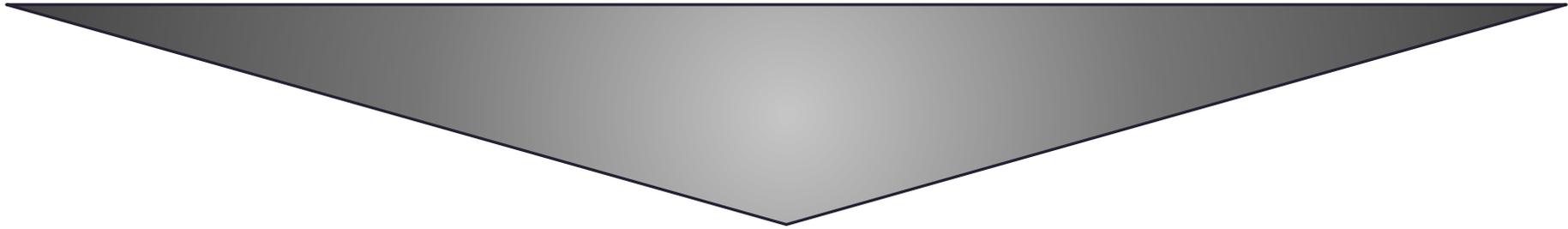# TEUSHealth
Policy and Analytics

Our Help Offerings for Health Insurance Claims Data Teams

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Contact: Tia Goss Sawhney, DrPH, FSA, MAAA
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Our Help

Does this describe your situation?

You have newly entered the health insurance claims data analysis space
You want to ramp-up quickly
You have recruited smart, talented data engineers and data scientists

But….
- The team has limited or incomplete subject matter expertise in health insurance data, and/or
- The team has never set up a health insurance data analysis environment from scratch, and/or
- The team has never set up a HIPAA-compliant data analysis environment from scratch, including the required "soft aspects", such as policies and procedures

You need timely, targeted, affordable expert help

Yet….
- Some potential vendors want to sell you their big, opaque, rigid, expensive "solution", which will take 6-12 months to implement – with no guarantee that it will actually meet your current and ongoing needs
- Other vendors (consultants) want to give you high-level "strategy advice" that does not tangibly address your specific issues

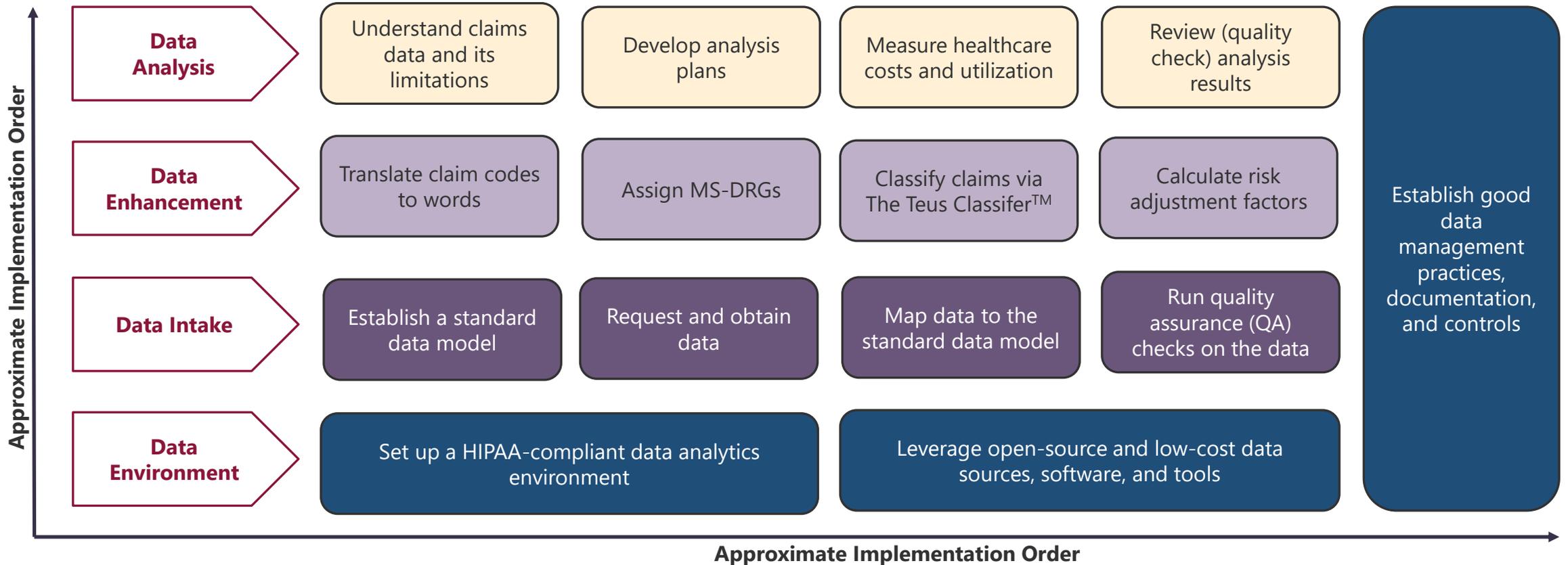Contact Tia Goss Sawhney, DrPH, FSA, MAAA
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We provide timely, targeted, affordable expert help to your team*

Our expertise is the result of

1. Our many years of health claims data analysis experience – from data acquisition to publication in peer reviewed journals
2. Having recently built an data analytics environment from scratch ourselves
3. Our teaching experience

* We are also happy to become your data-shop, but we assume that's not what you want.

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We can help your data team with these tasks

Approximate Implementation Order (vertical axis)

Data Analysis	Understand claims data and its limitations	Develop analysis plans	Measure healthcare costs and utilization	Review (quality check) analysis results	
Data Enhancement	Translate claim codes to words	Assign MS-DRGs	Classify claims via The Teus Classifer™	Calculate risk adjustment factors	Establish good data management practices, documentation, and controls
Data Intake	Establish a standard data model	Request and obtain data	Map data to the standard data model	Run quality assurance (QA) checks on the data	
Data Environment	Set up a HIPAA-compliant data analytics environment		Leverage open-source and low-cost data sources, software, and tools		

Approximate Implementation Order

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We provide specific tools, tangible technical assistance, and subject-matter expertise for the development of your health insurance claims data analytics environment

Buy as much or little help as you want – when you need it

No black boxes / nothing locked
- We offer SQL and R scripts, documentation, and other technical materials that work for us and that your team can modify to your specific needs

No big prices

No long-term commitment
- Our licenses do not expire
- You don't need to delete our materials if you stop working with us

Personal support from knowledgeable people

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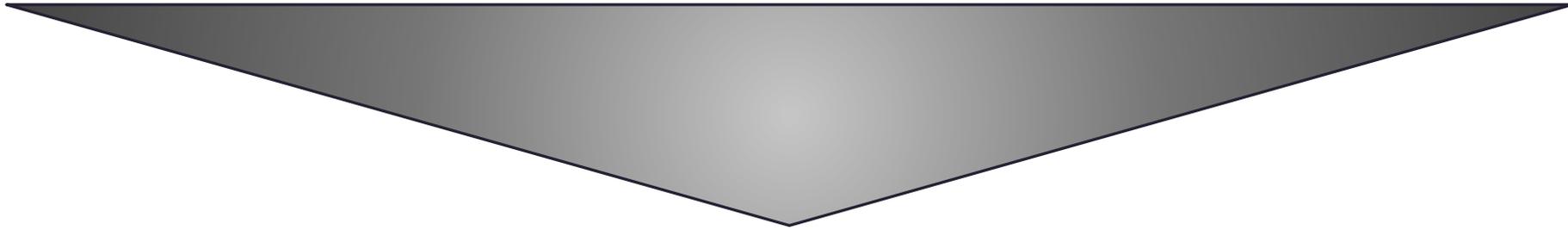# Our goal is to develop your team, not replace them

Our non-black box products are learning tools
- When people can see what's happening, they learn

We will take the time to answer your team's questions

If we don't know the answer, we will work with your team to find the answer

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Further Description of Our Help

Data Environment help

Set up a HIPAA-compliant data analytics environment	Leverage open-source and low-cost data sources, software, and tools	Establish good data management practices, documentation, and controls
A HIPAA environment requires a secure server and policies and procedures relating to the server environment, corporate laptops, training, personnel, and more – all of which needed to be carefully described in response to risk assessment questionnaires. We built an AWS-based data analytics environment from scratch and it passed a third-party assessment on the first pass with no deficiencies. We share our policies and procedures and our learning as to how to respond questionnaires and pass assessments. We provide HIPAA training specifically-tailored for business associates.	We know where to find open-source and low-cost data sources and software. We know the pros and cons of budget sources, software, and tools and how to integrate them. We currently use a combination of (open-source) MySQL and R for data processing and have efficiently deployed them for even very large health insurance claims data sets. We also have experience with AWS Athena. We share our know-how and examples of how we pass/call data between tools.	We are obsessive about good data management practices, documentation and controls – which leads to better analyses, quicker employee training, and better HIPAA controls. We share what practices work for us, including policy, procedures, and implementation examples.

Data Intake help

Establish a standard data model	Request and obtain data	Map data to the standard data model	Run QA checks on data
Claims data will enter your organization in many forms. A standard data model is essential for all downstream processing. We license our standard data model and documentation. If necessary, we then work with you to modify the model to best serve your needs.	Data providers will frequently ask you to specify what data you want, why you want it, and whether you can get by with less. We license documentation that accompanies our standard data model that answers all these questions. Furthermore, based on our success with the process, we give technical advice on applying for and receiving CMS Medicare limited data sets.	There is no universal standard format for incoming claims data. Furthermore, the incoming format may be complicated. For example, the CMS Medicare data is received in 7 files, each with a unique layout. We license scripts that maps CMS Medicare data to our standard data model. We work with your team to map other data sources.	We have more than 100 data quality assurance (QA) checks that we run on incoming data. The checks are written in R and run quickly, even for very large data sets. The QA checks ensure the integrity of the data and the data mapping. We license a description of each check and the R scripts. We help you add additional checks or customize the checks to your data model.

Data Enhancement help

Translate claims codes to words	Classify claims	Calculate risk adjustment factors	Assign MS-DRGs
Claims data is presented via a series of codes. The codes don't have meaning for human minds until they are linked to "reference tables" that link the codes to descriptive words. It's challenging and expensive to acquire a full set of reference tables. Even then, the formatting is awkward to use in a multi-year data analytics environment. We license a full set of reference tables, formatted to be easy to use in a multi-year data analytics environment.	There are 100,000s of claim codes. In order to produce summary reports and support data analyses, one must have a system for classifying codes. Claims classification systems are most often proprietary, black-box, and expensive. We license **The Teus Classifier™**, a transparent and modifiable system for categorizing and counting claims by provider type, site of service, type of service, and provider specialty. We are particularly proud of this offering.	The CMS-HCC and CMS-Rx risk adjustment factors are used for Medicare administration and for other risk adjustment purposes. CMS publishes CMS-HCC and CMS-Rx SAS scripts and instructions for preparing the input files. But... SAS licenses are very expensive and the CMS instructions for selecting claims with allowed diagnosis codes and creating the input file can be confusing to people new to risk adjustment. We have rewritten the SAS scripts in R, producing exactly the same output. We license our R risk adjustment calculation scripts and also our scripts for preparing the input files.	Most (but not all) inpatient claims are paid based on their MS-DRG assignment. MS-DRG weights allow for intensity-of-care adjustments. Incoming claims data often does not include MS-DRG assignments for some or all inpatient claims. CMS publishes a MS-DRG calculator that requires one input line per hospital discharge, presented in a precise format. We license our script for preparing the input file from our standard data model. We provide other technical assistance for running the calculator.

11/9/2021

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Data Analysis help

Understand claims data and its limitations	Develop analysis plans	Measure healthcare costs and utilization	Review (quality check) analysis results
As a result of many years of hands-on work with claims data, Dr. Sawhney intimately knows claims data and its limitations. She teaches a highly-rated course on health claims data analysis at New York University's School of Global Public Health. We answer a full range of data questions from the basic, such as "what is a claim?", to the highly technical and esoteric. We provide formal claims data training.	A good analysis starts with an analysis plan with clear analysis objectives and detailed specifications for selecting, summarizing, and analyzing the data. The plan often requires several iterations in order to define objectives that can be satisfied via the available data. Dr. Sawhney has years of experience developing research plans. We provide access to Dr. Sawhney's expertise.	Health insurance cost and utilization measurements are largely unknown to data scientists who have not previously worked with health insurance claims. We explain rates such as 'PMPM', 'PPPY', and services per 1,000 member-years to your data scientists.	You lose credibility if you share inaccurate analysis results with your partners or the public. After many years of claims analysis work, Dr. Sawhney can often look at results and say 'something looks off here'. We provide Dr. Sawhney's expert review and help resolving any potential problems. We also help you locate third-party data sources that you can use to benchmark the reasonableness of your results