

SQL Query to Power BI Report Workflow

techfitflow.com | Twelve steps, specs, DAX starters, UAT checklist | Test in non-production first

1. Twelve-step workflow

#	Step	Owner	Check
1	Define question and decision	BA	Owner confirms
2	Write metric definitions	BA	Signed definition
3	Specify the report	BA	Stakeholder review
4	Profile source data in SQL	BA / data analyst	Fields populated
5	Build governed SQL view	Data analyst / dev	Grain and count tests
6	Connect, choose Import or DirectQuery	Report dev	Decision recorded
7	Model: star schema, date table	Report dev	Relationship tests
8	Write DAX measures	Report dev	Match SQL totals
9	Design visuals	Report dev + BA	Usability review
10	Secure: RLS and roles	Report dev + security	View-as tests
11	Publish, gateway, refresh	Report dev	Refresh succeeds
12	Test, sign off, monitor	QA + BA	Reconciled

2. Import vs DirectQuery

Factor	Import	DirectQuery
Data	Copied into the model, scheduled refresh	Stays in source; queried on view
Speed	Usually fast	Depends on source
Freshness	Last refresh	Near live
Features	Full Power Query and DAX	Some limited
Best for	Most departmental dashboards	Very large or near-real-time needs

3. Where does the logic belong?

- [] Row-level business rule or filter: SQL view. Test grain and counts.
- [] Type fix or rename for this report only: Power Query. Keep steps minimal.
- [] Ratio or total that responds to filters: DAX measure. Divide sums, never average averages.
- [] Who may see which rows: RLS plus roles. Test in the service.

4. Metric sheet and report spec (sign before building)

Field	Your entry
Metric, decision supported	
Definition (numerator, denominator)	
Grain and exclusions	
Owner, version, effective date	
Audience and access	
Questions per page	
Filters, default period	
Refresh time (after source load)	
Out of scope	

5. Starter SQL and DAX

```
-- View tests: grain, count, orphans
SELECT encounter_csn, COUNT(*) FROM rpt.vw_discharge GROUP BY encounter_csn HAVING COUNT(*) > 1;
```

```
Discharges      = COUNTROWS ( fact_discharge )
Avg LOS         = DIVIDE ( SUM ( fact_discharge[los_days] ), [Discharges] )
Discharges PM   = CALCULATE ( [Discharges], DATEADD ( dim_date[Date], -1, MONTH ) )
RLS filter      = [manager_email] = USERPRINCIPALNAME ()
```

6. UAT checklist

Check	Evidence	Done
Each card ties to SQL for the same filters	Query + screenshot	
Ratios tested for two filter combinations	Hand calculation	
Partial and empty months behave as specified	Screenshots	
RLS tested by role and with real accounts	Test log	
No identifiers in tooltips or tables	Review notes	
Refresh runs after the source load	Refresh history	
Sign-off with version and date	Signed spec	

7. Remember

- [] Workspace members and contributors can bypass RLS: give consumers the viewer role or an app.
- [] Connect to a view, not a pasted query; keep identifiers out unless the spec needs them.
- [] Averages of averages are wrong: carry totals and counts, divide in a measure.

Sources: Microsoft Power BI documentation; DAX reference; HHS minimum necessary guidance. Confirm features and roles for your tenant.