NATIONAL CANCER GRID
COLLABORATION FOR CANCER CARE

Koita Centre for Digital Oncology

NCG-KCDO EMR Requirement (NER)- Pain Management Module

(Version 1.0)

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FOREWORD

The National Cancer Grid (NCG) Electronic Medical Records (EMR) initiative has been well received by the NCG Hospitals and our community of healthcare professionals and stakeholders. The enthusiasm and support we have garnered for this initiative reflect a shared commitment to advancing cancer care through technology and collaboration.

As part of our ongoing efforts to enhance the EMR initiative, the pain management module has been developed. This module aims to streamline the process, providing clinicians with the tools they need to deliver optimal care to patients with cancer.

We share the pre-final version of the module and welcome feedback, suggestions and guidance from the healthcare professionals involved in treating patients with cancer, healthcare technology companies and providers. Your inputs will help develop EMRs with strong cancer care workflows which in turn will ensure better care, outcomes and value-based care for patients with cancer across India.

Dr C.S. Pramesh
Convener, National Cancer Grid
August 2024

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1. NCG EMR INITIATIVE OVERVIEW

The National Cancer Grid Koita Centre for Digital Oncology (NCG KCDO) launched an initiative to empanel Electronic Medical Records (EMR) vendors and help develop high quality EMR solutions that are appropriate for use in hospitals providing cancer care. This marks a significant milestone in the ongoing efforts to promote digital health and enhance cancer care across the country. Launched with the aim of standardizing and improving clinical practices in oncology, it is a collaborative approach involving leading healthcare institutions, clinicians, and technology partners.

In March 2023, NCG KCDO released the NCG EMR Requirements (NER) – a comprehensive set of EMR requirements needed for effective management of patients with cancer. The NER is a blueprint for the development and implementation of robust EMR systems which will serve general hospitals well, but are also tailored specifically for oncology practices. The NER document is a result of intense deliberations over several months between healthcare professionals involved in cancer care and technology experts, and is available as a digital public good at NCG-KCDO EMR Initiative.

To further support the development of the empanelled EMR systems, the NCG has developed detailed requirements and features in specific areas of oncology including radiotherapy, chemotherapy and surgical oncology. This document details the pain management requirements based on best practices developed at several leading NCG centres.

2. EMR FEATURE BUILDING

A. Pain Management Module Overview

Building on the features outlined in the NER (NCG EMR Requirement), the Pain Management Module is designed to streamline and optimize the treatment process for patients with cancer. The module is designed to enhance the quality, safety, and efficiency of the treatment within the NCG network, ultimately improving outcomes for cancer patients and advancing the field of oncology care.

Key features of the Pain Management module include:

2.1 Pain Characteristics: Documents the site, type, intensity, and duration of pain.

2.2 Quality of Life: Assesses the impact of pain on sleep, mood, and daily activities.

2.3 Current Medication and Treatment Plan: Lists medications being taken and plans for ongoing pain management.

2.4 Procedure Details: Documents the type of nerve block, drugs used, and imaging guidance.

2.5 Pre- and Post-Procedure Assessment: Includes vital signs and pain scores before and after the procedure.

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B. Methodology

The methodology used to build the pain management module within the NER (NCG EMR Requirements) document encompasses a systematic and collaborative approach, involving key stakeholders and leveraging best practices across NCG hospitals.

The pain management form is characterized into 3 parts:

PM- Part A: Pain Management Form-New - This section collects essential patient data including general details, diagnosis, pain score, treatment history, and consent.

PM- Part B: Pain Management Form-Follow Up - The section records previous assessment details and current treatment, including the type and location of pain, pain score, and any aggravating factors. Auto-populate fields from previous assessments to ensure continuity of care and enable accurate tracking of changes.

PM- Part C: Pain Management Form-Nerve Block - The section documents procedure details such as the type of nerve block performed, drugs used, and imaging guidance. Pre- and post-procedure assessments include vital signs and pain scores to monitor patient response and immediate complications.

3. PM- Part A: Pain Management Form- New

New Pain Management Form			
Sno	**Data elements**	**Clinician's Response**	**Remarks for Vendors**
1	**General Details**		
A	Case Number		
B	Name		Auto populate as per case no
C	Age		Auto populate as per case no
D	Sex		Auto populate as per case no
E	Diagnosis		Auto populate as per case no
F	Phone Number		Auto populate as per case no
G	Service	☐ OPD ☐ Ward	
H	Name of the Pain Physician		Add the doctors as per the facility
I	Surgery		Auto populate from EMR

J	Chemotherapy		Auto populate from EMR
K	Radiotherapy		Auto populate from EMR
L	Pre- Existing Chronic disease	☐ COPD ☐ Epilepsy ☐ Asthma ☐ HT ☐ DM ☐ IHD ☐ Others, Pls Specify___ ☐ None	Multiple Choice Possible
2	**Investigations**		
A	CBC		Link to EMR
B	RFT		Link to EMR
C	LFT		Link to EMR
D	Any other, Specify___		Link to EMR
3	**Pain Characteristics**		
A	Site		Open text box
B	Radiates to		Open text box
C	Type of Pain		Choose from the table below

Multiple choice possible	Single choice possible	Single choice possible	Single choice possible
☐ Burning ☐ Stabbing ☐ Dull Aching ☐ Numbness ☐ Pricking ☐ Shooting ☐ Spasmodic ☐ Tingling	☐ Localised ☐ Generalised	☐ Continuous ☐ Intermittent	☐ Breakthrough ☐ Incidental ☐ Spontaneous

D	Pain score		Please provide options from 0-10
E	Duration		Days/Weeks/Months
F	No of episodes of BTP		Please provide options from 0-9
G	Aggravating Factors	☐ After meals ☐ On movement ☐ Not related	Multiple choice Possible

		☐ On Swallowing ☐ Coughing ☐ Others	
H	Pain Pathophysiology	☐ Somatic ☐ Visceral ☐ Neuropathic ☐ Psychogenic	Multiple choice Possible
I	Pain Syndrome	☐ Head and Neck Cancer Pain Syndrome ☐ Post Mastectomy Pain ☐ Visceral Pain Syndrome ☐ Pelvic Pain Syndrome ☐ Skeletal Metastatis ☐ STS Pain Syndrome ☐ Bracheal Plexopathy ☐ Lumbosacral Plexopathy ☐ Post Thoracotomy Pain ☐ Post RT Pain ☐ Post CT Pain ☐ Phantom Limb Pain ☐ CRPS	Multiple choice Possible
J	Pain diagnosis	☐ Due to cancer ☐ Cancer Therapy ☐ Unrelated	
K	Click to add/View Pain Image		
4	**Quality of Life**		
A	Affected	☐ Sleep ☐ Mood ☐ Bladder ☐ Bowel ☐ Others ☐ None	Multiple choice Possible
B	Karnofsky Performance Scale	☐ >80% Normal activity with no special care ☐ 50-70% Unable to work but able to live at home ☐ <50% Needs Hospital Care	
C	Diagnosis Made By	☐ X-Ray ☐ CT	Auto Populate the reports as per the option selected. Multiple Choice Possible

		☐ Bone Scan ☐ Clinical ☐ USG ☐ MRI ☐ PET	
5	**Current Medication**	☐ Morphine ☐ Tapentadol ☐ Paracetamol ☐ Transdermal Fentanyl ☐ Codeine ☐ Transdermal Buprenorphine ☐ Tramadol ☐ Diclofenac ☐ Ibuprufen ☐ Others ☐ None	Multiple choice Possible
6	**Treatment Plan**		
A	**Opioid**		**Multiple Choice possible**

Drug Name	Dosage	Unit	Frequency
☐ Buprenorphine TD Patch		mcg	☐ 4 Hourly ☐ 6 Hourly ☐ 8 Hourly ☐ 12 Hourly ☐ OD ☐ 3 days ☐ 7 days ☐ SOS ☐ HS
☐ Codeine		mg	
☐ Buprenorphine		mcg	
☐ Morphine		mg	
☐ Fentanyl Transdermal Patch		mcg	
☐ Tapentadol		mg	
☐ Methadone		mg	
☐ Tramadol		mg	
☐ BTP dose of Morphine		mg	

B	**NSAIDS**		**Multiple Choice possible**

Drug Name	Dosage	Unit	Frequency
☐ Diclofenac		mg	☐ 4 Hourly

Drug Name	Dosage	Unit	Frequency
☐ Etoricoxib		mg	☐ 6 Hourly ☐ 8 Hourly ☐ 12 Hourly ☐ OD ☐ 3 days ☐ 7 days ☐ SOS ☐ HS
☐ Ibuprofen		mg	
☐ Aceclofenac		mg	

C	Paracetamol

Drug Name	Dosage	Unit	Frequency
☐ Paracetamol		mg	☐ 4 Hourly ☐ 6 Hourly ☐ 8 Hourly ☐ 12 Hourly ☐ OD ☐ 3 days ☐ 7 days ☐ SOS ☐ HS

D	Adjuvants

Drug Name	Dosage	Unit	Frequency
☐ Gabapentin		mg	☐ 4 Hourly ☐ 6 Hourly ☐ 8 Hourly ☐ 12 Hourly ☐ OD ☐ 3 days ☐ 7 days ☐ SOS ☐ HS
☐ Pregabalin		mg	
☐ Amitryptiline		mg	
☐ Nortryptiline		mg	

E	Laxatives	☐ Yes ☐ No	
F	Hyoscine	☐ Yes ☐ No	
G	Steroids	☐ Yes ☐ No	

H	Cyclopam (Dicyclomine)	☐ Yes ☐ No	
I	Bisphosphonates	☐ Yes ☐ No	
J	Baclofen	☐ Yes ☐ No	
K	Antiemetic	☐ Yes ☐ No	
L	Antacid	☐ Yes ☐ No	
M	Flupiritine	☐ Yes ☐ No	
N	Advice		Open text Box

4. PM- Part B: Pain Management Form- Follow Up

Pain Management Form- Follow up			
Sno	**Data elements**	**Clinician's Response**	**Remarks for Vendors**
1	**General Details**		
A	Case Number		
B	Name		Auto populate as per case no
C	Age		Auto populate as per case no
D	Sex		Auto populate as per case no
E	Diagnosis		Auto populate as per case no
F	Phone Number		Auto populate as per case no
G	Service	☐ OPD ☐ Ward	
H	Name of the Pain Physician		Add the doctors as per the facility
I	Surgery		Auto populate from EMR
J	Chemotherapy		Auto populate from EMR

K	Radiotherapy		Auto populate from EMR
L	Pre- Existing Chronic disease	☐ COPD ☐ Epilepsy ☐ Asthma ☐ HT ☐ DM ☐ IHD ☐ Others ☐ None	Multiple Choice Possible
2	**Previous assessment details**		
A	Site		Auto populate from new form
B	Radiates To		Auto populate from new form
C	Type of Pain		Auto populate from new form
D	Pain Score		Auto populate from new form
E	Duration		Auto populate from new form
F	Aggravating Factors		Auto populate from new form
G	Name of Nerve Block		Auto populate from new form
H	Date of Procedure		Auto populate from new form
I	Present Treatment		Auto populate from new form
J	Laxatives		Auto populate from new form
K	Hyoscine		Auto populate from new form
L	Steroids		Auto populate from new form
M	Cyclopam (Dicyclomine)		Auto populate from new form
N	Bisphosphonates		Auto populate from new form
O	Baclofen		Auto populate from new form
P	Antiemetic		Auto populate from new form
Q	Antacid		Auto populate from new form
R	Flupiritine		Auto populate from new form
3	**Change treatment**		
A	Do you want to change treatment?	☐ Yes ☐ No	
B	Pain Score		Please provide options from 0-10
C	Overall Pain Relief	☐ <30% ☐ 40% ☐ 50% ☐ 60% ☐ 70% ☐ >80%	

D	Drug Compliance	☐ Good ☐ Fair ☐ Poor	
E	Karnofsky Performance Scale	☐ >80% ☐ 50-70% ☐ <50%	
F	No of episodes of BTP		Please provide options from 0-9
4	**Investigations**		
A	CBC		Link to EMR
B	RFT		Link to EMR
C	LFT		Link to EMR
5	**New Pain**		
A	New Pain	☐ Yes ☐ No	If yes, Enable Rows from 5B till 5O
B	Site		Open text box
C	Radiates to		Free text box
D	Type of Pain		**Choose from the table below**

Multiple choice possible	Single choice possible	Single choice possible	Single choice possible
☐ Burning ☐ Stabbing ☐ Dull Aching ☐ Numbness ☐ Pricking ☐ Shooting ☐ Spasmodic ☐ Tingling	☐ Localised ☐ Generalised	☐ Continuous ☐ Intermittent	☐ Breakthrough ☐ Incidental ☐ Spontaneous

H	Pain score		Please provide options from 0-10
I	Duration		Days/Weeks/Months
J	No of episodes of BTP	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6	Please provide options from 0-9

		☐ 7 ☐ 8 ☐ 9	
K	Aggravating Factors	☐ After meals ☐ On movement ☐ Not related ☐ On Swallowing ☐ Coughing ☐ Others	Multiple choice Possible
L	Pain Pathophysiology	☐ Somatic ☐ Visceral ☐ Neuropathic ☐ Psychogenic	
M	Pain Syndrome	☐ Head and Neck Cancer Pain Syndrome ☐ Post Mastectomy Pain ☐ Visceral Pain Syndrome ☐ Pelvic Pain Syndrome ☐ Skeletal Metastasis ☐ STS Pain Syndrome ☐ Bracheal Plexopathy ☐ Lumbosacral Plexopathy ☐ Post Thoracotomy Pain ☐ Post RT Pain ☐ Post CT Pain ☐ Phantom Limb Pain ☐ CRPS	Multiple choice Possible
N	Pain diagnosis	☐ Due to cancer ☐ Cancer Therapy ☐ Unrelated	
O	Click to add/View Pain Image		
6	**Side Effects and Follow up**		
A	Side Effects	☐ None ☐ Vomiting ☐ Sedation/Drowsiness ☐ Constipation ☐ Hallucinations ☐ Pruritus ☐ Urinary Retention	

B	Please mention the advice		Open text box
C	Interim cancer treatment		Open text box
D	Follow up after	☐ 1 day ☐ 2 days ☐ 1 week ☐ 10 days ☐ 20 days ☐ 1 month ☐ 3 months	
E	Follow up date		Date to auto populate as per the option chosen
	End		

5. PM- Part C: Pain Management Form- Nerve Block

Pain Management Form- Nerve Block			
Sno	**Data elements**	**Clinician's Response**	**Remarks for Vendors**
1	**General Details**		
A	Case No		
B	Name		Auto populate as per case no
C	Age		Auto populate as per case no
D	Sex		Auto populate as per case no
E	Diagnosis		Auto populate as per case no
F	Phone Number		Auto populate as per case no
G	Service	☐ OPD ☐ Ward	
H	Name of the Pain Physician		Add the doctors as per the facility
I	Surgery		Auto populate from EMR

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J	Chemotherapy		Auto populate from EMR
K	Radiotherapy		Auto populate from EMR
L	Pre- Existing Chronic disease	☐ COPD ☐ Epilepsy ☐ Asthma ☐ HT ☐ DM ☐ IHD ☐ Others ☐ None	Multiple Choice Possible
2	**Procedure Details**		
A	Name of the Block	☐ Diagnostic Celiac plexus block ☐ Neurolytic Celiac Plexus block ☐ Glassopharyngeal Nerve block ☐ Mandibular Nerve Block ☐ Maxillary nerve block ☐ Stellate Ganglion block ☐ Sphenopalatine ganglion block ☐ Intercostal nerve blocks ☐ Superior hypogastric plexus block ☐ Ganglion impar block ☐ Neurolytic epidural block ☐ Subarachnoid Neurolytic Block ☐ Intrathecal morphine pump ☐ Epidural morphine ☐ Epidural steroids ☐ Lumbarsympathetic block ☐ Peripheral nerve blocks (Specify name of the nerve) ☐ Trigger Joint Injections ☐ Joint Injections ☐ Fascial plane blocks ☐ Other blocks (pls	

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		specify)	
B	Approach/Procedure		
C	Date of Procedure		
D	Performed By		
E	Assisted By		
F	Drug Used		
G	Concentration		
H	Volume (ml)		
I	Image Guidance	☐ USG ☐ Fluroscopy ☐ CT scan ☐ Landmark	
J	Contrast Used		
K	Volume (ml)		
3	**Pre-Procedure**		
A	Pulse/min		
B	BP mm/Hg		
C	Pain Score		Please provide options from 0-10
4	**Post Procedure**		
A	Pulse/min		
B	BP mm/Hg		
C	Pain Score		Please provide options from 0-10
5	**Immediate Complications**		
A	Immediate Complications		Open text box
6	**Status Change**		
A	Pre-Procedure Activity		
B	Post Procedure activity	☐ Worsened ☐ No change ☐ Improved	
		End	

6. Appendices

Appendix 1- Glossary of terms

Abbreviations	
NCG	National Cancer Grid
EMR	Electronic Medical Record
NER	NCG EMR Requirements
LEAP	Leading EMR Adoption Program
COPD	Chronic Obstructive Pulmonary Disease
HT	Hypertension
DM	Diabetes Mellitus
IHD	Ischemic Heart Disease
CAD	Coronary Artery Disease
CVA	Cerebrovascular Accident
TB	Tuberculosis
RFT	Renal Function Test
LFT	Liver Function Test
BTP	Breakthrough Pain
HS	At Bedtime
CRPS	Complex Regional Pain Syndrome
MDT	Multi-Disciplinary Tumor Board
EOLC	End of life care
LRTI	Lower Respiratory Tract Infection
URTI	Upper Respiratory Tract Infection

Appendix 2- NER Document

1. ncg-emr-requirements-ner.pdf (kcdo.in)