# Section 1: Risk Score Master table

The table *lk\_Risk\_Score\_Factors\_PartC* act as a master table that provide relation between payment year and model version for any submission type. The current table has Part C only. Create new table *lk\_RiskModelsMaster* that has Part D information included.

Add ESRD\_MSP\_Reduction and MSP\_Reduction to *lkRiskModelsMaster* and use current table *lk\_normalization\_factors* to populate it.

|  |  |
| --- | --- |
| New Table Name | *lkRiskModelsMaster* |
| Old Table | *Lk\_RiskModelsMaster\_PartC, lk\_normalization\_factors* |
| Column to Add | *Part\_C\_D\_Flag, NormalizationFactor, MSP\_Reduction, ESRD\_MSP\_Reduction* |
| Column to Delete | *PartCNormalizationFactor, ModelYear,* ESRDDialysisFactor, FunctioningGraftFactor |
| Table Structure | CREATE TABLE [dbo].[lkRiskModelsMaster](  [lkRiskModelsMasterID] [int] IDENTITY(1,1) NOT FOR REPLICATION NOT NULL,  [PaymentYear] [int] NOT NULL,  [SplitSegmentNumber] [int] NULL,  [SplitSegmentWeight] [decimal](20, 4) NULL,  [PaymStart] [datetime] NULL,  [PaymEnd] [datetime] NULL,  [RecordType] [char](1) NULL,  [Part\_C\_D\_Flag] [char](1) NULL,  [RAFactorType] [varchar](5) NULL,  [NormalizationFactor] [decimal](20, 4) NULL,  [CodingIntensity] [decimal](20, 4) NULL,  [MSP\_Reduction] [decimal](20, 4) NULL,  [ESRD\_MSP\_Reduction] [decimal](20, 4) NULL,  [Segment] [varchar](50) NULL,  [CMSModel] [varchar](50) NULL,  [ModelVersion] [smallint] NULL,  [BidRate] [varchar](50) NULL,  [SubmissionModel] [varchar](5) NOT NULL,  [SubmissionModelNumber] [tinyint] NOT NULL,  [UserID] [varchar](128) NOT NULL,  [LoadDate] [datetime] NOT NULL,  [APCCFlag] [char](1) NULL,  CONSTRAINT [PK\_lkRiskModelsMasterID] PRIMARY KEY CLUSTERED  (  [lkRiskModelsMasterID] ASC  )  ) |

## Merge different factors to one:

Current columns PartCNormalizationFactor, ESRDDialysisFactor and FunctioningGraftFactor will now condense into NormalizationFactor so that depending upon the factor type, value within NormalizationFactor will denote whether it is NormalizationFactor, ESRDDialysisFactor or FunctioningGraftFactor.

Rule:

* If Factor Type = CP, CF, CN, I, E, SE Then use NormalizationFactor
* If Factor Type = D, ED, G1, G2 Then use ESRCDialysisFactor
* If Factor Type = C1, C2, E1, E2, I1, I2 Then use FunctioningGraftFactor

# Section 2: Drop Redundant tables

## Drop following unused/redundant tables:

1. lk\_DDiagnosesHCC
2. lk\_DDiagnosesHCC\_new
3. lk\_DiagnosesHCC
4. lk\_DiagnosesHCC\_new
5. lk\_DiagnosesHCC\_PartC
6. lk\_DiagnosesHCC\_PartC\_ICD10
7. lk\_DiagnosesHCC\_PartD
8. lk\_DiagnosesHCC\_PartD\_ICD10
9. lk\_Factors
10. lk\_Factors\_New
11. lk\_AgeGroupGenderFactors
12. lk\_AgeGroupGenderFactors\_new
13. lk\_DFactors
14. lk\_DFactors\_new
15. lk\_DHierarchy
16. lk\_DisabilityMedicaidFactorsGender
17. lk\_DisabilityMedicaidFactorsGender\_new
18. lk\_AgeGroupTransplantDurationFactors
19. lk\_AgeGroupTransplantDurationFactors\_PartC
20. lk\_Hierarchy
21. lk\_Hierarchy\_PartC
22. lk\_Hierarchy\_PartD
23. lk\_Interactions\_PartC

## Archive following redundant tables:

1. lk\_Factors\_PartC
2. lk\_Factors\_PartD
3. lk\_Factors\_PartG
4. lk\_AgeGroupGenderFactors\_PartC
5. lk\_AgeGroupGenderFactors\_PartD

# Section 3: Diagnosis - HCC Mapping table

Create a new lookup table *lkRiskModelsDiagnosisHCC* for Diagnosis and HCC mapping. ModelVersion added to the table *lkRiskModelsDiagnosisHCC*

View *Vw\_LkRiskModelsDiagHCC* becomes *Vw\_LkRiskModelsDiagnosisHCC*

|  |  |
| --- | --- |
| Table Name | *lkRiskModelsDiagHCC* |
| Old Table | *lk\_Risk\_Models\_DiagHCC\_ICD10* |
| Column to Add | *ModelVersion* |
| Column to Delete |  |
| Table Structure | CREATE TABLE [dbo].[lkRiskModelsDiagHCC](  [lkRiskModelsDiagHCCID] [int] IDENTITY(1,1) NOT FOR REPLICATION NOT NULL,  [ICD10CD] [varchar](10) NOT NULL,  [HCCLabel] [varchar](10) NOT NULL,  [PaymentYear] [int] NOT NULL,  [ModelVersion] [smallint] NULL,  [HCCNumber] [varchar](4) NOT NULL,  [FactorType] [varchar](3) NOT NULL,  [HCCIsChronic] [varchar](2) NOT NULL,  [LoadID] [bigint] NOT NULL,  [LoadDate] [datetime] NOT NULL,  CONSTRAINT [pk\_lkRiskModelsDiagHCCID] PRIMARY KEY CLUSTERED  (  [lkRiskModelsDiagHCCID] ASC  )  ) |

## View:

CREATE VIEW [dbo].[vw\_LkRiskModelsDiagHCC]

AS

SELECT CONVERT(TINYINT, 9) AS ICDClassification

, [ICD9] AS ICDCode

, [HCC\_Label] AS HCCLabel

, [Payment\_Year] AS PaymentYear

, [HCC\_Number] AS HCCNumber

, [Factor\_Type] AS FactorType

, [HCCIsChronic] AS HCCIsChronic

, NULL AS VERSION

FROM dbo.lk\_Risk\_Models\_DiagHCC

UNION ALL

SELECT CONVERT(TINYINT, 10) AS ICDClassification

, [ICD10CD] AS ICDCode

, [HCC\_Label] AS HCCLabel

, [Payment\_Year] AS PaymentYear

, [HCC\_Number] AS HCCNumber

, [Factor\_Type] AS FactorType

, [HCCIsChronic] AS HCCIsChronic

, [ModelVersion] AS Version

FROM dbo.lk\_Risk\_Models\_DiagHCC\_ICD10

# Section 4: Risk Model Factors table

Create new lookup table *lkRiskModelsFactors*. ModelVersion added to *lkRiskModelsFactors*.

|  |  |
| --- | --- |
| Table Name | *lkRiskModelsFactors* |
| Old Table | *lk\_Risk\_Models* |
| Column to Add | *ModelVersion* |
| Column to Delete |  |
| Table Structure | CREATE TABLE [dbo].[lkRiskModelsFactors](  [lkRiskModelsFactorsID] [int] IDENTITY(1,1) NOT FOR REPLICATION NOT NULL,  [PaymentYear] [int] NOT NULL,  [ModelVersion] [smallint] NULL,  [FactorType] [varchar](10) NULL,  [PartCDFlag] [varchar](1) NULL,  [OREC] [int] NULL,  [LI] [int] NULL,  [MedicaidFlag] [int] NULL,  [DemoRiskType] [varchar](10) NULL,  [FactorDescription] [varchar](50) NULL,  [Gender] [int] NULL,  [Factor] [decimal](20, 4) NULL,  [Aged] [int] NULL,  [LoadID] [bigint] NOT NULL,  [LoadDate] [datetime] NOT NULL,  CONSTRAINT [PK\_lkRiskModelsFactorsID] PRIMARY KEY CLUSTERED  (  [lkRiskModelsFactorsID] ASC  )  ) |
|  |  |

## Archive following tables and create view instead:

1. lk\_Factors\_PartC
2. lk\_Factors\_PartD
3. lk\_Factors\_PartG
4. lk\_AgeGroupGenderFactors\_PartC
5. lk\_AgeGroupGenderFactors\_PartD

These tables will be archived, and the corresponding views will be created to maintain the picture they present without having to maintain data in multiple places.

# Section 5: Hierarchy table

Create new lookup table lkRiskModelsHierarchy. ModelVersion added to lkRiskModelsHierarchy.

|  |  |
| --- | --- |
| Table Name | *lkRiskModelsHierarchy* |
| Old Table | *lk\_Risk\_Models\_Hierarchy* |
| Column to Add | *ModelVersion* |
| Column to Delete |  |
| Table Structure | CREATE TABLE [dbo].[lkRiskModelsHierarchy](  [lkRiskModelsHierarchyID] [int] IDENTITY(1,1) NOT FOR REPLICATION NOT NULL,  [PartCDFlag] [varchar](2) NOT NULL,  [FACTORTYPE] [varchar](2) NOT NULL,  [PaymentYear] [INT] NOT NULL,  [ModelVersion] [smallint] NULL,  [HCCKEEP] [varchar](50) NOT NULL,  [HCCDROP] [varchar](50) NOT NULL,  [HCCKEEPNUMBER] [varchar](50) NOT NULL,  [HCCDROPNUMBER] [varchar](50) NOT NULL,  [LoadID] [bigint] NOT NULL,  [LoadDate] [datetime] NOT NULL,  CONSTRAINT [PK\_lkRiskModelsHierarchyID] PRIMARY KEY CLUSTERED  (  [lkRiskModelsHierarchyID] ASC  )  ) |

# Section 6: Interaction table

Create new lookup table lkRiskModelsInteraction. ModelVersion added to lkRiskModelsInteraction.

|  |  |
| --- | --- |
| Table Name | *lkRiskModelsInteraction* |
| Old Table | *lk\_Risk\_Models\_Interactions* |
| Column to Add | *ModelVersion* |
| Column to Delete |  |
| Table Structure | CREATE TABLE [dbo].[lkRiskModelsInteraction](  [lkRiskModelsInteractionID] [int] IDENTITY(1,1) NOT FOR REPLICATION NOT NULL,  [PaymentYear] [int] NOT NULL,  [ModelVersion] [smallint] NULL,  [InteractionLabel] [varchar](10) NOT NULL,  [HCCLabel1] [varchar](50) NOT NULL,  [HCCLabel2] [varchar](50) NOT NULL,  [HCCLabel3] [varchar](50) NOT NULL,  [HCCNumber1] [varchar](50) NOT NULL,  [HCCNumber2] [varchar](50) NOT NULL,  [HCCNumber3] [varchar](50) NOT NULL,  [FactorType] [varchar](10) NOT NULL,  [LongDescription] [varchar](255) NOT NULL,  [ShortDescription] [varchar](255) NOT NULL,  [LoadID] [bigint] NOT NULL,  [LoadDate] [datetime] NOT NULL,  CONSTRAINT [PK\_lkRiskModelsInteractionID] PRIMARY KEY CLUSTERED  (  [lkRiskModelsInteractionID] ASC  )  ) |

# Section 7: Payment year - ModelVersion relation

Following combination of Payment Year and ModelVersion for each Factor Type will be used for Risk Factors. Tables include LKRiskModelsFactor (where Demo\_Risk\_Type = Risk), LK\_Risk\_Models\_DiagHCC\_ICD10, LKRiskModelsHierarchy and LKRiskModelsInteraction.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Payment\_Year** | **Part C/D** | **RA\_Factor\_Type** | **ModelVersion** | **RAPS/EDS** |
| 2020 | Part C | CF | 22 | RAPS |
| 2020 | Part C | CF | 24 | EDS |
| 2020 | Part C | CN | 22 | RAPS |
| 2020 | Part C | CN | 24 | EDS |
| 2020 | Part C | CP | 22 | RAPS |
| 2020 | Part C | CP | 24 | EDS |
| 2020 | Part C | I | 22 | RAPS |
| 2020 | Part C | I | 24 | EDS |
| 2020 | Part C ESRD | C1 | 21 | Both |
| 2020 | Part C ESRD | C2 | 21 | Both |
| 2020 | Part C ESRD | D | 21 | Both |
| 2020 | Part C ESRD | I1 | 21 | Both |
| 2020 | Part C ESRD | I2 | 21 | Both |
| 2020 | Part D | D1 | 5 | Both |
| 2020 | Part D | D2 | 5 | Both |
| 2020 | Part D | D3 | 5 | Both |
| 2021 | Part C | CF | 22 | RAPS |
| 2021 | Part C | CF | 24 | EDS |
| 2021 | Part C | CN | 22 | RAPS |
| 2021 | Part C | CN | 24 | EDS |
| 2021 | Part C | CP | 22 | RAPS |
| 2021 | Part C | CP | 24 | EDS |
| 2021 | Part C | I | 22 | RAPS |
| 2021 | Part C | I | 24 | EDS |
| 2021 | Part C ESRD | C1 | 21 | Both |
| 2021 | Part C ESRD | C2 | 21 | Both |
| 2021 | Part C ESRD | D | 21 | Both |
| 2021 | Part C ESRD | I1 | 21 | Both |
| 2021 | Part C ESRD | I2 | 21 | Both |
| 2021 | Part D | D1 | 5 | Both |
| 2021 | Part D | D2 | 5 | Both |
| 2021 | Part D | D3 | 5 | Both |

Following combination of Payment Year and ModelVersion for each Factor Type will be used for Demographic Factors. Tables include LKRiskModelsFactor (where Demo\_Risk\_Type = Demo).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Payment\_Year** | **Part C/D** | **RA\_Factor\_Type** | **ModelVersion** | **RAPS/EDS** |
| 2020 | Part C | CF | 22 | RAPS |
| 2020 | Part C | CF | 24 | EDS |
| 2020 | Part C | CN | 22 | RAPS |
| 2020 | Part C | CN | 24 | EDS |
| 2020 | Part C | CP | 22 | RAPS |
| 2020 | Part C | CP | 24 | EDS |
| 2020 | Part C | I | 22 | RAPS |
| 2020 | Part C | I | 24 | EDS |
| 2020 | Part C | E | 22 | RAPS |
| 2020 | Part C | E | 24 | EDS |
| 2020 | Part C | SE | 22 | RAPS |
| 2020 | Part C | SE | 24 | EDS |
| 2020 | Part C ESRD | D | 21 | Both |
| 2020 | Part C ESRD | ED | 21 | Both |
| 2020 | Part C ESRD | C1 | 21 | Both |
| 2020 | Part C ESRD | C2 | 21 | Both |
| 2020 | Part C ESRD | I1 | 21 | Both |
| 2020 | Part C ESRD | I2 | 21 | Both |
| 2020 | Part C ESRD | E1 | 21 | Both |
| 2020 | Part C ESRD | E2 | 21 | Both |
| 2020 | Part C ESRD | G1 | 21 | Both |
| 2020 | Part C ESRD | G2 | 21 | Both |
| 2020 | Part D | D1 | 5 | Both |
| 2020 | Part D | D2 | 5 | Both |
| 2020 | Part D | D3 | 5 | Both |
| 2021 | Part C | CF | 22 | RAPS |
| 2021 | Part C | CF | 24 | EDS |
| 2021 | Part C | CN | 22 | RAPS |
| 2021 | Part C | CN | 24 | EDS |
| 2021 | Part C | CP | 22 | RAPS |
| 2021 | Part C | CP | 24 | EDS |
| 2021 | Part C | I | 22 | RAPS |
| 2021 | Part C | I | 24 | EDS |
| 2021 | Part C | E | 22 | RAPS |
| 2021 | Part C | E | 24 | EDS |
| 2021 | Part C | SE | 22 | RAPS |
| 2021 | Part C | SE | 24 | EDS |
| 2021 | Part C ESRD | D | 21 | Both |
| 2021 | Part C ESRD | ED | 21 | Both |
| 2021 | Part C ESRD | C1 | 21 | Both |
| 2021 | Part C ESRD | C2 | 21 | Both |
| 2021 | Part C ESRD | I1 | 21 | Both |
| 2021 | Part C ESRD | I2 | 21 | Both |
| 2021 | Part C ESRD | E1 | 21 | Both |
| 2021 | Part C ESRD | E2 | 21 | Both |
| 2021 | Part C ESRD | G1 | 21 | Both |
| 2021 | Part C ESRD | G2 | 21 | Both |
| 2021 | Part D | D1 | 5 | Both |
| 2021 | Part D | D2 | 5 | Both |
| 2021 | Part D | D3 | 5 | Both |