

THE INDIAN HEALTH SERVICE

Template Fields



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Now and for the Future

Learning Objectives

- Define what are Template Fields
- Discuss how to create and apply Template Fields to TIU Templates
- Define the properties of each type of Template Field

What are Template Fields?

- The idea for Template Fields comes from a type of document you can create in Microsoft Word called Forms.
- Forms are protected documents that restrict the user to editing only specific areas of the text.
- The unprotected areas of a Form are called Form Fields.

Form Fields in MS Word

Audiologic Hearing Aid Template.doc - Microsoft Word

SUBJECTIVE:

OBJECTIVE:

Date of Audiogram: []
SEE AUDIOGRAM FOR COMPLETE AUDIOMETRIC RESULTS.

Pure-Tone Audiometry:
250 500 1000 1500 2000 3000 4000 6000 8000 Hz
Air Conduction Thresholds:
R: [] [] [] [] [] [] [] []
L: [] [] [] [] [] [] [] []
Bone Conduction Thresholds:
R: [] [] [] [] [] [] [] []
L: [] [] [] [] [] [] [] []

ASSESSMENT:

PLAN:

[] Hearing Aid Fitting: []
Fitting protocol: []
Date: []
[] OTO: []
[] Requesting []
[] RTC PRN []
[] Other: []

HAF-G ALVA
HAF-I ALVA
HAF-G Seattle
HAF-I Seattle

Page 1 Sec 1 1/1 At 6.4" Ln 30 Col 2

- In MS Word, Form Fields can have different characteristics:
 - Date Fields
 - Free Text Fields
 - Drop Down Form Fields (allow choice of pre-defined text)

Template Fields and Dialogs

- In the EHR, we can simulate protected documents by using Template Dialogs.
- Within a Template Dialog, users are restricted to editing only those specific areas of text that contain Template Fields.

Template Fields in EHR

The screenshot shows a software window titled "Template: Audiologic Hearing Aid Template". It contains several sections of form fields:

- SUBJECTIVE:** A large empty text box.
- OBJECTIVE:** A large empty text box.
- Date of Audiogram:** A date field with a dropdown arrow, indicated by a red arrow.
- Pure-Tone Audiometry:** A table of frequency thresholds (0250, 0500, 1000, 1500, 2000, 3000, 4000, 6000, 8000 Hz) for Air and Bone Conduction, with dropdown menus for each cell.
- ASSESSMENT:** A large empty text box, indicated by a red arrow.
- PLAN:** A section with several dropdown menus and checkboxes, including "Hearing Aid Fitting", "Fitting protocol", "Date", "Requesting medication", and "Other". A red arrow points to the "Hearing Aid Fitting" dropdown.

At the bottom, there are buttons for "Preview", "OK", and "Cancel", and a note: "* Indicates a Required Field".

- Just like Form Fields in Word, Template Fields in the EHR can have different characteristics.
 - Date Fields
 - Free Text Fields
 - Drop-Down Fields
 - Additional types not available in MS Word

Where can Template Fields be used?

- Template fields are not restricted to just templates. They can be used in:
 - Templates
 - Template Dialogs
 - Orders that have freetext fields
 - Reasons for Request for consults
 - Reminder Dialogs

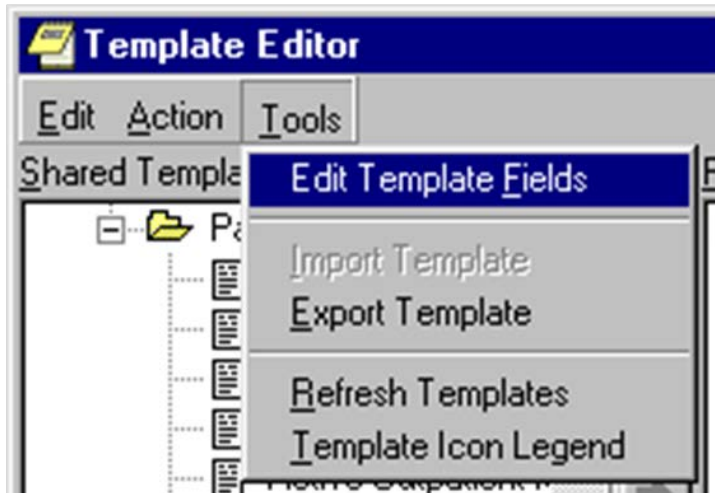
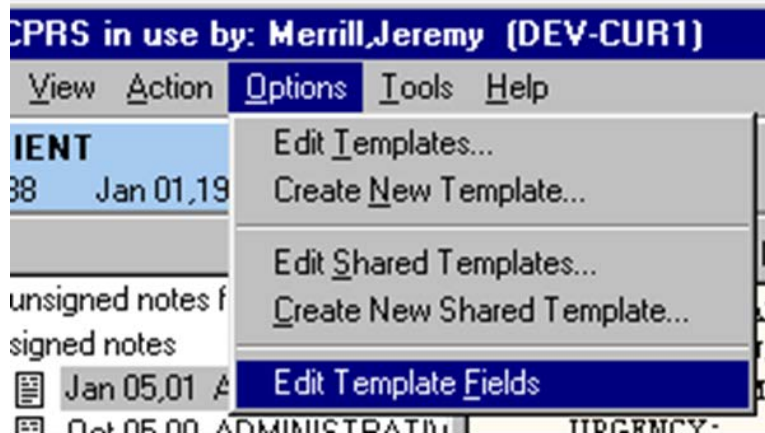
How are Template Fields defined in a Boilerplate?

- Template fields are added to boilerplated text in the same manner as patient data objects. Special text is used in the boilerplate to represent the template field. This text must be in the format: {FLD:Field Name}.
- The template field will appear in the dialog where this special text is located.

Managing Template Fields

- All users allowed to create templates can use template fields.
- Only users with a user class listed in the new TIU FIELD EDITOR CLASSES parameter can create or modify template fields.
- Template fields are maintained by using the template field editor.

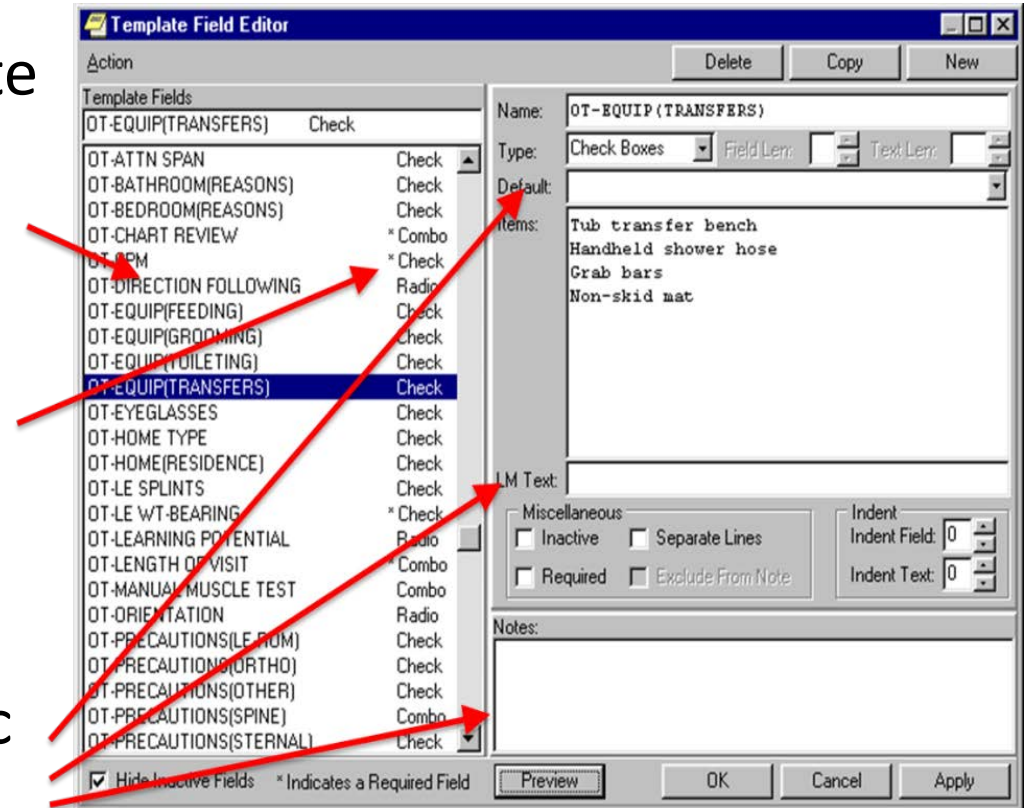
Where is the Template Field Editor?



- The template field editor can be accessed from the Options menu of the Notes, Consults, and D/C Summ tabs.
- It can also be accessed from the new Tools menu of the Template

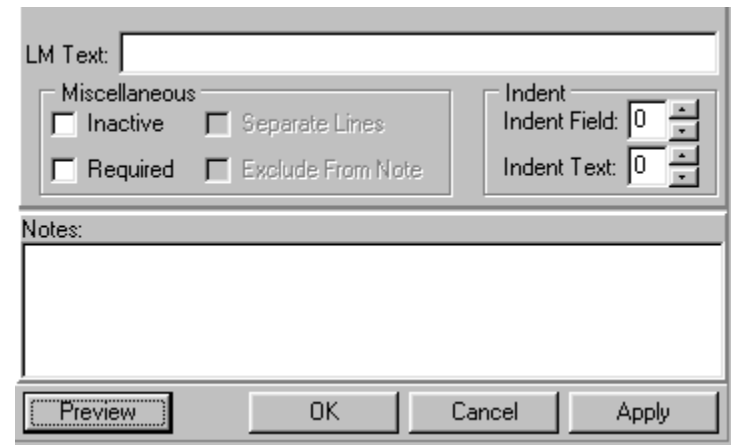
Template Field Editor

- List of current Template Fields
- Template Field Types
- Template Field Specific Properties



Common Field Properties

- Most template fields share several of the following common properties:
 - LM Text (only applied to old roll-and-scroll TIU)
 - Inactive
 - Required
 - Indent Field
 - Indent Text
 - Notes



The image shows a dialog box for configuring field properties. It features a text input field for 'LM Text' at the top. Below it is a 'Miscellaneous' section with four checkboxes: 'Inactive', 'Separate Lines', 'Required', and 'Exclude From Note'. To the right of this section are two numeric spinners for 'Indent Field' and 'Indent Text', both currently set to 0. Below these controls is a 'Notes' section with a large empty text area. At the bottom of the dialog are four buttons: 'Preview', 'OK', 'Cancel', and 'Apply'.

Common Properties: Inactive

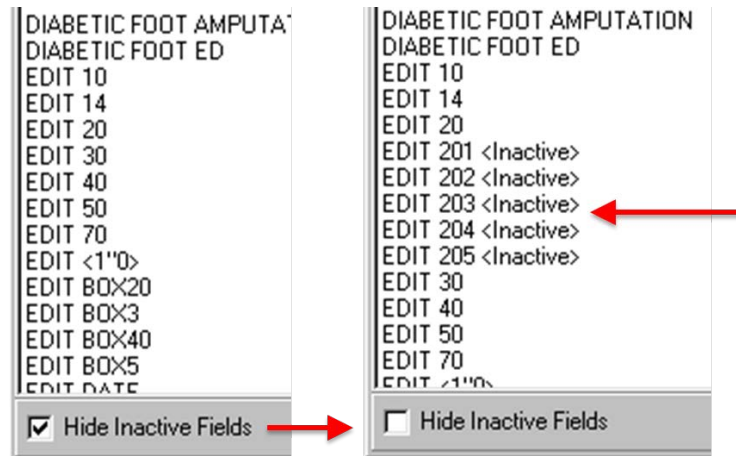
- Inactive Fields cause the following error:



- If you ignore the error, the field will be treated as if it were not in the boilerplate.

Hiding Inactive Fields

- You can Hide Inactive Fields in the Template Field Editor.
- Notice the Inactive fields displayed in the Template Field list when the Hide Inactive Fields option is not checked.



Common Properties: Required

- Most template fields can be marked as required. Required fields are shown with an asterisk (*) in the dialog.

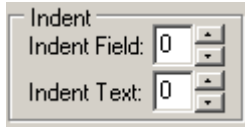


- If one or more required fields have no text, you will not be allowed to press the Template Dialog OK button (or the Finish button in Reminder Dialogs).

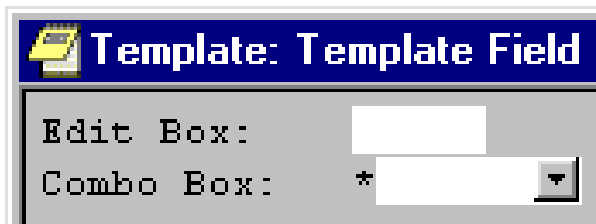
Common Field Properties: Indent Field

- The Indent Field property indents the template field as it appears in the dialog. This has no affect on the text generated from the template field.

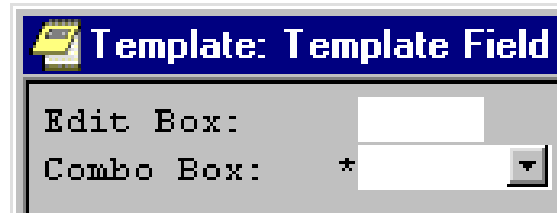
Common Field Properties: Indent Field (cont.)



Before Indent



After Indent



By indenting this field, we can make it line up with the required field below it, without affecting how the text appears in the note.

Common Field Properties: Indent Text

- The Indent Text property indents the text generated from the field. It has no effect on how the field appears in the dialog.

1. Dialog Containing Template Fields.

Pure-Tone Audiomet			
	0250	0500	10
Air Conduction Thr			
R:	30	-	-
L:	25	-	-
Bone Conduction Th			
R:	5	45	-
L:	0	35	-

2. Generated Text. Notice the text does not line up under the columns.

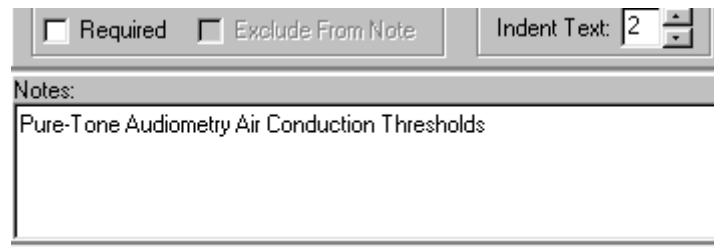
```
Pure-Tone Audiomet
      0250  0500  10
Air Conduction Thr
R: 30 - - -
L: 25 - - -
Bone Conduction Th
R: 5  45 - -
L: 0  35 - -
```

3. Generated Text with Indent Text set to 2 (text lines up under columns).

```
Pure-Tone Audiomet
      0250  0500  10
Air Conduction Thr
R:   30   -   -
L:   25   -   -
Bone Conduction Th
R:   5   45   -
L:   0   35   -
```

Common Properties: Notes

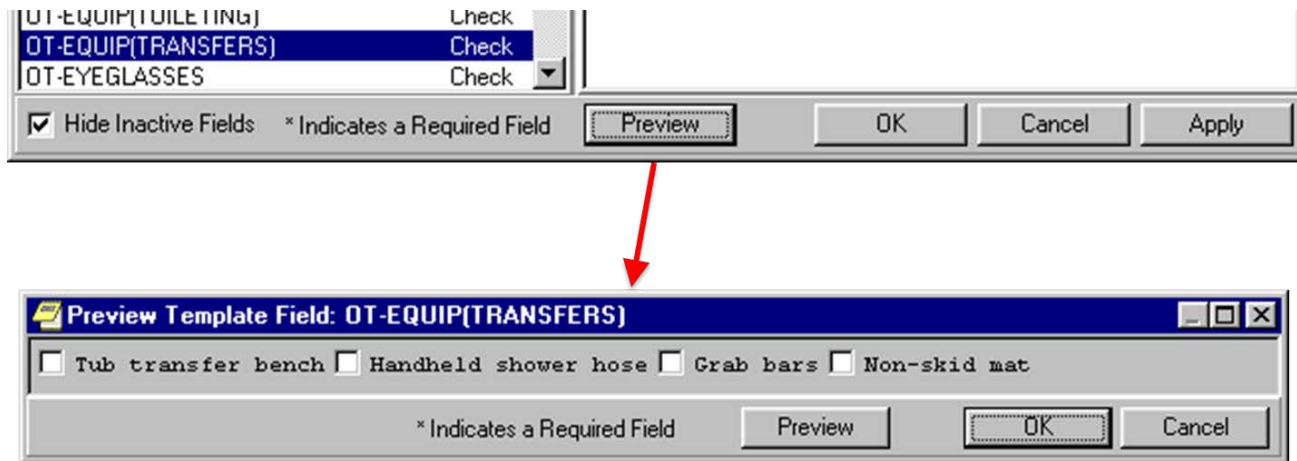
- Notes can be kept about specific Template Fields. This can be used to track changes or keep other kinds of notes. Currently, the only place Template Field Notes can be viewed is the Template Field Editor.



The screenshot shows a window titled "Template Field Editor" with a "Notes" section. The "Notes" section contains the text "Pure-Tone Audiometry Air Conduction Thresholds". Above the "Notes" section, there are two checkboxes: "Required" (unchecked) and "Exclude From Note" (unchecked). To the right of these checkboxes is a "Indent Text:" label followed by a text box containing the number "2" and a small icon.

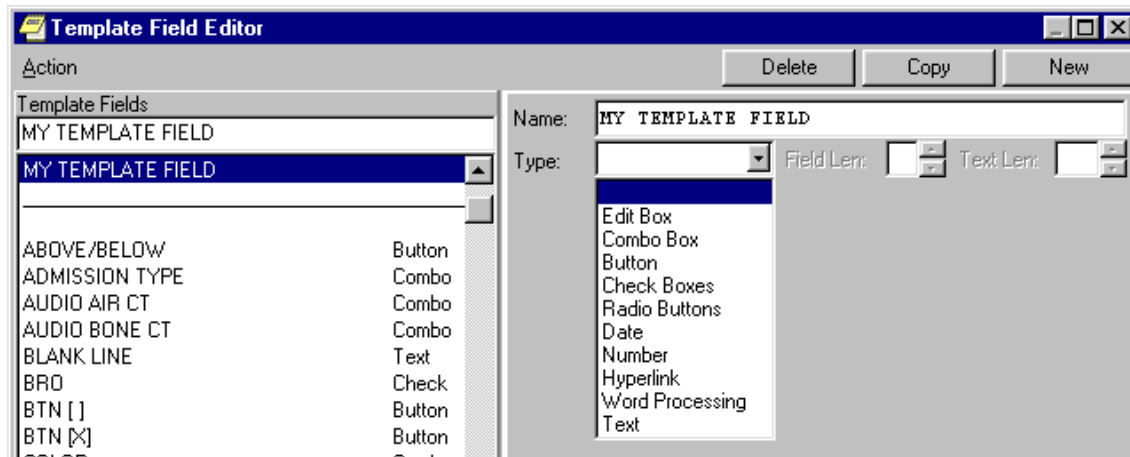
Preview Template Field

- You can preview what a template field will look like in the template field editor by pressing the Preview button.



Creating a Template Field

- Click on the New Button
- Enter a Unique Template Field Name (can be up to 60 characters long)
- Select the desired Template Field Type



Creating a Template Field (continued)

- The right side of the template field editor will change depending on which template field type is specified.

Name: AUDIO AIR CT
Type: Combo Box Field Len: 3 Text Len: 0
Default:
Items: -
0
5
10
15
20
25
30
35
40
LM Text:

Name: EDIT 20
Type: Edit Box Field Len: 20 Text Len: 0
Default:

Name: DATE1
Type: Date Field Len: Text Len:
Default: T Date Type: Date

Name: NUM 1-10
Type: Number Field Len: Text Len:
Default: 1 Min: 1 Max: 10 Increment: 1

Template Fields Types

There are 10 different Template Field types:

- Edit Box Fields
- Combo Box Fields (Called Drop Down Form Fields in Microsoft Word)
- Button Fields
- Check Box Fields
- Radio Button Fields
- Date Fields
- Number Fields
- Word Processing Fields
- Hyperlink Fields
- Text Fields

Edit Box Fields



Default Text

- Field Length is the size of the Edit Box in the dialog (up to 70 characters)
- Text Length is how much text can be typed into the field (up to 240 characters)
- Default is the optional edit box default text (up to Field Length characters)



Name: MY TEMPLATE FIELD

Type: Edit Box Field Len: 15 Text Len: 30

Default: Default Text

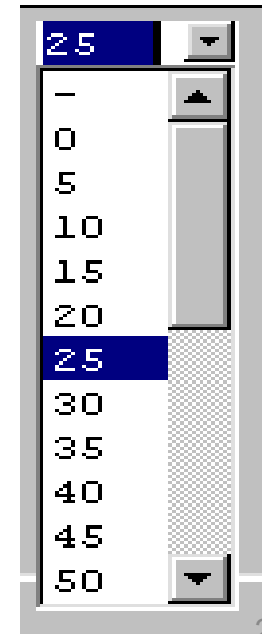
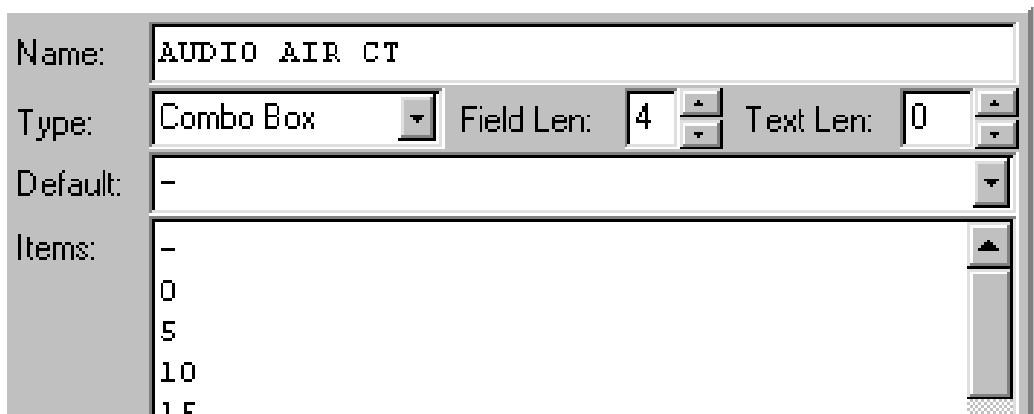
Template Fields with Items

- Four types of template fields can be used to select from a list of pre-defined text items.
 - Combo Box Fields
 - Button Fields
 - Check Box Fields
 - Radio Button Fields
- Each of these template field types can specify an optional default field value from the pre-defined list of items.

Name:	OT-TYPE OF VISIT
Type:	Combo Box <input type="button" value="Field"/>
Default:	Inpatient
Items:	Inpatient Outpatient Phone Home Visit

Combo Box Fields

- Combo Box Fields allow selection of one item from a Drop Down List
- Field Length is the size of the Combo Box in the dialog (up to 70 characters)
- Text Length (if not zero) allows other text, not in the pre-defined items, to be typed into the combo box (up to 240 characters)



Button Fields

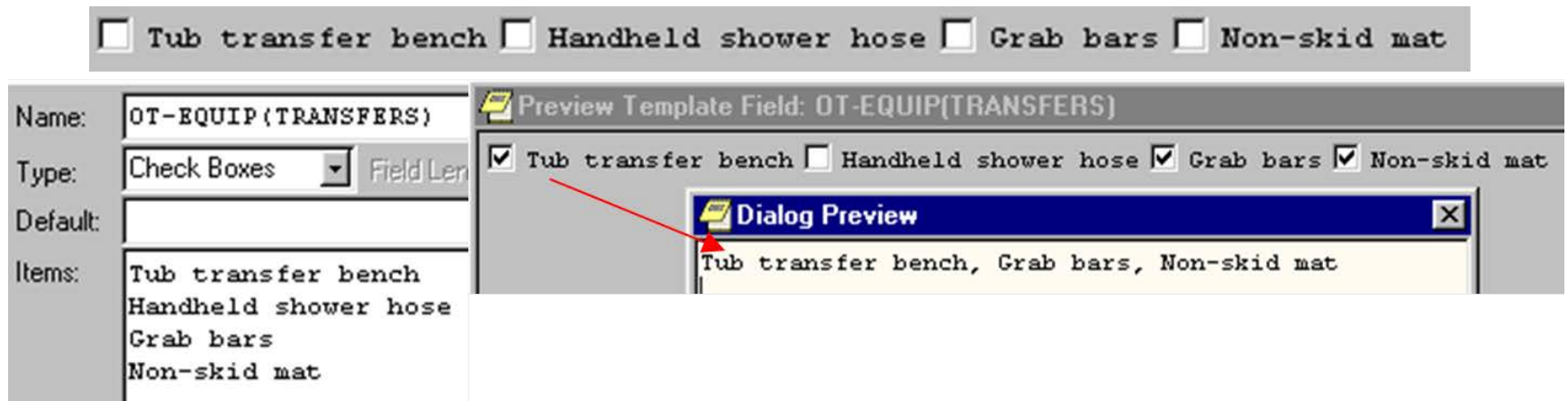
- Button Fields allow selection of one item by cycling through each item as the button is pressed
- If the Default is blank, the button will initially appear without any text
- Button size reflects the longest text item

Name:	BTN [X]		
Type:	Button	Field Len: <input type="text"/>	Text Len: <input type="text"/>
Default:	[X]		
Items:	[X] []		



Check Box Fields

- Check Box Fields create a check box for each item, allowing as many items to be selected as desired
- The default item will initially be checked
- If multiple items are checked, the text will be separated by commas



Radio Button Fields

- Radio Button Fields create a radio button for each item, allowing only one item to be selected.
- The default item will initially be checked
- Can be unchecked, leaving no selection

Name:	RATING: GOOD, FAIR, POOR
Type:	Radio Buttons <input type="button" value="Field Len:"/>
Default:	
Items:	Good Fair Poor



Separate Lines Property

- Check Box and Radio Button Fields have a Separate Lines property, which will display each check box or radio button on a separate line of the dialog.
- Has no affect on generated text.

Separate Lines Property (cont.)

Before Separated Lines

Miscellaneous

Inactive Separate Lines

Required Exclude From Note

 Preview Template Field: JM4

red yellow blue green

 Preview Template Field: JM4


red yellow blue green

After Separated Lines

Miscellaneous

Inactive Separate Lines

Required Exclude From Note

 Preview Te

red

yellow

blue

green

 Preview T

red

yellow

blue

green

Date Fields

- Date Fields have six different date types
- Default will evaluate to the current date/time
- Date Fields have six different date types
- Default will evaluate to the current date/time

Name: DATE1

Type: Date Field Len: Text Len:

Default: T Date Type: Date

Date Type: Date

- Date → Feb 21, 2001 ...
- Date & Time → 10-Mar-2016 ...
- Date & Required Time → Feb 21, 2001@15:15 ...
- Combo Style → Feb 21 2001 ...
- Combo Year Only → 2001 ...
- Combo Year & Month → Feb 2001 ...

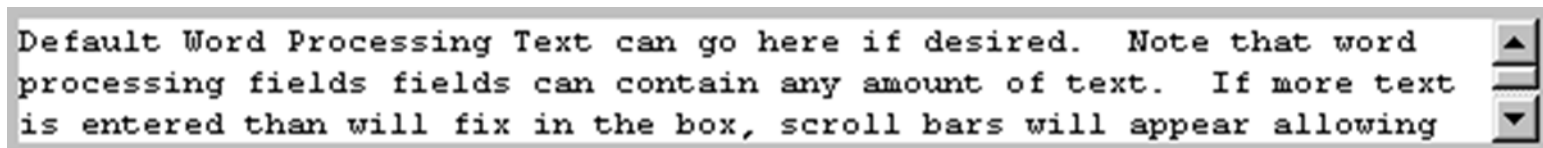
Number Fields

- Number Fields allow numeric values between a specified range.
- They always have a default value.
- Minimum and Maximum Values can range from – 9999 to +9999.
- Button increment values as high as 999.

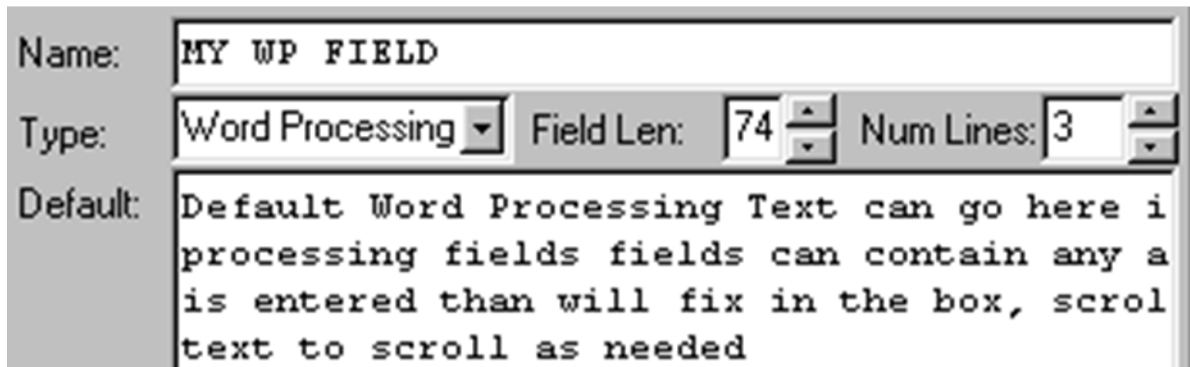
Name:	NUM 1-10				5	
Type:	Number	Field Len:		Text Len:		
Default:	5	Min:	1	Max:	10	
				Increment:	1	

Word Processing Fields

- Word processing fields allow an unlimited amount of text to be entered (scroll bars will appear if needed)
- Field Length and Number of Lines indicate how wide and high the field will appear in the dialog



Default Word Processing Text can go here if desired. Note that word processing fields fields can contain any amount of text. If more text is entered than will fit in the box, scroll bars will appear allowing



Name: MY WP FIELD

Type: Word Processing ▾ Field Len: 74 ▾ Num Lines: 3 ▾

Default: Default Word Processing Text can go here i
rocessing fields fields can contain any a
is entered than will fit in the box, scrol
text to scroll as needed

Hyperlink Fields

[OI National Training & Education Office](#)

- Hyperlinks Fields are text only fields that allow linking to web pages
- Hyperlink text is either the Default (if specified) or the actual URL address
- Address specifies the URL link

Name:	MY TEMPLATE FIELD		
Type:	Hyperlink	Field Len: <input type="text"/>	Text Len: <input type="text"/>
Default:	OI National Training & Education Office		
Address:	http://vaww.vistau.med.va.gov		

Text Fields

Check the appropriate goals related to supplemental oxygen therapy for each individual patient and/or add additional goals.

- Text fields provide a mechanism for embedding predefined (non-editable) text into the dialog
- Predefined Text is entered in the Items property of the field

Name:	MY TEXT FIELD
Type:	Text <input type="button" value="v"/> Field Len: <input type="text" value=""/> <input type="button" value="+"/> <input type="button" value="-"/> Text Len: <input type="text" value=""/> <input type="button" value="+"/> <input type="button" value="-"/>
Items:	Check the appropriate goals related to sup therapy for each individual patient and/or

Hyperlink and Text Fields

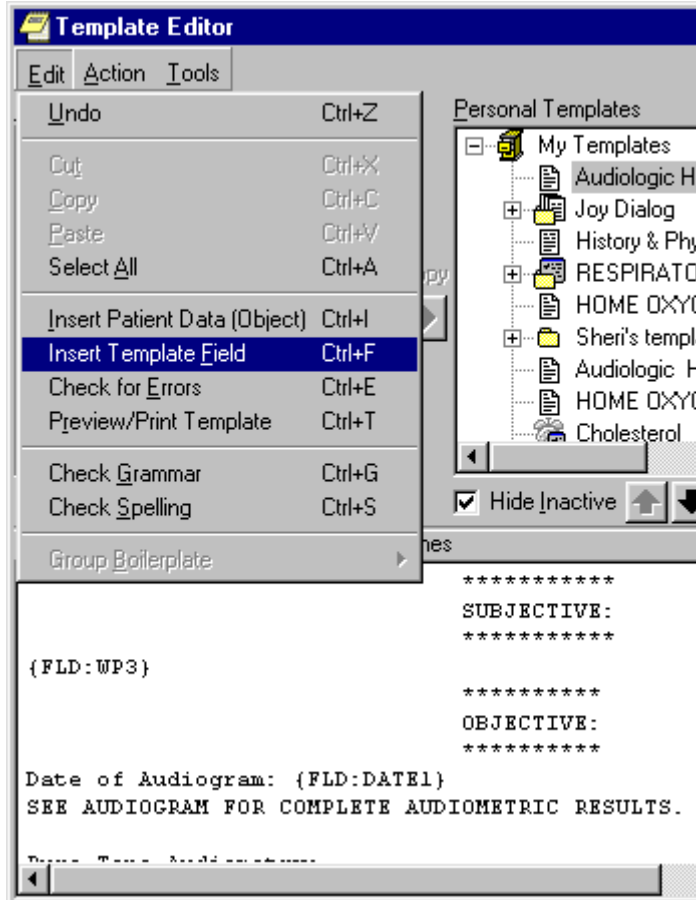
- Hyperlink and Text fields are different from other template field types, in that they do not allow the user to specify text
- They can not be marked as required
- They can be marked as Exclude From Note – dialog instructional text. Especially useful when for displaying instructions or helpful hints for provider but no part of the PT's note

The screenshot shows a configuration dialog for a text field. The 'Name' field is set to 'MY TEXT FIELD'. The 'Type' is set to 'Text'. There are 'Field Len' and 'Text Len' spinners, both currently at 0. The 'Items' field contains the text: 'Check the appropriate goals related to sup therapy for each individual patient and/or'. Below this is a horizontal scrollbar. The 'LM Text' field is empty. Under the 'Miscellaneous' section, there are four checkboxes: 'Inactive', 'Separate Lines', 'Required', and 'Exclude From Note'. All are currently unchecked. Under the 'Indent' section, there are two spinners: 'Indent Field' and 'Indent Text', both set to 0. At the bottom, there is a 'Notes' field which is currently empty.

Using Template Fields

- Using Template Fields in boilerplated Titles, Reasons for Request and Reminder Dialogs is simply a matter of typing in the special text that references the desired fields {FLD:Field Name}.
- Using Template Fields in the Template editor is a somewhat easier.
 - Can also access the Template Field editor from the tools menu of the Template Editor.

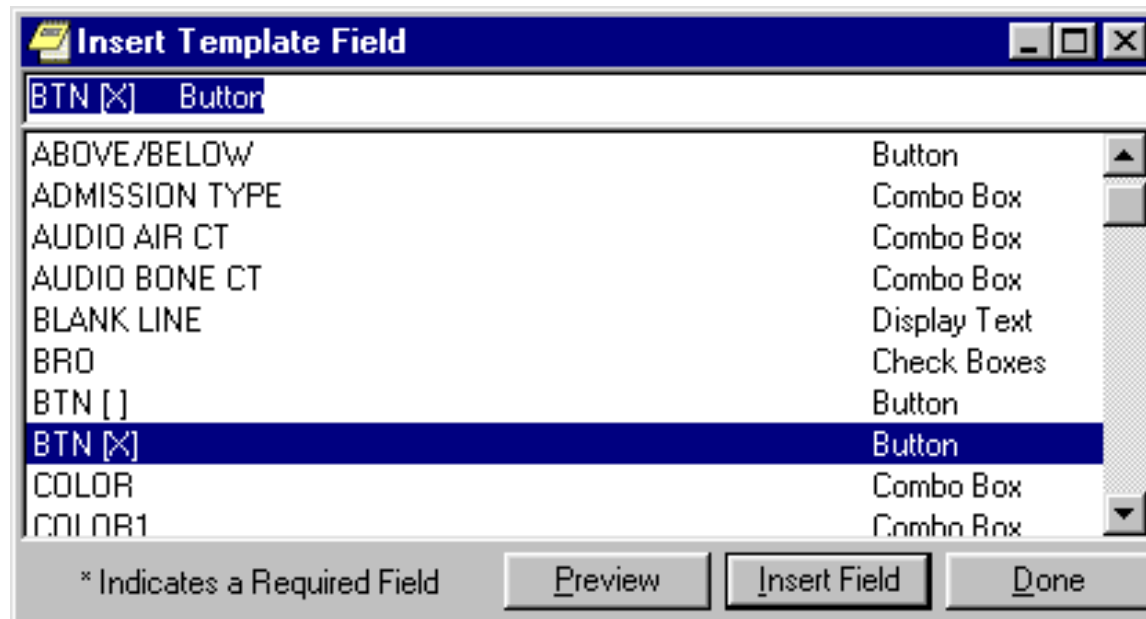
Template Editor



- When editing a template's boilerplate, you can select the Insert Template Field menu option (also available from the right-click menu).

Insert Template Field

- This pulls up a dialog that can be used to insert the desired template field into the boilerplate at the current cursor location.



Template Field Issues

- Although template fields bring powerful clinical documentation tools to the EHR, they also bring their own set of problems and issues:
 - Long Lines Problem
 - Spacing Issues
 - Need to Control who can create and maintain template fields
 - Difficulty in changing Field Names
 - Need for Name spacing and naming conventions

Long Lines Problem

- One problem with using special text to represent template fields in a boilerplate is that the special text can take up much more room than the actual field.

```
Pure-Tone Audiometry:  
  0250  0500  1000  1500  2000  3000  4000  6000  8000 Hz  
Air Conduction Thresholds: {FLD:EDIT 40}  
R: {FLD:AUDIO AIR CT}{FLD:AUDIO AIR CT}{FLD:AUDIO AIR CT}{FLD:AUDIO AIR CT}{FLD:A  
L: {FLD:AUDIO AIR CT}{FLD:AUDIO AIR CT}{FLD:AUDIO AIR CT}{FLD:AUDIO AIR CT}{FLD:A
```

Pure-Tone Audiometry:										
	0250	0500	1000	1500	2000	3000	4000	6000	8000	Hz
Air Conduction Thresholds:	{FLD:EDIT 40}									
R:	-	▼	-	▼	-	▼	-	▼	-	▼
L:	-	▼	-	▼	-	▼	-	▼	-	▼

Long Lines Problem (cont.)

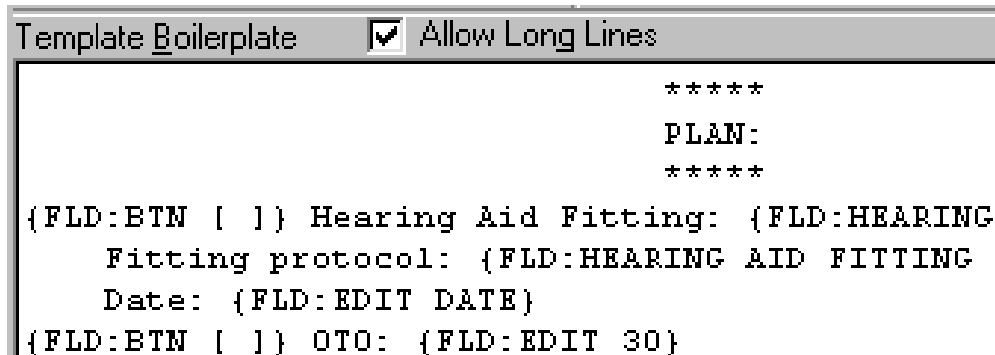
- Although the Allow Long Lines feature helps, RPMS restricts the maximum line length to 240 characters
- In the prior example, the line of text is 165 characters long, and repeats the same template field 9 times.
- The template field name being repeated (AUDIO AIR CT) is only 12 characters
- Template Field names can be up to 60 characters in length

Long Lines Problem (more)

- If the template field had been named AUDIO AIR CONDUCTION THRESHOLDS (31 characters), that line in the template would need to be 336 characters long (well past the 240 character limit).
- Care should be taken in naming template fields that may be needed multiple times on the same line.

Allow Long Lines

- To help with this problem, a check box has been added to the template editor to Allow Long Lines in templates. This allows up to 240 characters per line.
- This does not allow long text lines (text still wraps at 74 characters).



```
Template Boilerplate  Allow Long Lines
*****
PLAN:
*****
{FLD:BTN [ ]} Hearing Aid Fitting: {FLD:HEARING
Fitting protocol: {FLD:HEARING AID FITTING
Date: {FLD:EDIT DATE}
{FLD:BTN [ ]} OTO: {FLD:EDIT 30}
```

Spacing Issues

- Template dialogs and template fields are not always WYSIWYG (What You See Is What You Get).
- Indent Field and Indent Text can help, but they are not always enough.
- Some text items belonging to Button and Combo box Fields may need to be padded with trailing spaces, so that all text items in the list are the same number of characters in length.

Authorizing Field Creation

- Like Patient Data Objects, all Template Fields are shared (there are no personal template fields).
- If all users are allowed to create template fields, the list of fields could become too numerous to be useful.
- Some form of management or control of template fields may be needed, especially at larger facilities.

Difficulty Changing Names

- Like Patient Data Objects, Template Fields are linked to boilerplates only through special text.
- Field names must be unique so that the EHR can find the correct template field.
- Once a template field is assigned a name, it can be difficult to change that name without breaking boilerplates that use that template field.

Naming Conventions

- Naming conventions should be defined before beginning to use fields.
 - Name-spacing assignments. This can be site specific (essential for multi-divisional sites) and/or based on departmental or clinical functionality (e.g. AUDIO).
 - Other naming conventions may be useful that could provide more information to the user on a field's contents (e.g. appending (REQ) to the end of required fields).
 - Need to balance naming standard with long line and renaming difficulty issues.



Questions and Discussion