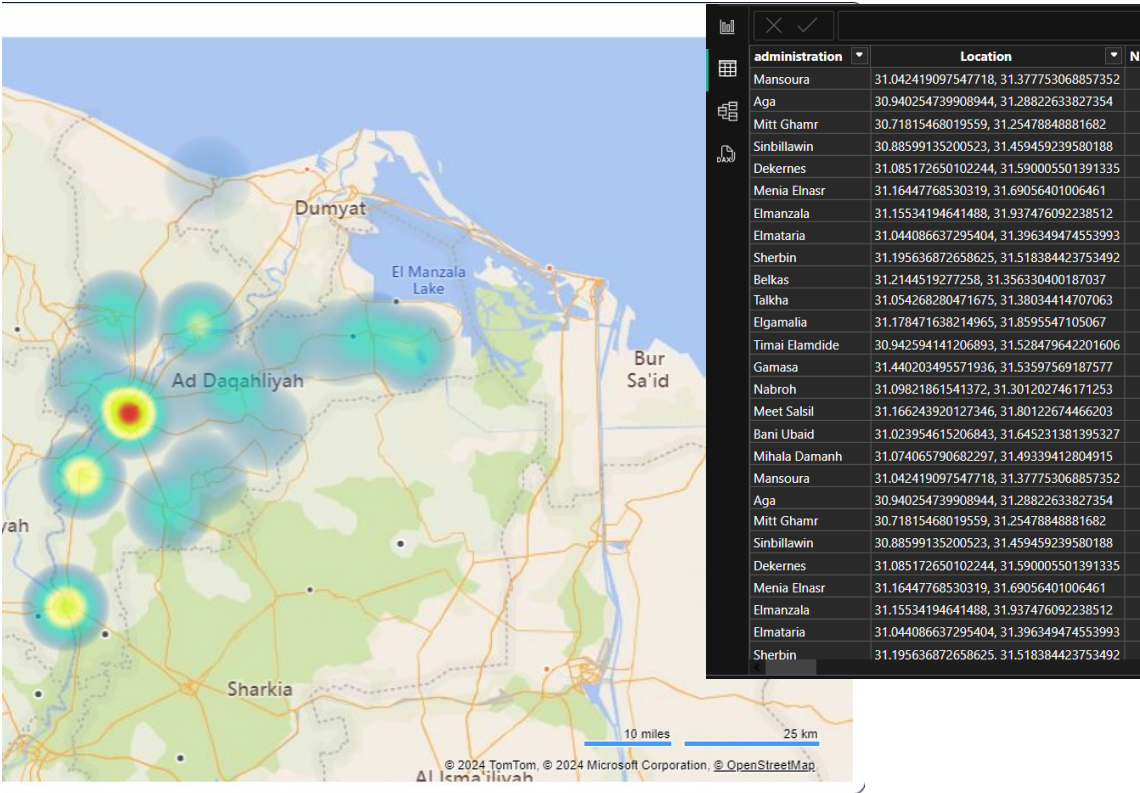
Understanding the Data

The provided dataset offers a rich tapestry of information related to maternal and child health in Dakahlia Governorate. This data, collected from various healthcare facilities, provides a comprehensive overview of the healthcare services provided, the health status of pregnant women, and the outcomes of pregnancies and births.

Key Data Elements

The dataset encompasses a wide range of variables, including:

- **Patient History:** Detailed medical history of mothers, including chronic diseases, previous pregnancies, and birth outcomes.
- **Laboratory Tests:** Results of routine blood and urine tests to assess maternal and fetal health.
- **Pregnancy Complications:** Information on common pregnancy complications such as hypertension, gestational diabetes, and preterm birth.
- **Infant Health:** Birth weight, length, feeding practices, immunization status, and common infant health problems.

Patient History

- **Chronic Diseases:** Information on pre-existing health conditions of the mother, such as diabetes, hypertension, heart disease, or respiratory illnesses.
- **Previous Pregnancies:** Details about prior pregnancies, including gestational age, birth weight, and any complications.
- **Family History:** Information on the health status of the mother's family members, especially regarding genetic conditions or pregnancy-related issues.

Laboratory Tests

- **Hemoglobin:** To assess the risk of anemia, which can affect both mother and fetus.
- **Blood Sugar:** To screen for gestational diabetes, a common pregnancy complication.

- **Urine Protein:** To detect preeclampsia, a serious condition characterized by high blood pressure and protein in the urine.
- **Other tests:** May include thyroid function tests, Rh factor, and sexually transmitted infection screening.

Pregnancy Complications

- **Hypertension:** Includes preeclampsia and eclampsia, which can pose significant risks to both mother and fetus.
- **Gestational Diabetes:** A type of diabetes that develops during pregnancy.
- **Preterm Birth:** Delivery before 37 weeks of gestation.
- **Preeclampsia:** A condition characterized by high blood pressure and protein in the urine.
- **Other complications:** May include anemia, infections, and fetal growth restriction.

Infant Health

- **Birth Weight:** A key indicator of infant health, with low birth weight being associated with increased risk of complications.
- **Length:** Measures the infant's physical growth and development.
- **Feeding Practices:** Information on breastfeeding, complementary feeding, and any challenges encountered.
- **Immunization:** Records of vaccinations received to protect the infant from preventable diseases.
- **Health Problems:** Information on common infant health issues, such as jaundice, birth defects, and respiratory infections.

Data Columns and their meanings: Refer to the appendix to their meanings, translations.
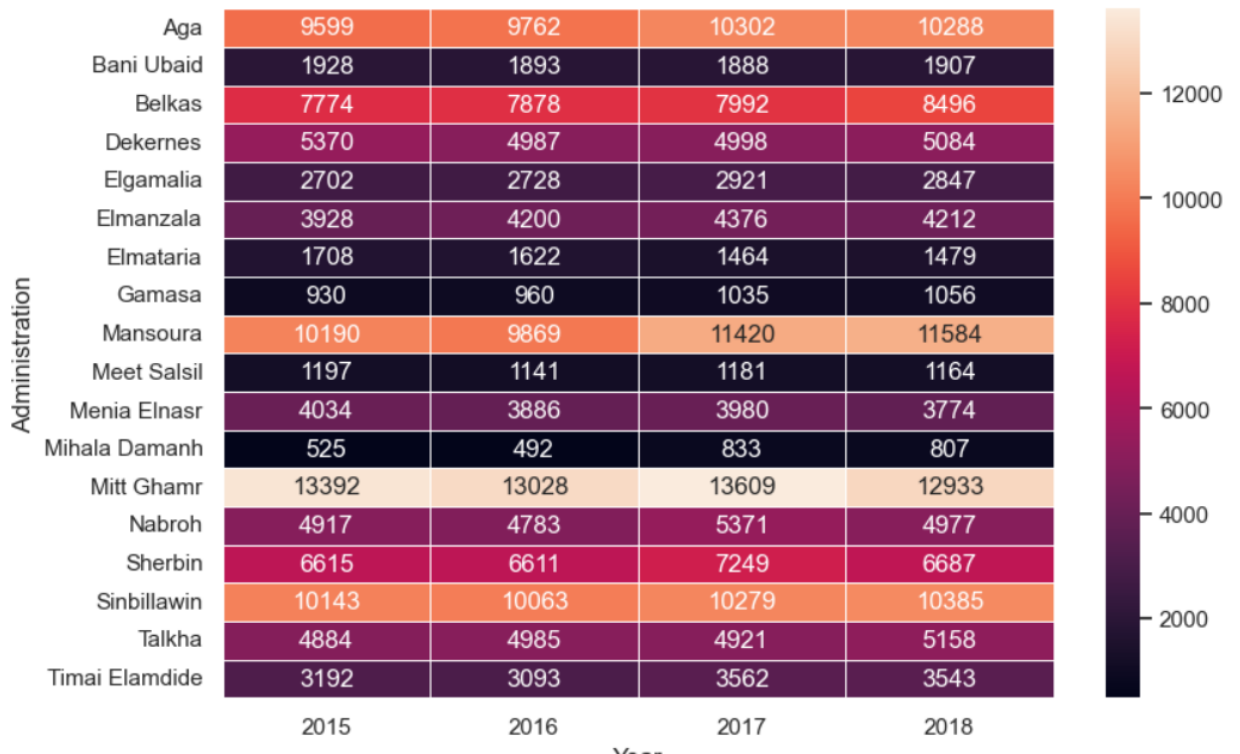
Data Analysis The cleaned data was imported into Power BI for visualization and analysis. Descriptive statistics were calculated to summarize the data, and various visualizations, such as bar charts, line graphs, and maps, were created to explore relationships and trends. Geographic information was incorporated to identify spatial patterns in healthcare utilization and outcomes.
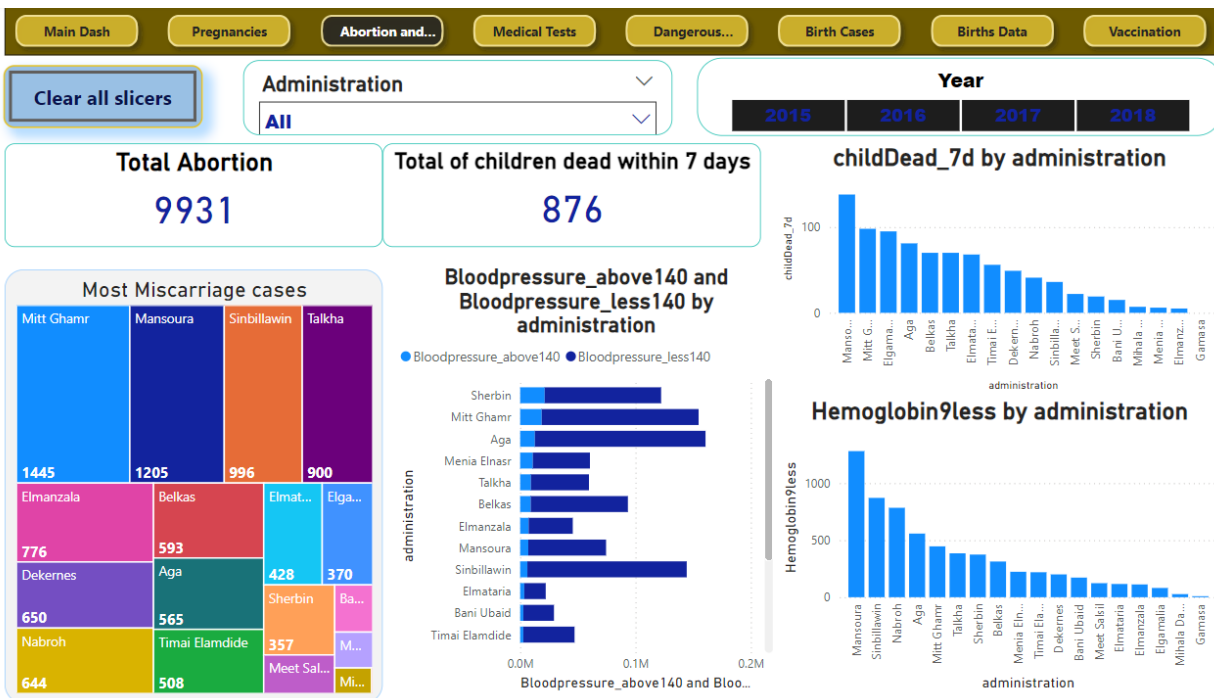
```
In [6]:  import matplotlib.pyplot as plt
         import seaborn as sns
         sns.set()

         a_pivot = dfObj.pivot(index='Administration', columns='Year', values=values_of)

         # Draw a heatmap with the numeric values in each cell
         f, ax = plt.subplots(figsize=(9, 6))
         sns.heatmap(a_pivot, annot=True, fmt="d", linewidths=.5, ax=ax)
```

```
Out[6]:  <Axes: xlabel='Year', ylabel='Administration'>
```


Administration	2015	2016	2017	2018
Aga	9599	9762	10302	10288
Bani Ubaid	1928	1893	1888	1907
Belkas	7774	7878	7992	8496
Dekernes	5370	4987	4998	5084
Elgamalia	2702	2728	2921	2847
Elmanzala	3928	4200	4376	4212
Elmataria	1708	1622	1464	1479
Gamasa	930	960	1035	1056
Mansoura	10190	9869	11420	11584
Meet Salsil	1197	1141	1181	1164
Menia Elnasr	4034	3886	3980	3774
Mihala Damanh	525	492	833	807
Mitt Ghamr	13392	13028	13609	12933
Nabroh	4917	4783	5371	4977
Sherbin	6615	6611	7249	6687
Sinbillawin	10143	10063	10279	10385
Talkha	4884	4985	4921	5158
Timai Elamdide	3192	3093	3562	3543

Pregnancies

Clear all slicers

Administration
All

Year
2015 2016 2017 2018

Total Pregnancies
378570

1st Time	2nd or 3rd	4th or More
146882	195486	36202

Natural
220027

Caesarean
267873

BirthCaesarean and Birthnatural by administration

- BirthCaesarean
- Birthnatural

pregnancy1, pregnancy2_3 and pregnancy4_more by administration

- pregnancy1
- pregnancy2_3
- pregnancy4_more

Newpregnant by administration

Abortion and...

Clear all slicers

Administration
All

Year
2015 2016 2017 2018

Total Abortion
9931

Total of children dead within 7 days
876

Most Miscarriage cases

Mitt Ghamr	Mansoura	Sinbillawin	Talkha
1445	1205	996	900

Elmanzala	Belkas	Elmat...	Elga...
776	593	428	370

Dekernes	Aga	Sherbin	Ba...
650	565	357	

Nabroh	Timai Elamdide	Meet Sal...	M...
644	508		

| | | | Mi... |

childDead_7d by administration

Bloodpressure_above140 and Bloodpressure_less140 by administration

- Bloodpressure_above140
- Bloodpressure_less140

Hemoglobin9less by administration

Clear all slicers

Administration
All

Year
2015   2016   2017   2018

Total Tetanus Vaccinated
39955

Total Positive Reese
147002

NegativeReese and PositiveReese by administration
● NegativeReese ● PositiveReese

Total Positive Diabeties
1637

Total Positive Albumin
3659

positivesugar by administration

Tetanus_vaccinated1 by administration

administration	Tetanus_vaccinated1
Mitt Ghamr	6.8K
Belkas	5.3K
Sherbin	4.9K
Sinbillawin	3.7K
Nabroh	3.0K
Elmanzala	2.9K
Timai Elamdide	2.5K
Mansoura	2.2K
Aga	1.8K
Menia Elnasr	1.8K
Talkha	1.2K

Positivealbumin by administration

administration	Positivealbumin
Mitt Ghamr	945
Nabroh	580
Sinbillawin	464
Belkas	323
Aga	224
Talkha	214
Elmanzala	186
Elgamalia	153
Mansoura	134
Sherbin	124
Meet Salsil	109

Clear all slicers

Administration
All

Year
2015   2016   2017   2018

Total Normal Cases
1195732

Total Dangerous Pregnancies
122961

Dangerous_pregnancies by administration

checkNormal by administration

Heatmap for Dangerous cases

Clear all slicers

Administration
All

Year
2015 2016 2017 2018
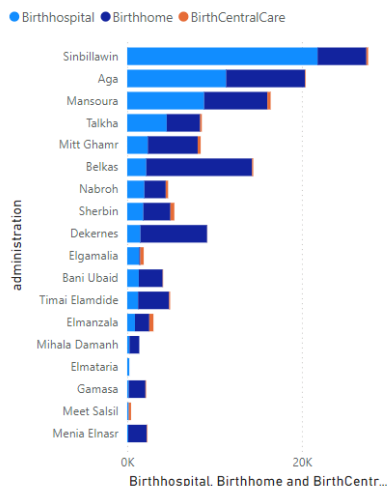
Total Normal Cases
1195732

Total Caesarean Cases
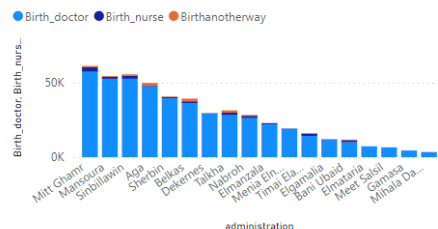267873

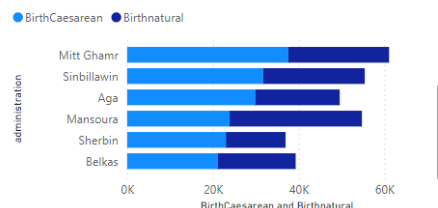**Total Natural Cases**
220027

Total Birth by Doctor
467885

Birthhospital, Birthhome and BirthCentralCare by administration

● Birthhospital ● Birthhome ● BirthCentralCare

Birth_doctor, Birth_nurse and Birthanotherway by administration

● Birth_doctor ● Birth_nurse ● Birthanotherway

BirthCaesarean and Birthnatural by administration

● BirthCaesarean ● Birthnatural

Clear all slicers

Administration
All

Year
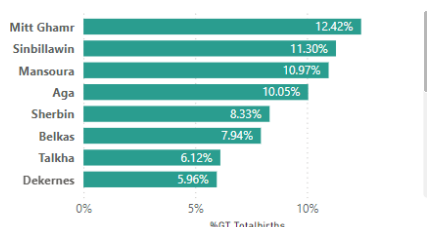2015 2016 2017 2018

Total Male Births
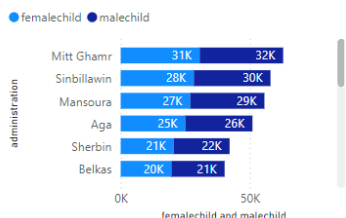261026

Total Female Births
246122
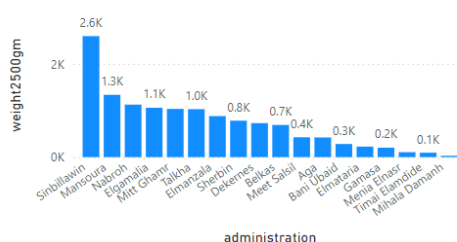
Total Stillbirths
1898

Births for every single City

City	%GT Totalbirths
Mitt Ghamr	12.42%
Sinbillawin	11.30%
Mansoura	10.97%
Aga	10.05%
Sherbin	8.33%
Belkas	7.94%
Talkha	6.12%
Dekernes	5.96%

babydead by administration

319 223 195 178 174 124 110 99 91 84 80 54 44 36 33
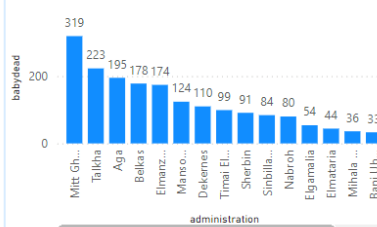
femalechild and malechild by administration

● femalechild ● malechild

administration	femalechild	malechild
Mitt Ghamr	31K	32K
Sinbillawin	28K	30K
Mansoura	27K	29K
Aga	25K	26K
Sherbin	21K	22K
Belkas	20K	21K

weight2500gm by administration

2.6K 1.3K 1.1K 1.0K 0.8K 0.7K 0.4K 0.3K 0.2K 0.1K

BirthDefect and Yellowdisease by administration

● BirthDefect ● Yellowdisease

administration	BirthDefect	Yellowdisease
Dekernes	222 41%	323 59%
Bani Ubaid	103 75%	35 25%
Mansoura	7118 99%	
Talkha	975 91%	
Sinbillawin	4570 98%	

Clear all slicers

Administration

All
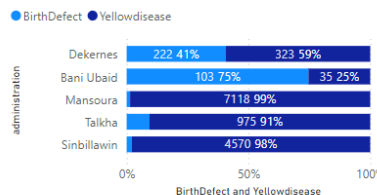
Year

2015   2016   2017   2018

Total Vaccination 2 Months	Total Vaccination 18 Months
507630	464463

Total Vaccination 4 Months	Total Vaccination 24 Months
503913	171852

Total Vaccination 6 Months	Total Vaccination 36 Months
497554	124591

Total Vaccination 12 Months	Total Vaccination 48 Months
479202	106083

Vaccination

● 2 Month ● 12m ● 18m ● 24m ● 36m ● 48m ● 4m ● 6m

2 Month, 12m, 18m, 24m, 36m, 48m, 4m and 6m
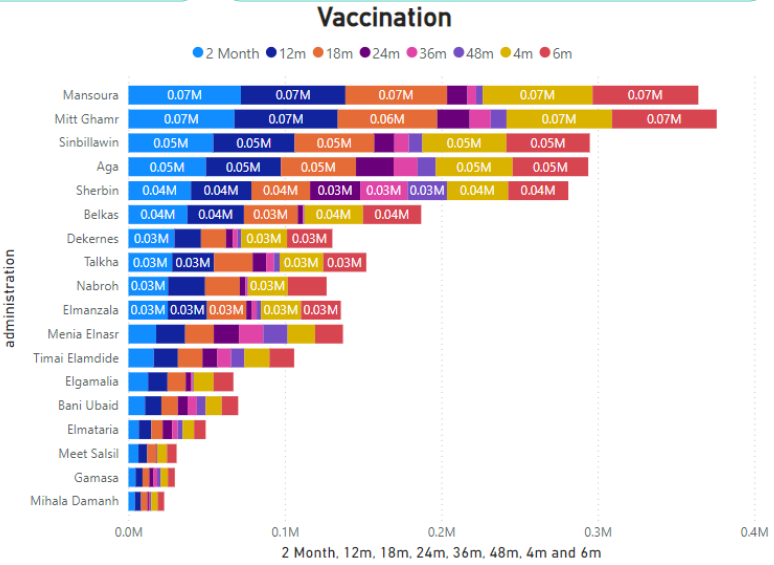
Appendix: Data Dictionary and Translation

The following tables provide a detailed description of each column in the dataset, including the original Arabic name, the English translation used for analysis in Power BI, and a brief explanation of the data contained within.

Column	Meaning
administration	administration
Newpregnant	New pregnant
Mother_tuberculosis	Mother's tuberculosis
family_tuberculosis	Family's tuberculosis
Caesarean	Caesarean
pregnancy1	first pregnancy
pregnancy2_3	Second or third pregnancy
pregnancy4_more	Fourth pregnancy and more
Abortion1	Abortion once
Abortion_more	Abortion more than once
Born_alive	Born alive
babydead	The baby is dead
childDead_7d	Death of a child less than 7 days
Bloodpressure _above	Blood pressure 140/90 and above
Bloodpressure _less	Blood pressure is less than 140/90
Thyroid_gland_hypertrophy	Thyroid gland hypertrophy
No_Thyroid_gland_hypertrophy	No Thyroid gland hypertrophy
Heartcases	Heart cases
Chestcases	Chest cases
Polyethylenecases	Polyethylene cases
Natural	natural
Hemoglobin9less	Hemoglobin less than 9 g
Hemoglobin9to11	Hemoglobin from 9 to less than 11 g
Hemoglobin11more	Hemoglobin 11 g or more
NegativeReese	Negative Reese
PositiveReese	Positive Reese
negativeWazerman	negative Wazerman
positiveWazerman	positive Wazerman
Negativesugar	Negative sugar
positivesugar	positive Sugar
Negativealbumin	Negative albumin
Positivealbumin	Positive albumin
Refuse_vaccinate	Refuses to vaccinate
Approve_vaccination	Approved vaccination
Vaccination_tetanus1	Vaccination against tetanus dose 1
Vaccination_tetanus2	Vaccination against tetanus dose 2
Dangerous_pregnancies	Dangerous pregnancies

Iron_Folic	Iron + Folic
Totalpregnant	Total pregnant women
natural_increaseweight	Increase natural weight
Increase_weight	Increase the weight of the natural
Bloodpressure_less140	Blood pressure is less than 140/90
Bloodpressure_above140	Blood pressure of 140/90 and above
legTumor	Tumor of the legs
no_legtumor	no leg tumor
Heartdiseases	Heart diseases
chestdiseases	chest diseases
Polycysticdiseases	Polycystic diseases
Other diseases	Other diseases
checkNormal	check Normal
Hemoglobinless9	Hemoglobin less than 9 g
Hemoglobin9to11	Hemoglobin from 9 to less than 11 g
Hemoglobin11more	Hemoglobin of 11 g or more
Negativesugar	Negative sugar
PositiveSugar	Positive Sugar
Negativealbumin	Negative albumin
Positivealbumin	Positive albumin
Homevisits	Home visits
Tetanus_vaccinated1	Tetanus vaccinated first dose
Tetanus_vaccinated2	Tetanus vaccinated second dose
RiskPregnancy	Risk Pregnancy
maternal_mortalitypregnancy	Pregnancy complications
Totalbirths	Total births
pregnancyless37week	Duration of pregnancy is less than 37 weeks
birth	Birth
Miscarriage	Miscarriage
Birthhospital	Birth on hospital
BirthCentralCare	Birth on Central Care
Birthclinic	Birth on the clinic
Birthhome	Birth at home
Birth_doctor	Birth by a doctor
Birth_nurse	Birth by nurse / childbirth
Birthanotherway	Birth in another way
BirthCaesarean	Birth is Caesarean
Birthnatural	Birth is natural
Otherbirth	Other type of birth
bleeding	Complications of birth(bleeding)
placenta_retention	Complications of birth placenta retention
Othercomplications	Other birth complications
Referralchild	Referral of the child
No_referralchild	Non-referral of the child
VitaminA	Vitamin A
malechild	The child is male

femalechild	The child is female
The baby is alive	The baby is alive
babydead	The baby is dead
weight2500gm	The weight of the baby is less than 2500 gm
weight2500more	The weight of the baby is 2500 gm. and more
lengthless50cm	The length of the baby is less than 50 cm
length50cm_more	The length of the baby is 50 cm or more
Yellowdisease	Yellow disease
BirthDefect	Birth Defect
Breastfeeding1H	Breastfeeding within an hour
Breastfeeding6H	Breastfeeding within 6 hours
Breastfeeding_more6H	Breastfeeding more than 6 hours
Totalreferrals	Total referrals
Totalmaternalvisits	Total maternal visits
Totalmaternalmortality	Total maternal mortality
kidsless15d_visit1	New kids less than 15 days first visit
Otherextensions	Other extensions
senses	senses
sensitivity	sensitivity
Delayedmentaldevelopment	Delayed mental development
Geneticdiseases	Genetic diseases
bottlelactation	Use a bottle of lactation
Use_hiatus	Use the hiatus
Totalregulars2m	Total regulars 2 months
Minusweight2m	Minus weight 2 month
Normalweight2m	Normal weight 2 Month
Plusweight2m	Plus weight 2 month
Normallength2m	Normal length 2 month
Startdwarf2m	Start dwarf (Month 2)
Extreme_stunting2m	Extreme stunting (2 months)
Normalbreastfeeding2m	Normal breastfeeding (2 months)
Breastfeeding_Supplement2m	Breastfeeding with Supplement (Month 2)
Unnatural_breastfeeding2m	Unnatural breastfeeding (2 months)
Complete_vaccination2m	Complete vaccination (2 months)
Incomplete_vaccination2m	Incomplete vaccination (2 months)
Totalregulars4m	Total of regulars (4 month)
MinusWeight4M	Minus Weight (Month 4)
Natural4M	Natural (Month 4)
PlusWeight4M	Plus Weight (Month 4)
Naturallength4M	Natural length (4 months)
Beginningdwarf4M	Beginning dwarf (Month 4)
Extremestunting4M	Extreme stunting (4 months)
Absolutebreastfeeding4M	Absolute breastfeeding (4 months)
Breastfeedingsupplements4M	Breastfeeding with supplements (4 month)
Unnaturalbreastfeeding4m	Unnatural breastfeeding (4 months)
Completevaccination4m	Complete vaccination (4 months)

Incompletevaccination4m	Incomplete vaccination (4 months)
Children6m	Children (6 months)
Minusweight6m	Minus weight (6 months)
NaturalWeight6m	Natural Weight (6 months)
Plusweight6m	Plus weight (6 months)
Naturallength6m	Natural length (6 months)
Startdwarf6m	Start dwarf (6 months)
Extremestunting6m	Extreme stunting (6 months)
Absolutebreastfeeding6m	Absolute breastfeeding (6 months)
Breastfeedingsupplements6m	Breastfeeding with supplements (6 months)
Unnaturalbreastfeeding6m	Unnatural breastfeeding (6 months)
Completevaccination6m	Complete vaccination (6 months)
Incompletevaccination6m	Incomplete vaccination (6 months)
Total regulars9m	Total regulars (Month 9)
Minusweight9m	Minus weight (month 9)
NaturalWeight9m	Natural Weight (Month 9)
PlusWeight9m	Plus Weight (Month 9)
NaturalLength9m	Natural Length (Month 9)
Beginningdwarf9m	Beginning dwarf (month 9)
Extremestunting9m	Extreme stunting (9 months
naturalBreastfeeding9m	Natural Breastfeeding (9 months)
unnaturalBreastfeeding9m	Unnatural Breastfeeding (9 months)
OtherFood9m	Other Food (Month 9)
Nootherfood9m	No other food (Month 9)
VaccinationCompleted9m	Vaccination Completed (Month 9)
Vaccinationincomplete9m	Vaccination incomplete (Month 9)
TotalRegulars12m	Total Regulars (12 months)
Minusweight12m	Minus weight (12 months)
NaturalWeight12m	Natural Weight (12 months)
Plusweight12m	Plus weight (12 months)
NaturalLength12m	Natural Length (Months 12)
Beginningdwarfism12m	Beginning of dwarfism (12 months)
Extremestunting12m	Extreme stunting (12 months)
naturalBreastfeeding12m	Natural Breastfeeding (12 months)
Unnaturalbreastfeeding12m	Unnatural breastfeeding (12 months)
OtherFood12m	Other Food (12 months)
Nootherfood12m	No other food (12 months)
Completevaccination12m	Complete vaccination (12 months)
Incompletevaccination12m	Incomplete vaccination (12 months)
Totalregulars18m	Total regulars (18 months)
Minusweight18m	Minus weight (months 18)
NaturalWeight18m	Natural Weight (18 months)
Plusweight18m	Plus weight (18 months)
NaturalLength18m	Natural Length (18 months)
Startdwarf18m	Start dwarf (18 months)
Extremestunting18m	Extreme stunting (18 months)

naturalBreastfeeding18m	Natural Breastfeeding (18 months)
Unnaturalbreastfeeding18m	Unnatural breastfeeding (18 months)
OtherFood18m	Other Food (18 months)
Nootherfood18m	No other food (18 months)
Completevaccination18m	Complete vaccination (18 months)
Incompletevaccination18m	Incomplete vaccination (18 months)
Totalregulars24m	Total of regulars (Month 24)
Minusweight24m	Minus weight (24 months)
NaturalWeight24m	Natural Weight (Month 24)
Plusweight24m	Plus weight (24 months)
Naturallength24m	Natural length (24 months)
beginningdwarfism24m	The beginning of dwarfism (24 months)
Extremestunting24m	Extreme stunting (24 months)
naturalBreastfeeding24m	Natural Breastfeeding (24 months)
Unnaturalbreastfeeding24m	Unnatural breastfeeding Yes (24 months)
OtherFoods24m	Other Foods (Month 24)
NoOtherFoods24m	No Other Foods (Month 24)
Completevaccination24m	Complete vaccination (24 months)
Incompletevaccination24m	Incomplete vaccination (24 months)
Hemoglobinless11gm24m	Hemoglobin less than 11 gm (24 months)
Hemoglobin11gmore24m	Hemoglobin 11 gm more (24 months)
Totalregulars24m	Total of regulars (Month 24)
Minusweight36m	Minus weight (36 months)
NaturalWeight36m	Natural Weight (36 months)
Plusweight36m	Plus weight (36 months)
NaturalLength36m	Natural Length (Month 36)
beginningdwarfism36m	The beginning of dwarfism (36 months)
Extremestunting36m	Extreme stunting (36 months)
Completevaccination36m	Complete vaccination (36 months)
Incompletevaccination36m	Incomplete vaccination (36 months)
Hemoglobinless11gm36m	Hemoglobin less than 11 gm (36 months)
Hemoglobin11gmore36m	Hemoglobin 11 gm more (36 months)
Totalregulars48m	Total of regulars (Month 48)
Minusweight48m	Minus weight (month 48)
NaturalWeight48m	Natural Weight (48 months)
Plusweight48m	Plus weight (48 month)
Naturallength48m	Natural length (48 months)
Beginningdwarf48m	Beginning dwarf (48 month)
Extremestunting48m	Extreme stunting (48 months)
Completevaccination48m	Complete vaccination (48 months)
Incompletevaccination48m	Incomplete vaccination (48 months)
Hemoglobinless11gm48m	Hemoglobin less than 11 grams (48 months)
Hemoglobinmore11gm48m	Hemoglobin more than 11 grams (48 months)
Totalregulars60m	Total of regulars (Month 60)
MinusWeight60m	Minus Weight (Month 60)
NaturalWeight60m	Natural Weight (Month 60)

Plusweight60m	Plus weight (60 month)
NaturalLength60m	Natural Length (Month 60)
Beginningdwarf60m	Beginning dwarf (60 month)
Extremestunting60m	Extreme stunting (60 months)
Completevaccination60m	Complete vaccination (60 months)
Incompletevaccination60m	Incomplete vaccination (60 months)
Hemoglobinless11gm60m	Hemoglobin less than 11 gm (60 months)
Hemoglobinmore11gm60m	Hemoglobin more than 11 gm (60 months)

Management	الادارة
New pregnant	جملة حوامل جدد
Drain for the mother	درن للأم
Drain for the family	درن للأسرة
Caesarean	قيصرية
first pregnancy	حمل بكرية
Second or third pregnancy	حمل ثانى أو ثالث
Fourth pregnancy and more	حمل رابع فأكثر
Abortion once	إجهاض مرة واحدة
Abortion more than once	إجهاض أكثر من مرة
Born alive	مولود حى
The baby is dead	مولود ميت
Death of a child less than 7 days	وفيات المواليد فى عمرأقل من7أيام
Blood pressure 140/90 and above	ضغط دم ١٤٠ / ٩٠ فأكثر
Blood pressure is less than 140/90	ضغط دم أقل من ١٤٠ / ٩٠
Thyroid gland hypertrophy	تضخم غدة درقية
No Thyroid gland hypertrophy	لا تضخم غدة درقية
Heart cases	حالات قلبية
Chest cases	حالات صدرية
Polyethylene cases	حالات جهاز بولى
natural	طبيعى
Hemoglobin less than 9 g	هيموجلوبين اقل من ٩جم
Hemoglobin from 9 to less than 11 g	هيموجلوبين من ٩الى اقل من ١١جم
Hemoglobin 11 g or more	هيموجلوبين ١١جم فأكثر
Negative Reese	ريزس سلبى
Positive Reese	ريزس ايجابى
negative Wazerman	وازرمان سلبى
positive Wazerman	وازرمان ايجابى
Negative sugar	سكر سلبى
positive Sugar	سكر ايجابى
Negative albumin	زلال سلبى
Positive albumin	زلال ايجابى
Refuses to vaccinate	حالة ممنعة التطعيم
Approved vaccination	حالة غير ممنعة التطعيم
Vaccination against tetanus dose 1	تطعيم ضدالتيتانوس جرعة ١
Vaccination against tetanus dose 2	تطعيم ضدالتيتانوس جرعة ٢
Dangerous pregnancies	حالات الحمل الخطر
Iron + Folic	حديد+فوليك
Total pregnant women	جملة الحوامل المترددات
Increase natural weight	زيادة وزن طبيعية
Increase the weight of the natural	زيادة وزن غيرطبيعية
Blood pressure is less than 140/90	ضغط دم أقل من ١٤٠/ ٩٠
Blood pressure of 140/90 and above	ضغط دم من١٤٠ / ٩٠ فأكثر
Tumor of the legs	نعم ورم الساقين
no leg tumor	لا ورم الساقين
Heart diseases	امراض قلبية
chest diseases	امراض صدرية
Polycystic diseases	امراض جهاز بولى
Other diseases	امراض اخرى

English	Arabic
Normal check	الفحص طبيعى
Hemoglobin less than 9 g	هيموجلوبين اقل من ٩ جم
Hemoglobin from 9 to less than 11 g	هيموجلوبين من ٩ الى اقل من ١١جم
Hemoglobin of 11 g or more	هيموجلوبين من ١١جم فأكثر
Negative sugar	سكر سلبى
Positive Sugar	سكر ايجابى
Negative albumin	زلال سلبى
Positive albumin	زلال ايجابى
Home visits	جملة الزيارات المنزلية
Tetanus vaccinated first dose	تطعيم تيتانوس جرعة أولى
Tetanus vaccinated second dose	تطعيم تيتانوس جرعة ثانية
Risk Pregnancy	حمل خطر
Pregnancy complications (maternal mortality during pregnancy)	مضاعفات الحمل (وفيات الأمهات أثناء الحمل)
Total births	جملة الولادات
The duration of the pregnancy is less than 37 weeks	مدةالحمل اقل من٣٧ اسبوع
Birth	ولادة
Miscarriage	إجهاض
Birth on hospital	الولاده بالمستشفى
Birth on Central Care	الولادة بالرعاية
Birth on the clinic	الولادة بالعيادة
Birth at home	الولادة بالمنزل
Birth by a doctor	القائم بالولادة طبيب
Birth by nurse / childbirth	القائم بالولادة ممرضة/مولدة
Birth in another way	القائم بالولادة أخرى
Birth is Caesarean	الولادة قيصرية
Birth is natural	ولادة طبيعية
Other type of birth	نوع الولادة أخرى
Complications of birth(bleeding)	مضاعفات الولادة نزيف
Complications of birth placenta retention	مضاعفات الولادة إحتباس مشيمة
Other birth complications	مضاعفات الولادة اخرى
Referral of the child	احالة المولود
Non-referral of the child	عدم احالة المولود
Vitamin A	فيتامين أ
The child is male	المولود ذكر
The child is female	المولود أنثى
The baby is alive	المولود حى
The baby is dead	المولود ميت
The weight of the baby is less than 2500 gm	وزن المولود أقل من ٢٥٠٠ جرام
The weight of the baby is 2500 gm. and more	وزن المولود ٢٥٠٠ جرام واكثر
The length of the baby is less than 50 cm	طول المولود أقل من ٥٠ سم
The length of the baby is 50 cm or more	طول المولود ٥٠سم فأكثر
Yellow disease	صفراء
Birth Defect	تشوهات خلقية
Breastfeeding within an hour	الرضاعة خلال ساعة
Breastfeeding within 6 hours	الرضاعة خلال ٦ ساعات
Breastfeeding more than 6 hours	الرضاعة أكثر من ٦ ساعات
Total referrals	جملة المحالين
Total maternal visits	إجمالى زيارات النفاس
Total maternal mortality	إجمالى وفيات الأمهات أثناء الولادة والنفاس
New kids less than 15 days first visit	اطفال جدد أقل من ١٥يوم اول زيارة
	مدد اخرى

English	Arabic
Other extensions	حواس
senses	حساسية
sensitivity	تأخر فى النمو العقلى
Delayed mental development	امراض وراثية
Genetic diseases	استخدام زجاجةارضاع
	استخدام لهاية
Use a bottle of lactation	جملة مترددين شهر ٢
Use the hiatus	ناقص الوزن شهر ٢
Total regulars 2 months	وزن طبيعى شهر ٢
Minus weight 2 month	زائد الوزن شهر ٢
Normal weight 2 Month	طول طبيعى شهر ٢
Plus weight 2 month	بداية تقزم شهر ٢
Normal length 2 month	تقزم شديد شهر ٢
Start dwarf (Month 2)	رضاعة طبيعية مطلقة شهر ٢
Extreme stunting (2 months)	رضاعة طبيعية مع مكملات شهر ٢
Normal breastfeeding (2 months)	رضاعة غير طبيعية شهر ٢
Breastfeeding with Supplement (Month 2)	تطعيم مستكمل شهر ٢
Unnatural breastfeeding (2 months)	تطعيم غير مستكمل شهر ٢
Complete vaccination (2 months)	جملة مترددين
Incomplete vaccination (2 months)	ناقص الوزن شهر ٤
Total of regulars (4 month)	طبيعى شهر ٤
Minus Weight (Month 4)	زائد الوزن شهر ٤
Natural (Month 4)	طول طبيعى شهر ٤
Plus Weight (Month 4)	بداية تقزم شهر ٤
Natural length (4 months)	تقزم شديد شهر ٤
Beginning dwarf (Month 4)	رضاعة طبيعية مطلقة شهر ٤
Extreme stunting (4 months)	رضاعة طبيعية مع مكملات شهر ٤
Absolute breastfeeding (4 months)	رضاعة غير طبيعية شهر ٤
Breastfeeding with supplements (4 month)	تطعيم مستكمل شهر ٤
Unnatural breastfeeding (4 months)	تطعيم غير مستكمل شهر ٤
Complete vaccination (4 months)	جملة الاطفال المترددين ٦ شهر
Incomplete vaccination (4 months)	ناقص الوزن ٦ شهر
Children (6 months)	وزن طبيعى ٦ شهر
Minus weight (6 months)	زائد الوزن ٦ شهر
Natural Weight (6 months)	طول طبيعى ٦ شهر
Plus weight (6 months)	بداية تقزم ٦ شهر
Natural length (6 months)	تقزم شديد ٦ شهر
Start dwarf (6 months)	رضاعة طبيعية مطلقة ٦ شهر
Extreme stunting (6 months)	رضاعة طبيعية مع مكملات ٦ شهر
Absolute breastfeeding (6 months)	رضاعة غير طبيعية ٦ شهر
Breastfeeding with supplements (6 months)	الحالة تطعيمية مستكملة ٦ شهر
Unnatural breastfeeding (6 months)	الحالة طعيمية غير مستكملة ٦ شهر
Complete vaccination (6 months)	جملة مترددين شهر ٩
Incomplete vaccination (6 months)	ناقص الوزن شهر ٩
Total regulars (Month 9)	وزن طبيعى شهر ٩
Minus weight (month 9)	زائد الوزن شهر ٩
Natural Weight (Month 9)	طول طبيعى شهر ٩
Plus Weight (Month 9)	بداية تقزم شهر ٩
Natural Length (Month 9)	تقزم شديد شهر ٩
Beginning dwarf (month 9)	رضاعة طبيعية شهر ٩
Extreme stunting (9 months	رضاعة غير طبيعية شهر ٩

Natural Breastfeeding (9 months)	يوجد أغذية اخرى شهر ٩
Unnatural Breastfeeding (9 months)	لا يوجد أغذية اخرى شهر ٩
Other Food (Month 9)	الحالة تطعيمية مستكملة شهر ٩
No other food (Month 9)	الحالة تطعيمية غير مستكملة شهر ٩
Vaccination Completed (Month 9)	جملة مترددين شهور ١٢
Vaccination incomplete (Month 9)	ناقص الوزن شهور ١٢
Total Regulars (12 months)	وزن طبيعى شهور ١٢
Minus weight (12 months)	زائد الوزن شهور ١٢
Natural Weight (12 months)	طول طبيعى شهور ١٢
Plus weight (12 months)	بداية تقزم شهور ١٢
Natural Length (Months 12)	تقزم شديد شهور ١٢
Beginning of dwarfism (12 months)	رضاعة طبيعية نعم شهور ١٢
Extreme stunting (12 months)	رضاعة طبيعية لا شهور ١٢
Natural Breastfeeding (12 months)	اغذية اخرى نعم شهور ١٢
Unnatural breastfeeding (12 months)	اغذية اخرى لا شهور ١٢
Other Food (12 months)	تطعيم مستكمل شهور ١٢
No other food (12 months)	تطعيم غير مستكمل شهور ١٢
Complete vaccination (12 months)	جملة المترددين شهور ١٨
Incomplete vaccination (12 months)	ناقص الوزن شهور ١٨
Total regulars (18 months)	وزن طبيعي شهور ١٨
Minus weight (months 18)	زائد الوزن شهور ١٨
Natural Weight (18 months)	طول طبيعى شهور ١٨
Plus weight (18 months)	بداية تقزم شهور ١٨
Natural Length (18 months)	تقزم شديد شهور ١٨
Start dwarf (18 months)	رضاعة طبيعية نعم شهور ١٨
Extreme stunting (18 months)	رضاعة طبيعية لا شهور ١٨
Natural Breastfeeding (18 months)	اغذية اخرى نعم شهور ١٨
Unnatural breastfeeding (18 months)	اغذية اخرى لا شهور ١٨
Other Food (18 months)	تطعيم مستكمل شهور ١٨
No other food (18 months)	تطعيم غير مستكمل شهور ١٨
Complete vaccination (18 months)	جملة مترددين شهر ٢٤
Incomplete vaccination (18 months)	ناقص الوزن شهر ٢٤
Total of regulars (Month 24)	وزن طبيعى شهر ٢٤
Minus weight (24 months)	زائد الوزن شهر ٢٤
Natural Weight (Month 24)	طول طبيعى شهر ٢٤
Plus weight (24 months)	بداية تقزم شهر ٢٤
Natural length (24 months)	تقزم شديد شهر ٢٤
The beginning of dwarfism (24 months)	رضاعة طبيعية شهر ٢٤
Extreme stunting (24 months)	رضاعة غير طبيعية نعم شهر ٢٤
Natural Breastfeeding (24 months)	أغذية أخرى شهر ٢٤
Unnatural breastfeeding Yes (24 months)	لا أغذية أخرى شهر ٢٤
Other Foods (Month 24)	الحالة التطعيمية مستكمل شهر ٢٤
No Other Foods (Month 24)	الحالة التطعيمية غير مستكمل شهر ٢٤
Complete vaccination (24 months)	هيموجلوبين أقل من ١١ جرام شهر ٢٤
Incomplete vaccination (24 months)	هيموجلوبين ١١جرام فاكثر شهر ٢٤
Hemoglobin less than 11 gm (24 months)	جملة مترددين شهر ٣٦
Hemoglobin 11 gm more (24 months)	ناقص الوزن شهر ٣٦
Total of regulars (Month 24)	وزن طبيعى شهر ٣٦
Minus weight (36 months)	زائد الوزن شهر ٣٦
Natural Weight (36 months)	طول طبيعى شهر ٣٦
Plus weight (36 months)	بداية تقزم شهر ٣٦

Natural Length (Month 36)	تقزم شديد شهر ٣٦
The beginning of dwarfism (36 months)	الحالة التطعيمية مستكمل شهر ٣٦
Extreme stunting (36 months)	الحالة التطعيمية غير مستكمل شهر ٣٦
Complete vaccination (36 months)	هيموجلوبين أقل من ١١ جرام شهر ٣٦
Incomplete vaccination (36 months)	هيموجلوبين ١١جرام فاكثر شهر ٣٦
Hemoglobin less than 11 gm (36 months)	جملة مترددين شهر ٤٨
Hemoglobin 11 gm more (36 months)	ناقص الوزن شهر ٤٨
Total of regulars (Month 48)	وزن طبيعى شهر ٤٨
Minus weight (month 48)	زائد الوزن شهر ٤٨
Natural Weight (48 months)	طول طبيعى شهر ٤٨
Plus weight (48 month)	بداية تقزم شهر ٤٨
Natural length (48 months)	تقزم شديد شهر ٤٨
Beginning dwarf (48 month)	الحالة التطعيمية مستكمل شهر ٤٨
Extreme stunting (48 months)	الحالة التطعيمية غير مستكمل شهر ٤٨
Complete vaccination (48 months)	هيموجلوبين أقل من ١١ جرام شهر ٤٨
Incomplete vaccination (48 months)	هيموجلوبين أكثر من ١١ جرام شهر ٤٨
Hemoglobin less than 11 grams (48 months)	جملة مترددين شهر ٦٠
Hemoglobin more than 11 grams (48 months)	ناقص الوزن شهر ٦٠
Total of regulars (Month 60)	وزن طبيعى شهر ٦٠
Minus Weight (Month 60)	زائد الوزن شهر ٦٠
Natural Weight (Month 60)	طول طبيعى شهر ٦٠
Plus weight (60 month)	بداية تقزم شهر ٦٠
Natural Length (Month 60)	تقزم شديد شهر ٦٠
Beginning dwarf (60 month)	الحالة التطعيمية مستكمل شهر ٦٠
Extreme stunting (60 months)	الحالة التطعيمية غير مستكمل شهر ٦٠
Complete vaccination (60 months)	هيموجلوبين أقل من ١١ جرام شهر ٦٠
Incomplete vaccination (60 months)	هيموجلوبين أكثر من ١١ جرام شهر ٦٠
Hemoglobin less than 11 gm (60 months)	
Hemoglobin more than 11 gm (60 months)	

Mansoura	المنصورة
Aga	أجا
Mitt Ghamr	ميت غمر
Sinbillawin	السنبلاوين
Dekernes	دكرنس
Menia Elnasr	منية النصر
Elmanzala	المنزلة
Elmataria	المطرية
Sherbin	شربين
Belkas	بلقاس
Talkha	طلخا
Elgamalia	الجمالية
Timai Elamdide	تمى الأمديد
Gamasa	جمصة
Nabroh	نبروه
Meet Salsil	ميت سلسيل
Bani Ubaid	بنى عبيد
Mihala Damanh	محلة دمنة
Total	الاجمالى