

## Introduction/Course Description

In this course you will learn:

- How to use formulas with keywords and IF THEN ELSE statements
- Advanced Expansion/Suppression features
- How to create a journal entry upload from a VPA report (for allocation or other purposes)

Prerequisites:

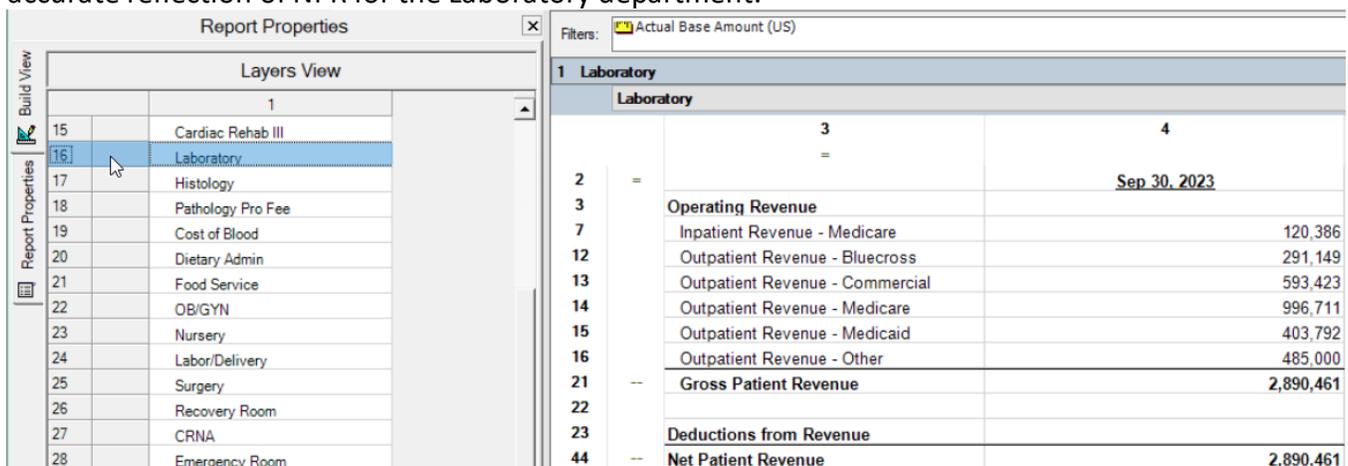
- Knowledge of how to create/modify unit and account ownerships
- Introductory knowledge of VPA

## Business Case

You are the Controller for Multiview Hospital, a rural community hospital in small-town America. You have prepared a department-based income statement for your department managers, but you are concerned it doesn't accurately reflect performance because deductions from revenue sit in a separate business unit that has not been allocated. Using VPA, we can create an automated report to allocate these expenses across multiple departments.

## Income Statement

This screenshot shows the income statement for the Laboratory department (Layer 16) before allocations. You can see that Net Patient Revenue (NPR) = Gross Patient Revenue (GPR) which is not an accurate reflection of NPR for the Laboratory department.



Report Properties		Filters: Actual Base Amount (US)	
<b>1 Laboratory</b>			
<b>Laboratory</b>			
		<b>3</b>	<b>4</b>
		=	
<b>2</b>	=		<b>Sep 30, 2023</b>
<b>3</b>	<b>Operating Revenue</b>		
<b>7</b>	Inpatient Revenue - Medicare		120,386
<b>12</b>	Outpatient Revenue - Bluecross		291,149
<b>13</b>	Outpatient Revenue - Commercial		593,423
<b>14</b>	Outpatient Revenue - Medicare		996,711
<b>15</b>	Outpatient Revenue - Medicaid		403,792
<b>16</b>	Outpatient Revenue - Other		485,000
<b>21</b>	<b>Gross Patient Revenue</b>		<b>2,890,461</b>
<b>22</b>			
<b>23</b>	<b>Deductions from Revenue</b>		
<b>44</b>	<b>Net Patient Revenue</b>		<b>2,890,461</b>

This screenshot shows how deductions from revenue (Layer 32) for the hospital total \$11.7M. These are what we'd like to allocate across the revenue-generating departments, so they have a more accurate financial picture.

Report Properties		Filters: <input type="checkbox"/> Actual Base Amount (US)
Layers View		<b>1 Deductions From Revenue</b>
1		<b>Deductions From Revenue</b>
21	Food Service	<b>3 =</b>
22	OB/GYN	<b>4</b>
23	Nursery	<b>2 =</b>
24	Labor/Delivery	<b>3 =</b>
25	Surgery	<b>4 =</b>
26	Recovery Room	<b>2 =</b>
27	CRNA	<b>3 =</b>
28	Emergency Room	<b>4 =</b>
29	ER Professional Fees	<b>2 =</b>
30	Treatment Room	<b>3 =</b>
31	Endoscopy	<b>4 =</b>
32	Deductions From Revenue	<b>2 =</b>
33	Admin	<b>3 =</b>
34	HIM	<b>4 =</b>
35	Apartments	<b>2 =</b>
36	Plaza	<b>3 =</b>
37	Cerner Unalised	<b>4 =</b>
38	ALL PROFIT & LOSS MEDICAL	<b>2 =</b>

1 Deductions From Revenue		Sep 30, 2023	
Deductions From Revenue		3	4
2	=		
3	Operating Revenue		
25	C/A Inpatient - Bluecross		(516,250)
26	C/A Inpatient - Commercial		(586,647)
27	C/A Inpatient - Medicare		(891,704)
28	C/A Inpatient - Medicaid		(234,659)
30	-- C/A Inpatient - All Payer		(2,229,260)
32	C/A Outpatient - Bluecross		(2,199,902)
33	C/A Outpatient - Commercial		(2,499,889)
34	C/A Outpatient - Medicare		(3,799,831)
35	C/A Outpatient - Medicaid		(999,956)
37	-- C/A Outpatient - All Payer		(9,499,578)
42	-- <b>Total Deductions from Revenue</b>		<b>(11,728,837)</b>
44	-- <b>Net Patient Revenue</b>		<b>(11,728,837)</b>
46	-- <b>Net Operating Revenue</b>		<b>(11,728,837)</b>
47			

A note to our Canadian and non-healthcare clients:

C/A is an abbreviation for Contractual Allowance. A contractual allowance is like a negotiated discount with an insurance provider. For example, a hospital may charge \$5,000 for surgery, but the insurance provider under contract may only agree to pay \$3,000. The remaining \$2,000 is written off as a contractual allowance, considered a deduction from revenue. A key metric in financial reporting for hospitals is understanding their net patient revenue (NPR). That is revenue generated from patient services less any bad debt, contractual allowances, and other adjustments. We currently have that at the hospital level but not the department level.

Payer is a term that indicates how the hospital will be paid for the service. It could be a government payer such as Medicare or Medicaid, or a private insurance company such as Blue Cross or Commercial.

## Building Your Allocation Report

### Step 1 – Plan it out

With allocation reports, it's important to determine the allocation driver. How do we determine what portion of the contractual allocation should be recorded in each department? There could be numerous approaches taken. We decided to calculate each department's gross patient revenue as a percentage of total hospital gross patient revenue by payer.

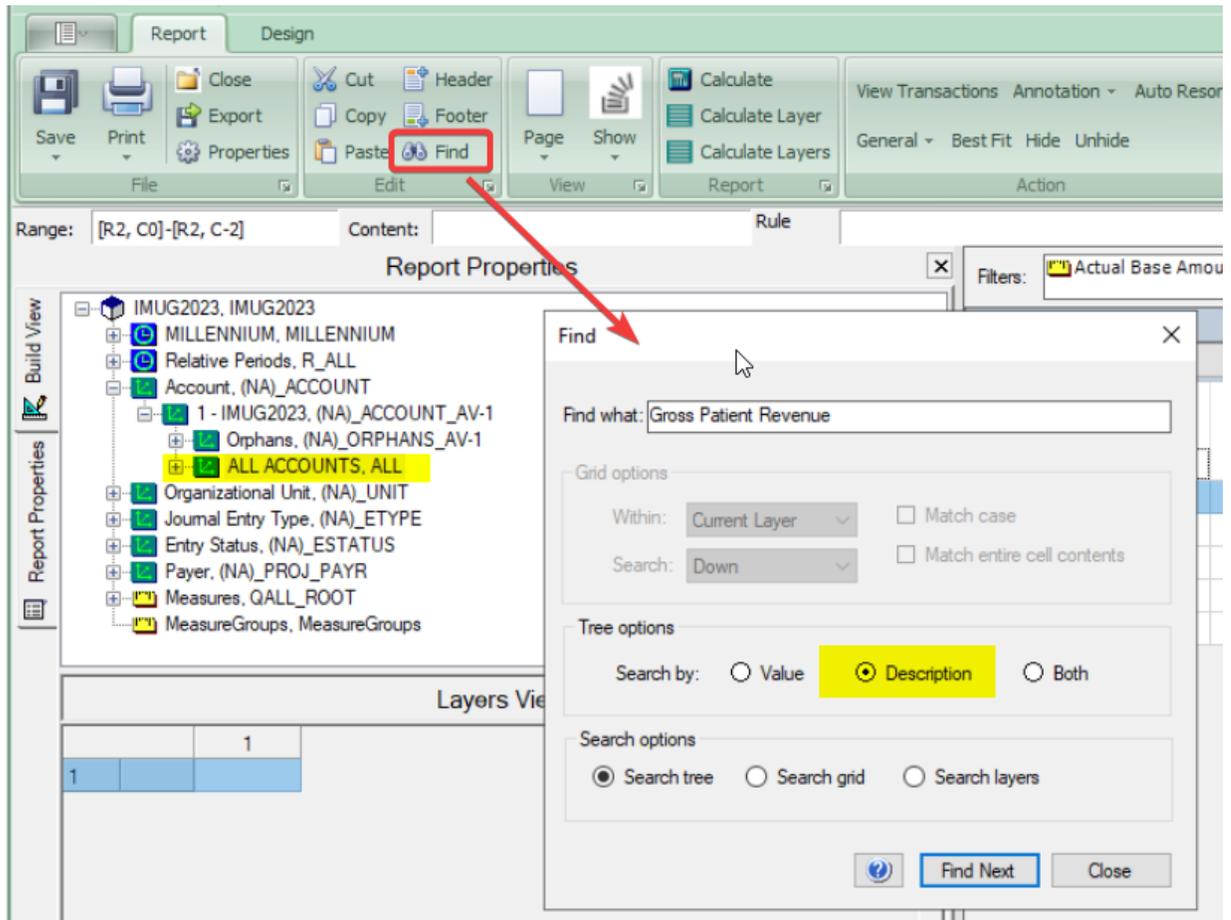
Note: Another common allocation driver to consider is the use of statistical accounts. This could require uploading statistical data to be pulled into the report calculations.

Whatever the method, have a vision of what you want before you start building. Here is our goal:

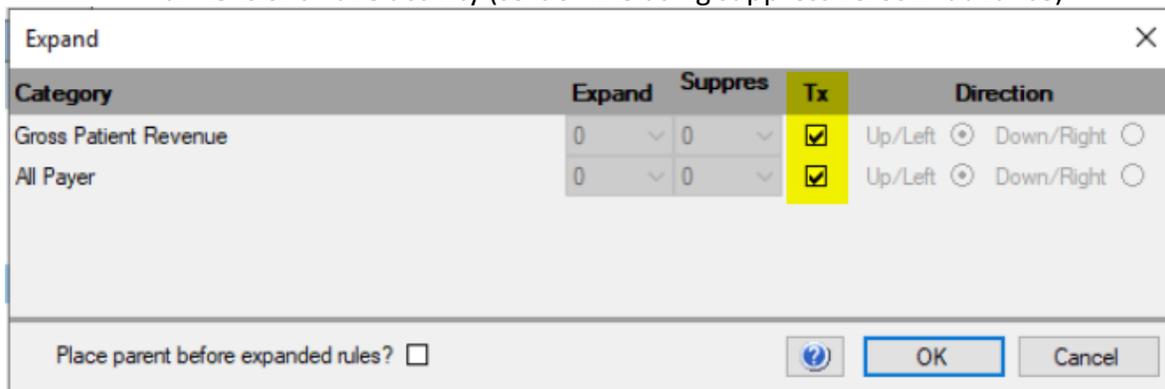
1 ALL PROFIT LOSS MEDICAL							
ALL PROFIT & LOSS MEDICAL							
	1	2	3	4	5	6	7
			=		F	=	Δ=
1				SEP 2023			
2				Dept Revenue	Total Revenue	% of Total	Allocation Amt
3	Δ	Bluecross	40100	104,780	104,780	1.6%	35,596
4	Δ	Commercial	40100	1,117,123	1,117,123	17.0%	379,508
5	Δ	Medicare	40100	3,206,146	3,206,146	48.9%	1,089,188
6	Δ	Medicaid	40100	2,134,026	2,134,026	32.5%	724,969
7		Inpatient Revenue	All Payer	6,562,075	6,562,075	100.0%	2,229,260
8	Δ	Bluecross	40200	578,410	578,410	2.7%	257,670
9	Δ	Commercial	40200	5,425,544	5,425,544	25.4%	2,416,966
10	Δ	Medicare	40200	12,203,317	12,203,317	57.2%	5,436,323
11	Δ	Medicaid	40200	2,196,590	2,196,590	10.3%	978,535
12	Δ	Other	40200	920,546	920,546	4.3%	410,084
13		Outpatient Revenue	All Payer	21,324,406	21,324,406	100.0%	9,499,578
14	--	Gross Patient Revenue	All Payer	REV	27,886,481	27,886,481	-
15							
16		C/A Inpatient		50000	(2,229,260)	(2,229,260)	-
17		C/A Outpatient		50002	(9,499,578)	(9,499,578)	-

## Step 2 – Create a New Report

- Navigate to the My Reports screen.
- Click on Report Design -> New Report
- In the New ViewPoint Report Wizard select the following:
  - Analytics. Next.
  - New Report From Scratch. Next.
  - Report Name – Contractual Allowance Allocation
  - Cube Id – IMUG2023. Next.
  - Finish
- Highlight Row 2 of the report. On the Design tab, click Insert After. Select 4 to insert and hit OK.
- Highlight Column 2 of the report. On the Design tab, click Insert After. Select 4 to insert and hit OK.
- Expand the Build View towards the center of the screen by using the slider along the right edge of the panel.
- From the Build View, expand the Account Ownership. Drag Gross Patient Revenue to R3C1
  - TIP** – use the Find function. Start by selecting the ownership parent (ALL ACCOUNTS), then hit Find on the Report tab. Type the description of the account. Set Tree option to Description and hit Find Next.



8. From the Build View, expand the Payer RAD Ownership. Drag All Payer to R3C1
9. On R3 header, double-click on '+' to Expand. Click the 'Tx' checkbox next to Gross Patient Revenue and All Payers to expand by Transaction. Hit OK.
  - **TIP** – The 'Tx' checkbox is an abbreviation for expand by transaction. This function is helpful for performance. It expands based on what combinations of those dimensions have activity (sort of like using suppress zeros in advance)



10. On the Report Tab, click Best Fit. Notice that by using expand by tx, we are not seeing the same payers across both accounts. In this case there is no “other” payer that has been used in combination with inpatient revenue.

	1	2
1		
2		
3		Bluecross
4		Commercial
5		Medicare
6		Medicaid
7	Inpatient Revenue	All Payer
8		Bluecross
9		Commercial
10		Medicare
11		Medicaid
12		Other
13	Outpatient Revenue	All Payer
14	-- Gross Patient Revenue	All Payer

11. From the Build View, expand the Unit Ownership. Drag ALL PROFIT & LOSS MEDICAL to the Layers View R1C1.
12. Right-click on Layer1 and select Expand. Choose Expand 2 and Suppress 2. Suppress 2 hides (suppresses) subtotals/restricted units.
- **TIP** - Expanding/suppressing to the highest level allows you to see all allowed units without any subtotals (basically a flat view of all units). You could also build an ownership to match that format but that would require additional maintenance.
13. From the Build View, expand Relative Periods, Relative Month Periods and drag Current Month to C4R1
14. Save.
15. Change closing date to Sep 30, 2023, and hit Calculate (F9).
16. Highlight the full report by clicking in the square between R1 and C1. On the Design tab, click the comma icon.

**\*Note:** You may be wondering why you see zero-dollar rows since I described the expand by transaction function as similar to suppressing zeros before expansion. Yes, it does do that but by **total** not by **layer**. The Emergency department has no Bluecross payer for outpatient revenue but if you look at All Profit & Loss Medical (parent) layer there are no zero rows.

Emergency					ALL PROFIT & LOSS MEDICAL				
	1	2	3	4		1	2	3	4
1				SEP 2023	1				SEP 2023
2					2				
3		Bluecross		35,000	3		Bluecross		104,780
4		Commercial		44,001	4	⊕	Commercial		1,117,123
5		Medicare		53,002	5		Medicare		3,206,146
6		Medicaid		21,996	6		Medicaid		2,134,026
7	Inpatient Revenue	All Payer		153,999	7	Inpatient Revenue	All Payer		6,562,075
8		Bluecross		-	8		Bluecross		578,410
9		Commercial		1,163,735	9		Commercial		5,425,544
10		Medicare		1,808,803	10		Medicare		12,203,317
11		Medicaid		-	11		Medicaid		2,196,590
12		Other		-	12		Other		920,546
13	Outpatient Revenue	All Payer		2,972,538	13	Outpatient Revenue	All Payer		21,324,406

17. In R2C4 double-click to type "Dept Revenue"

18. Save.

ALL PROFIT & LOSS MEDICAL							
	1	2	3	4	5	6	7
1				SEP 2023			
2				Dept Revenue			
3		Bluecross		104,780			
4		Commercial		1,117,123			
5		Medicare		3,206,146			
6		Medicaid		2,134,026			
7	Inpatient Revenue	All Payer		6,562,075			
8		Bluecross		578,410			
9		Commercial		5,425,544			
10		Medicare		12,203,317			
11		Medicaid		2,196,590			
12		Other		920,546			
13	Outpatient Revenue	All Payer		21,324,406			
14	--	Gross Patient Revenue	All Payer	27,886,481			

19. We now have Gross Patient Revenue by Payer by Department. Next, we want to calculate each as a % of total revenue.

20. From the Build View, expand Relative Month Periods and drag Current Month to C5R1

21. On the Report tab, select Show -> Rule Filters.

22. Highlight C5, then drag ALL PROFIT & LOSS MEDICAL from the unit ownership into the Rule Filter.

- **TIP** - Whereas report filters apply to all rows and columns of a report, a rule filter applies only to the row OR column that is highlighted when it is placed. Filters are represented by an F symbol at the top of the corresponding row or column.

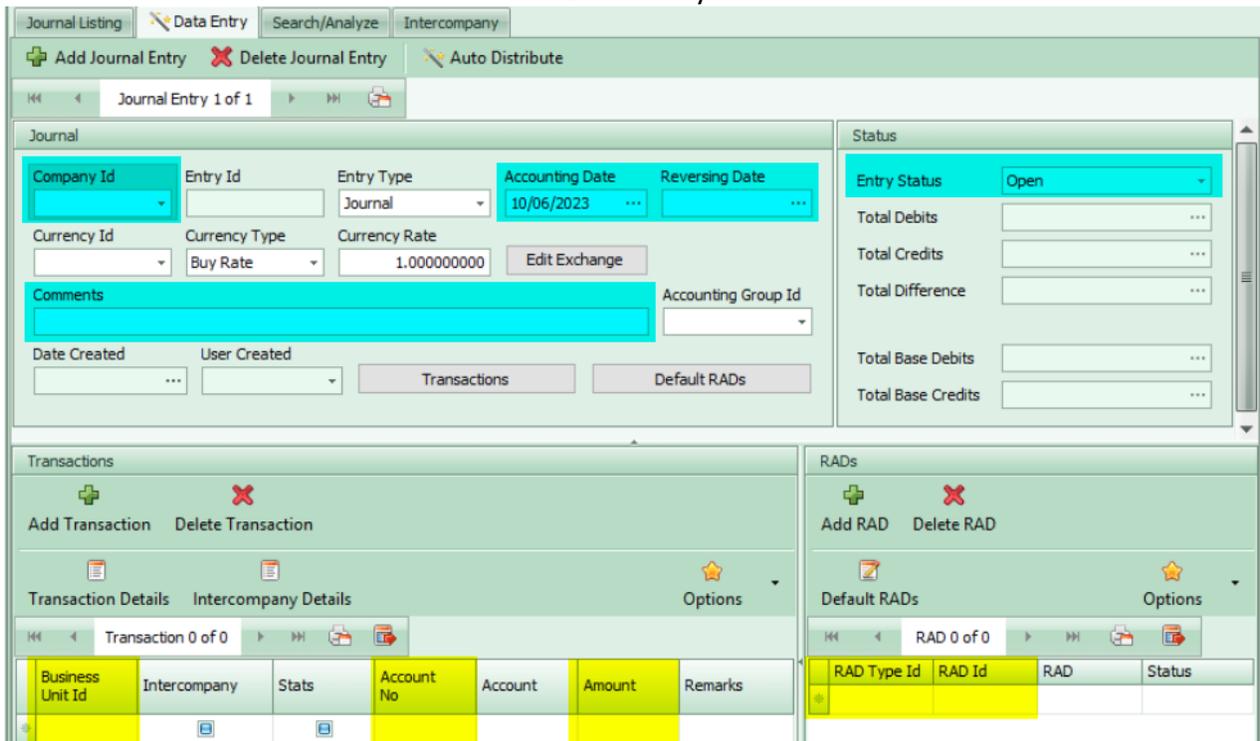
Filters:  Actual Base Amount (US)					
Rule Filters: <span style="border: 1px solid red; padding: 2px;">ALL PROFIT &amp; LOSS MEDICAL</span>					
<b>1 ALL PROFIT LOSS MEDICAL</b>					
<b>ALL PROFIT &amp; LOSS MEDICAL</b>					
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>1</b>				SEP 2023	F
<b>2</b>				Dept Revenue	
<b>3</b>		Bluecross			
<b>4</b>		Commercial			

23. In R2C5 double-click and type "Total Revenue"
  24. Save and Calculate (F9).
  25. Right-click on C3 and select Set Formula
  26. In the Formula window, select ACCOUNT.VALUE from the drop-down and press Ok. This formula will display the account # that will make it easier for the next step.
  27. Save and Calculate (F9)
  28. Right-click C6 Set Formula
  29. Enter formula: IF ACCOUNT.VALUE="40100" THEN C4/C5R7 ELSE IF ACCOUNT.VALUE="40200" THEN C4/C5R13 ELSE 0
  30. Save and Calculate (F9)
  31. Highlight C6 and select the % icon on the Design tab. Increase to 1 decimal place.
  32. On R2C6 type "% of Total"
  33. Best fit/widen column as necessary.
  34. Now that we know what % of overhead should be allocated to each unit/payer we need to know the value of the contractual allowance we are allocating. From the Build View, drag Account C/A Inpatient, 50000 to R16C1
  35. From Build View, drag Account C/A Outpatient, 50002 to R17C1
  36. Save and Calculate (F9).
- \*Note** that the default signage in VPA is driven by the account type. These C/A accounts are set up as revenue accounts. Because they carry a debit balance they appear as negative amounts on the report. In my experience, this is a preference that varies by client. If you want your deductions to still show positive, you can configure them as an Expense account instead or use the auto-reverse/multiply by -1 functions.
37. Right click on C7 and select Set Formula...
  38. Enter formula: IF ACCOUNT.VALUE="40100" THEN -C6\*R16C5 ELSE IF ACCOUNT.VALUE="40200" THEN -C6\*R17C5 ELSE 0
  39. Save and Calculate (F9)

40. In R2C7 type "Allocation Amt"
41. Best fit/widen column as necessary.
42. Highlight R2. On the design tab select right justify and bold font.
43. On the Report tab, click on the Show button and deselect Show Modified Flags. This will remove the red flags in the corners of the user modified cells (the cells where we typed our headings).
44. Save.

### Step 3 - Define Journal Entry Upload

Now that we have prepared our calculations, we need to think about how we are going to identify the information within the report needed to create the Journal Entry. I find it helpful to visualize the journal entry screen here so you can identify the different components of the Journal Entry. The blue are common "header" fields to define on the JE and the yellow are "transaction" level fields:



The screenshot displays the 'Journal Entry' interface. The 'Journal' section includes fields for Company Id, Entry Id, Entry Type (set to 'Journal'), Accounting Date (10/06/2023), Reversing Date, Currency Id, Currency Type (Buy Rate), and Currency Rate (1.000000000). The 'Transactions' section shows a table with columns: Business Unit Id, Intercompany, Stats, Account No, Account, Amount, and Remarks. The 'RADs' section includes RAD Type Id, RAD Id, RAD, and Status. Blue highlights are on 'Company Id', 'Entry Id', 'Entry Type', 'Accounting Date', 'Reversing Date', 'Comments', and 'Accounting Group Id'. Yellow highlights are on 'Business Unit Id', 'Intercompany', 'Stats', 'Account No', 'Account', and 'Amount' in the Transactions table.

Our allocation report must enable at minimum 1 layer, 1 column, and 1 row for upload. The intersections of those values are what will be used to create the JE. In the screenshot below, the values in yellow represent the intersection of the layers/rows/columns enabled for upload.

Report Properties: IMUG2023, IMUG2023

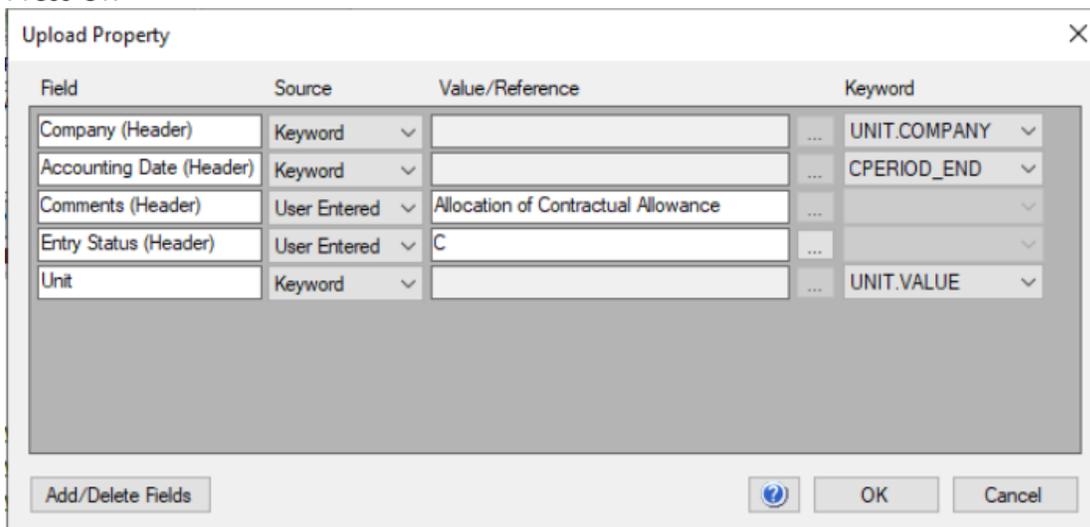
Filters: Actual Base Amount (US)

Build View: Report Properties, Layers View

1	2	3	4	5	6	7		
		=		F	=	Δ=		
			SEP 2023					
			Dept Revenue	Total Revenue	% of Total	Allocation Amt		
3	Δ	Bluecross	40100	35,000	104,780	0.53%	11,890	
4	Δ	Commercial	40100	44,001	1,117,123	0.67%	14,948	
5	Δ	Medicare	40100	53,002	3,206,146	0.81%	18,006	
6	Δ	Medicaid	40100	21,996	2,134,026	0.34%	7,472	
7		Inpatient Revenue	All Payer	40100	153,999	6,562,075	2.35%	52,316
8	Δ	Bluecross	40200	-	578,410	-	-	
9	Δ	Commercial	40200	1,163,735	5,425,544	5.46%	518,420	
10	Δ	Medicare	40200	1,808,803	12,203,317	8.48%	805,784	
11	Δ	Medicaid	40200	-	2,196,590	-	-	
12		Other	40200	-	920,546	-	-	
13		Outpatient Revenue	All Payer	40200	2,972,538	21,324,406	13.94%	1,324,204
14	--	Gross Patient Revenue	All Payer	REV	3,126,537	27,886,481	-	-
15								
16		C/A Inpatient	50000	-	(2,229,260)	-	-	
17		C/A Outpatient	50002	-	(9,499,578)	-	-	

- Right-click on C7 and select Upload Enabled -> Yes.
- Right-click on C7 and select Edit Upload
- In the Upload Property Window select Add/Delete Fields
- Select Amount and hit OK.
- Leave Source as Cell and hit OK. **\*Note** the source is the method used to determine the amount. We can take it from the cell, we can enter a fixed value, use a keyword, etc.
- Highlight rows 3-6. Right-click on the header and select Upload Enabled -> Yes.
- Right-click on R3 and select Edit Upload
- In the Upload Property Window select Add/Delete Fields
- Select Account and Payer and hit OK.
- For Account, change source from Keyword to User Entered with a value of "50000". 50000 is the account value of contractual allowance – inpatient. **\*Note** We don't want to use a keyword because that will use account 40100 (inpatient revenue). We want to allocate to the C/A – Inpatient account (50000)
  - TIP** - Using a separate account for allocations can be used to view reports both PRE and POST allocations. This approach can also help with budgeting.
- For Payer, keep the source as "keyword" to pull from the row. Hit OK.
- Repeat Edit Upload (steps 7-11) for Rows 4-6.
- Save.
- Highlight rows 8-12. Right-click on the header and select Upload Enabled -> Yes.
- Right-click on R8 and select Edit Upload
- In the Upload Property Window select Add/Delete Fields
- Select Account and Payer and hit OK.
- Change source from Keyword to User Entered with a value of "50002". 50002 is the account value of contractual allowance – outpatient.
- For Payer, keep the source as "keyword" to pull from the row. Hit OK.
- Repeat Edit Upload (Steps 15-19) for Rows 9-12

21. Save.
22. Double-click on the “—” symbol on R38 of layers view to compress the layers. A message will pop up “Are you sure you want to compress Layer 38?”. Select Yes. We want the same upload attributes on all 38 layers so applying it to the parent and then expanding will save us time.
23. Right-click on layer 1 and select Upload Enabled -> Yes.
24. Right-click on layer 1 and select Edit Upload
25. In the Upload Property Window select Add/Delete Fields
26. Select the following fields and hit OK:
  - Company
  - Accounting Date
  - Comments
  - Entry Status
  - Unit
27. For the Field Company keep the source as “keyword” to derive the company from the business unit
28. For Accounting Date, keep the source as “keyword” to use CPERIOD\_END (closing date of Sep 30, 2023, in this instance)
29. For Comments keep the source as User Entered and enter a Value of “Allocation of Contractual Allowance”
30. For Entry Status, keep the source as User Entered and enter a value of “C” for “Closed”.
  - **TIP** – using an entry status of open or closed is a great way to test allocations without committing to the final entry. If it didn’t work out the way that you intended, you can simply delete the entry and try again! I’m using closed here because that also validates that my entry is balanced and that any RAD rules are met.
31. For Unit, keep the source as keyword to derive the unit id from the layer.
32. Press OK



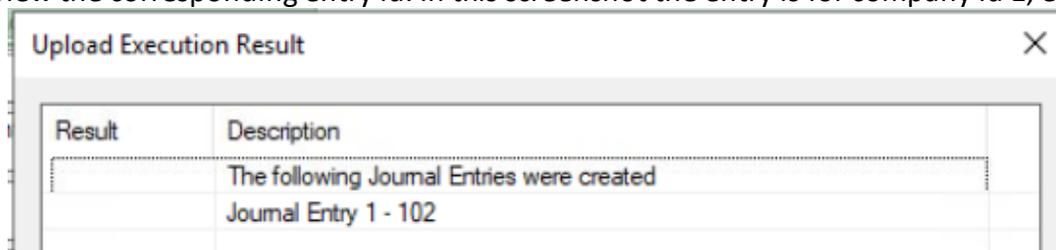
Field	Source	Value/Reference	Keyword
Company (Header)	Keyword		UNIT.COMPANY
Accounting Date (Header)	Keyword		CPERIOD_END
Comments (Header)	User Entered	Allocation of Contractual Allowance	
Entry Status (Header)	User Entered	C	
Unit	Keyword		UNIT.VALUE

Buttons: Add/Delete Fields, OK, Cancel

33. Right-click on Layer1 select Expand.
34. Choose Expand 2 and Suppress 2 then hit OK. Notice the upload enabled and upload values copied over in the expansion.
35. Save and Calculate (F9).
36. We want the parent unit to be the offset of the JE so we will make the following changes:
37. Right-click on layer 38 ALL PROFIT&LOSS MEDICAL and select Edit Upload.
38. In the Upload Property window, select Add/Delete Fields
39. Select Conversion Factor and hit OK.
40. Enter a conversion factor value of “-1”.
41. Change Unit Source from Keyword to User Entered with a value of “11110”. 11110 is the Deductions from Revenue Unit.
42. Save and Calculate (F9).

#### Step 4 – Upload the Entry

1. On the Report tab of the Ribbon Bar, select General -> Upload.
2. Select Upload Validation – this will validate your upload and identify if there are any errors.
3. Select Upload Execution to create a JE. The result text will display the result so we can go review the corresponding entry id. In this screenshot the entry is for company id 1, entry id 102:



The screenshot shows a window titled "Upload Execution Result" with a close button (X) in the top right corner. The window contains a table with two columns: "Result" and "Description". The table has one row with the following content:

Result	Description
	The following Journal Entries were created Journal Entry 1 - 102

4. Go to Journal Transaction Inquiry screen and query on the company id and entry id created to review.
5. You can also return to the income statement and recalculate to show the impact of our allocations.

## Laboratory department prior to allocations:

1 Laboratory		3	4
Laboratory			
2	=	=	<u>Sep 30, 2023</u>
3		<b>Operating Revenue</b>	
7		Inpatient Revenue - Medicare	120,386
12		Outpatient Revenue - Bluecross	291,149
13		Outpatient Revenue - Commercial	593,423
14		Outpatient Revenue - Medicare	996,711
15		Outpatient Revenue - Medicaid	403,792
16		Outpatient Revenue - Self Pay	485,000
21	--	<b>Gross Patient Revenue</b>	<b>2,890,461</b>
22			
23		<b>Deductions from Revenue</b>	
44	--	<b>Net Patient Revenue</b>	<b>2,890,461</b>

## Laboratory Department After allocations:

1 Laboratory		3	4
Laboratory			
2	=	=	<u>Sep 30, 2023</u>
3		<b>Operating Revenue</b>	
7		Inpatient Revenue - Medicare	120,386
12		Outpatient Revenue - Bluecross	291,149
13		Outpatient Revenue - Commercial	593,423
14		Outpatient Revenue - Medicare	996,711
15		Outpatient Revenue - Medicaid	403,792
16		Outpatient Revenue - Other	485,000
21	--	<b>Gross Patient Revenue</b>	<b>2,890,461</b>
22			
23		<b>Deductions from Revenue</b>	
27		C/A Inpatient - Medicare	(40,897)
30	--	C/A Inpatient - All Payer	(40,897)
32		C/A Outpatient - Bluecross	(129,701)
33		C/A Outpatient - Commercial	(264,357)
34		C/A Outpatient - Medicare	(444,014)
35		C/A Outpatient - Medicaid	(179,881)
36		C/A Outpatient - Other	(216,057)
37	--	C/A Outpatient - All Payer	(1,234,011)
42	--	<b>Total Deductions from Revenue</b>	<b>(1,274,908)</b>
44	--	<b>Net Patient Revenue</b>	<b>1,615,553</b>

### How this helps End Month End:

- Helps decision-making by more accurately reflecting an organization's financial picture.
- Automation saves time and reduces errors.
- It eliminates repetitive steps of recurring entries.

### Other Business Cases to Explore:

- Elimination entries
- Payroll accrual
- Overhead allocations