STATEMENT OF WORK

# BRFSS HEALTH DATA ANALYSIS AND VISUALIZATION PROJECT

## 1. PROJECT OVERVIEW

This Statement of Work (SOW) outlines the requirements and deliverables for analyzing the Behavioral Risk Factor Surveillance System (BRFSS) 2015 dataset using business intelligence tools to create meaningful insights and visualizations from the 400,000+ survey responses across multiple health indicators.

## 2. PROJECT OBJECTIVES

2.1. Transform raw BRFSS data into actionable insights using Excel and Power Query
2.2. Develop interactive dashboards using Power BI and Tableau
2.3. Create meaningful health risk factor analysis reports
2.4. Establish automated data refresh and calculation processes
2.5. Generate clear visualizations for key health indicators

## 3. DATA ANALYSIS LIFECYCLE

### 3.1. PHASE 1: DATA COLLECTION (COMPLETED)

- Dataset: BRFSS 2015 CDC Survey
- Format: CSV files containing survey responses
- Scope: 400,000+ responses across 335 health indicators
- Source: Centers for Disease Control and Prevention (CDC)

## 3.2. PHASE 2: DATA CLEANING AND PREPARATION

Task Team: ~~~~~
Required Skills:

- Advanced Excel
- Power Query
- Data transformation Responsibilities:
- Import data using Power Query
- Clean missing values and outliers
- Standardize naming conventions
- Create data model relationships Tools:
- Excel Power Query
- Excel Power Pivot
- DAX formulas **Duration**: 3 weeks

## 3.3. PHASE 3: DATA CALCULATION AND ANALYSIS

Task Team: ~~~~~~
Required Skills:

- DAX calculations
- Statistical analysis
- Excel advanced functions Responsibilities:
- Create calculated columns and measures
- Develop KPIs for health indicators
- Implement statistical calculations
- Generate summary tables Tools:
- Excel functions and formulas
- Power Pivot
- Statistical add-ins **Duration**: 4 weeks

## 3.4. PHASE 4: DATA MODELING

Task Team:~~~~~~~~~
Required Skills:

- Data modeling
- Relationship mapping
- Business intelligence architecture Responsibilities:
- Design star schema model
- Create dimension tables
- Establish hierarchies
- Optimize model performance Tools:
- Power BI Desktop
- Excel Power Pivot **Duration**: 3 weeks

## 3.5. PHASE 5: DATA VISUALIZATION

Task Team: ~~~~~~~~~

- Power BI development
- Tableau dashboard creation
- Data Storytelling Responsibilities:
- Create interactive dashboards
- Develop drill-down reports
- Design executive summaries
- Build automated refreshing reports Tools:
- Power BI
- Tableau
- Excel charts and pivot tables **Duration**: 4 weeks

# 4. TECHNICAL REQUIREMENTS

## 4.1. SOFTWARE REQUIREMENTS

- Microsoft Excel (Latest version)
- Power BI Desktop
- Tableau Desktop
- Power Query
- Power Pivot
- DAX Studio (optional)

## 4.2. DATA MODEL REQUIREMENTS

- Star schema design
- Optimized relationships
- Proper hierarchies
- Efficient DAX measures

# 5. DELIVERABLES

## 5.1. EXCEL DELIVERABLES

- Cleaned dataset workbook
- Power Query transformation steps
- DAX calculation documentation
- Pivot table reports

## 5.2. POWER BI DELIVERABLES

- Interactive dashboards
- Drill-through reports
- Mobile-optimized views
- Automated refresh setup

### 5.3. TABLEAU DELIVERABLES

- Strategic dashboards
- Story points presentations
- Geographic visualizations
- Embedded analytics

### 5.4. DOCUMENTATION

- Data dictionary
- Calculation methodology
- Refresh procedures
- User guides

## 6. PROJECT TIMELINE

### 6.1. WEEK 1-3: DATA CLEANING

- Data import and transformation
- Quality checks
- Standardization

### 6.2. WEEK 4-7: ANALYSIS AND CALCULATION

- Measure creation
- Statistical analysis
- KPI development

### 6.3. WEEK 8-10: MODELING

- Schema design
- Relationship creation
- Model optimization

### 6.4. WEEK 11-14: VISUALIZATION

- Dashboard development
- Report creation
- User testing
- Documentation

# 7. QUALITY CONTROL MEASURES

## 7.1. DATA QUALITY

- Automated data validation
- Calculation testing
- Refresh error handling
- Version control

## 7.2. PERFORMANCE OPTIMIZATION

- Query optimization
- Model compression
- Visual optimization
- Refresh time monitoring

# 8. TEAM REQUIREMENTS

## 8.1. CORE TEAM

- Data Analyst: Excel/Power Query expert
- BI Developer: Power BI/Tableau expert
- Project Manager: Business intelligence experience

## 8.2. SUPPORT TEAM

- Quality Assurance Tester
- Documentation Specialist
- Subject Matter Expert (Health Data)

# 9. Key Health Indicators Focus

## 9.1. Primary Metrics

- Tobacco use patterns
- Healthcare access
- Physical activity levels
- Nutrition indicators
- Chronic condition prevalence

## 9.2. Analysis Dimensions

- Geographic distribution
- Demographic segments
- Time trends
- Risk factor correlations

# 10. Reporting Requirements

## 10.1. Executive Dashboards

- High-level KPIs
- Strategic insights
- Trend analysis

## 10.2. Analytical Reports

- Detailed analysis
- Cross-tabulations
- Statistical summaries

## 10.3. Operational Reports

- Data quality metrics
- Process monitoring
- Update logs