Requirements:

1. Analyze the impact of price increases on testing demand in 2019 and 2023.
    - Compare test demand before and after these price changes and identify trends or shifts in demand patterns over time.
2. Segment the analysis by animal categories to guide future pricing decisions:
    - Focus on three categories: companion animals, large animals, and food/fiber-producing animals.
    - Determine if different animal categories were impacted differently by the price increases.
    - Provide insights on which tests should have future fee increases and by how much.
3. Client-specific segmentation
    - Segment the analysis based on client type:

      Owner vs. Clinic: examine if demand patterns differ between individual animal owners and veterinary clinics.

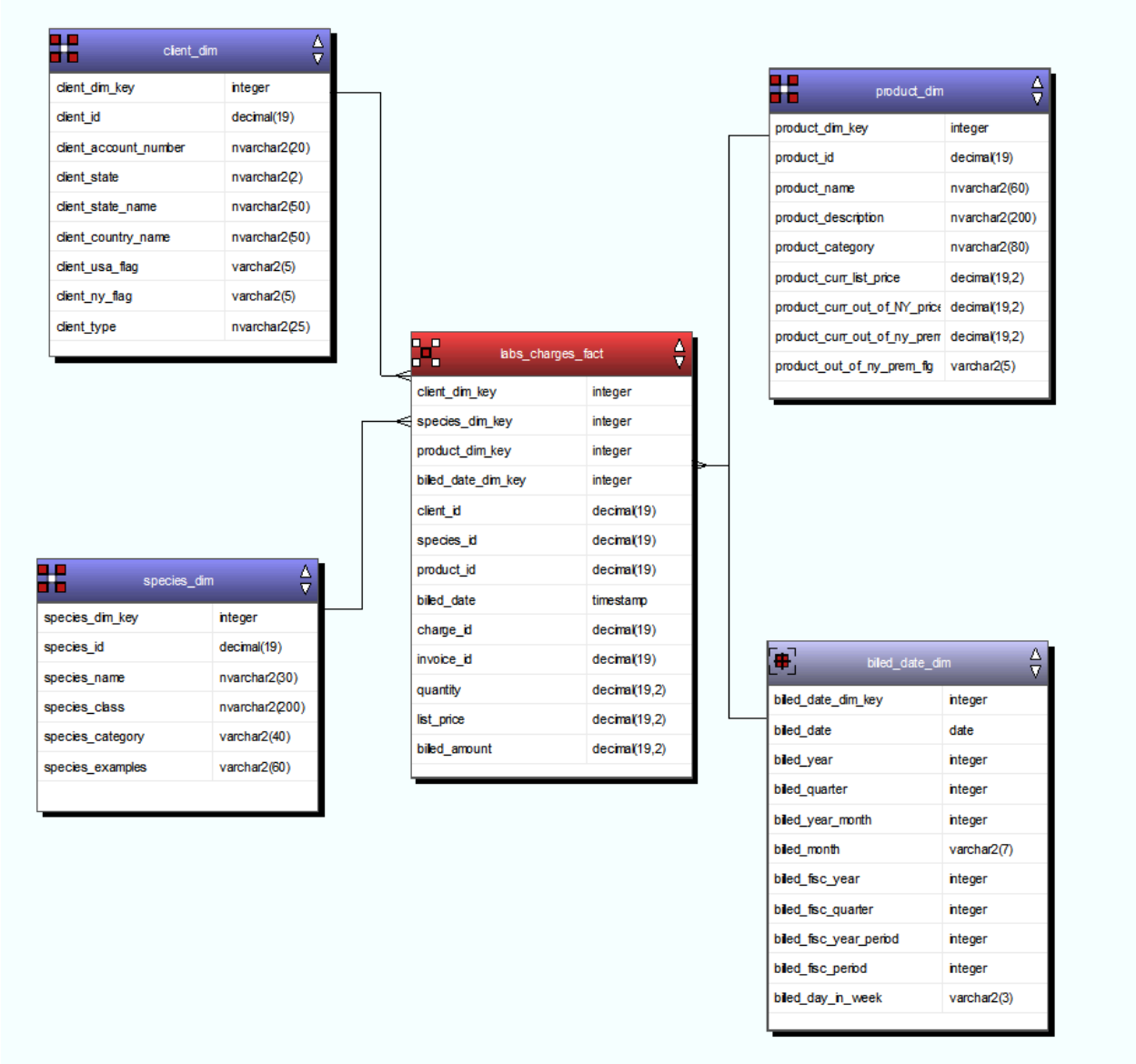
    - Include segmentation by client location:

      In-state vs. Out-of-state: assess demand variations between clients within NY and those from other states.

      Domestic vs. International: if applicable, compare demand from clients in the US vs. international clients, to see if geographic factors influence response to price changes.

Data Model:

General: One record per unique lab charge.



Data Dictionary:

Table Name	Column Name	Data Type	Definition
Labs_Charges_Fact	client_dim_key (FK)	Integer	Unique identifier for the client.
Labs_Charges_Fact	species_dim_key (FK)	Integer	Unique identifier of the species dimension generated by Wherspace.
Labs_Charges_Fact	product_dim_key (FK)	Integer	Unique identifier for the product/test.
Labs_Charges_Fact	billed_date_dim_key (FK)	Integer	Unique identifier of the Date
Labs_Charges_Fact	client_id (NK)	Decimal	The id of the client.
Labs_Charges_Fact	species_id (NK)	Decimal	Unique identifier for the species.
Labs_Charges_Fact	product_id (NK)	Decimal	Unique identifier for the product.
Labs_Charges_Fact	billed_date (NK)	Date	Date of bill.
Labs_Charges_Fact	charge_id (PK, NK)	Decimal	Unique identifier for a specific transaction or charge in a payment system.
Labs_Charges_Fact	invoice_id (DD)	Decimal	Unique identifier for an invoice in billing systems.
Labs_Charges_Fact	quantity	Decimal	The amount of units of a particular item.
Labs_Charges_Fact	list_price	Decimal	The cost per single unit of a lab test.
Labs_Charges_Fact	billed_amount	Decimal	The amount listed on an invoice.
PRODUCT_DIM	product_dim_key (PK)	Integer	Unique identifier for the product/test.
PRODUCT_DIM	product_id (NK)	Decimal	Unique identifier for the product.
PRODUCT_DIM	product_name	Nvarchar	Name of the product.

PRODUCT_DIM	product_description	Nvarchar	Full description of the product/test.
PRODUCT_DIM	product_category	Nvarchar	Category identifier for the product/test.
PRODUCT_DIM	product_curr_list_price	Decimal	List price for the product/test.
PRODUCT_DIM	product_curr_out_of_NY_price	Decimal	The current list price of the product or test for regions outside New York. This value is set as an alternative price for customers or operations outside the standard New York pricing zone.
PRODUCT_DIM	product_curr_out_of_NY_prem	Decimal	The premium or additional cost is added to the list price when the product is sold outside New York. This field shows any extra charges that apply for sales made in regions outside New York.
PRODUCT_DIM	product_out_of_NY_prem_flg (YES, NO)	Varchar	A flag shows whether a premium is applied to the product price for regions outside New York. Yes means an out-of-New-York premium exists, while No signifies no additional charge.
SPECIES_DIM	Species_dim_key	Integer	Unique identifier of the species dimension generated by Wherspace.
SPECIES_DIM	Species_id	Decimal	Unique identifier for the species.
SPECIES_DIM	Species_name	Varchar	Name of the species being tested.
SPECIES_DIM	Species_class	Decimal	SA for small animal LA for large animal”
SPECIES_DIM	Species_category	Varchar	Categorization of species by: food/fiber, companion, etc

SPECIES_DIM	Species_examples	Varchar	The example of species.
CLIENT_DIM	client_dim_key(PK)	Integer	Unique identifier for the client.
CLIENT_DIM	client_id (NK)	Decimal	The id of the client.
CLIENT_DIM	client_account_number	Nvarchar	Account number associated with the client.
CLIENT_DIM	client_state	Nvarchar	The name of the state code of the client's location
CLIENT_DIM	client_state_name	Nvarchar	The full name of the state in which the client is located
CLIENT_DIM	client_country_name	Nvarchar	The country name of the client’s location.
CLIENT_DIM	client_usa_flag (Yes, No)	Varchar	Indicates whether the client's primary address is inside the USA (country_id == 1, YES or NO).
CLIENT_DIM	client_ny_flag (Yes, No)	Varchar	Indicates whether the client's primary address is inside NY (state_id == 33, YES or NO).
CLIENT_DIM	client_type (Clinic, Owner)	Nvarchar	Indicates whether a client is an owner or clinic.
BILLED_DATE_DIM	billed_date_dim_key	Integer	A unique identifier for each record, used to link dimension data in other tables.
BILLED_DATE_DIM	billed_date	Date	The billing date, recorded in “date” format, representing the specific date of the billing.
BILLED_DATE_DIM	billed_year	Integer	The billing year, recorded as an integer, indicating the year of the billing.
BILLED_DATE_DIM	billed_quarter	Integer	The billing quarter, recorded as an integer (1-4), indicating

			the quarter of the year for the billing, such as Q1 through Q4.
BILLED_DATE_DIM	billed_year_month	Integer	The billing year and month, recorded as an integer that typically combines the year and month information.
BILLED_DATE_DIM	billed_month	Varchar	The billing month, recorded as a string with the month's name or abbreviation (e.g., "Jan" or "March").
BILLED_DATE_DIM	billed_fisc_year	Integer	The fiscal year of the billing, indicating the financial year associated with the billing.
BILLED_DATE_DIM	billed_fisc_quarter	Integer	The fiscal quarter of the billing, representing the quarter in the fiscal year (1-4).
BILLED_DATE_DIM	billed_fisc_year_period	Integer	The fiscal year period, representing a specific period within the fiscal year (e.g., by month or custom financial period).
BILLED_DATE_DIM	billed_fisc_period	Integer	The fiscal period, indicating the billing's period within the fiscal cycle, typically used to track specific financial months or cycles.
BILLED_DATE_DIM	billed_day_of_week	Varchar	The day of the week for the billing date, recorded as a three-character abbreviation (e.g., "Mon", "Tue").

ETL Documentation (Source-to-Target Mapping):

Source Table	Source Column	Target Table	Target Column	Transformation Logic	Notes
Labs_charges	quantity	Labs_charges_fact	quantity		
Labs_charges	unit_price	Labs_charges_fact	list_price		
Labs_charges	invoice_amount	Labs_charges_fact	billed_amount		
Labs_charges	charge_id	Labs_charges_fact	charge_id		PK, DD
Labs_charges	invoice_id	Labs_charges_fact	invoice_id		DD
Labs_charges	client_id	Labs_charges_fact	client_id		NK
Labs_charges	species_id	Labs_charges_fact	species_id		NK
Labs_charges	product_id	Labs_charges_fact	product_id		NK
Labs_charges	created_date	Labs_charges_fact	billed_date		NK
load_labs_product_master	product_id	PRODUCT_DIM	product_id		NK
load_labs_product_master	billing_description	PRODUCT_DIM	product_name		
load_labs_product_master	full_product_desc	PRODUCT_DIM	product_description		
load_labs_product_category_m	description	PRODUCT_DIM	product_category	Join with labs_charges to map historical list prices.	
load_labs_product_master	unit_price	PRODUCT_DIM	product_curr_list_price		

load_labs_product_price_set	unit_price	PRODUCT_DIM	product_curr_out_of_ny_price	Outer join to labs_product_master with NVL(psm.unit_price, pm.unit_price)	
load_labs_product_price_set	unit_price	PRODUCT_DIM	product_curr_out_of_ny_prem	(NVL(psm.unit_price, pm.unit_price) - pm.unit_price)	
load_labs_product_price_set	(derived)	PRODUCT_DIM	product_out_of_ny_prem_flg	CASE WHEN NVL(psm.unit_price, -111) = -111 THEN 'NO' ELSE 'YES' END	
Species_master	species_id	SPECIES_DIM	species_id		NK
Species_master	species	SPECIES_DIM	species_name		
Special_master	species_class	SPECIES_DIM	species_size	SA = “Small Animal”, LA= “Large Animal”	
Species_categories	species_category	SPECIES_DIM	species_category	“Food Fiber”, “Companion”, “Exotic”, “Birds”, “Wildlife”, “other”	
Species_categories	examples	SPECIES_DIM	species_example	If null then “Unknown”	
labs_client	client_id	CLIENT_DIM	client_id		NK
labs_client	client_account_number	CLIENT_DIM	client_account_number		
state_master	state	CLIENT_DIM	client_state	Joins through labs_address table on client_id with filters accounting_report_yn = ‘Y’ and addr_type = ‘Mailing’	

state_master	state_name	CLIENT_DIM	client_state_name	Joins through labs_address table on client_id with filters accounting_report_yn = 'Y' and addr_type = 'Mailing'	
country_master	country_name	CLIENT_DIM	client_country_name	Joins through labs_address table on client_id with filters accounting_report_yn = 'Y' and addr_type = 'Mailing'	
labs_address	country_id	CLIENT_DIM	client_usa_flag	If country_id = 1, then 'YES', else 'NO'	
labs_address	state_id	CLIENT_DIM	client_ny_flag	If state_id =33, then 'YES', else 'NO'	
labs_client_type_master	client_type	CLIENT_DIM	client_type	Joins through labs_client_type_link table to labs_clients. For clients with two client types default to "Clinic"	"Clinic" or "Owner"
dim_date	dim_date_key	BILLED_DATE_DIM	billed_date_dim_key	Generated by WhereSpace	PK
dim_date	calendar_date	BILLED_DATE_DIM	billed_date		NK
dim_date	cal_year	BILLED_DATE_DIM	billed_year		
dim_date	cal_quarter_no	BILLED_DATE_DIM	billed_quarter		
dim_date	cal_month	BILLED_DAT	billed_year_mont		

		E_DIM	h		
dim_date	cal_month_name	BILLED_DATE_DIM	billed_month		
dim_date	fin_year	BILLED_DATE_DIM	billed_fisc_year		
dim_date	fin_quarter_no	BILLED_DATE_DIM	billed_fisc_quarter		
dim_date	fin_month	BILLED_DATE_DIM	billed_fisc_year_period		
dim_date	fin_month_no	BILLED_DATE_DIM	billed_fisc_period		
dim_date	cal_day_in_week	BILLED_DATE_DIM	billed_day_in_week		

* If no specification in Transformation Logic, Direct Mapping is assumed

Assumptions & Questions:

Assumptions:

1. We assume that all necessary data for the analysis, such as client information, test details, and pricing history, is available in the VetView database and is up-to-date.
2. The fields list_price, product_curr_list_price, and product_curr_out_of_ny_price accurately reflect the price changes made in 2019 and 2023, and we can rely on these fields to analyze the impact.
3. Only three main categories (companion animals, large animals, and food/fiber-producing animals) are used for analysis, and other categories (e.g., exotic, wildlife) are either mapped into one of the three or excluded.

Questions:

1. Are there any additional factors affecting the pricing of tests that we should consider?
2. What time frame should we use to study the impact of price increases in 2019 and 2023?
3. Are there any specific species or products that should be excluded from this analysis due to limited data or special circumstances?