

Nurse Practitioner Outcomes: The Integration & Future Directions of The Liver Transplant NP

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Overview

- Define clinical outcomes
- Discuss the contributions of the NP role with liver transplant program at one year post-implementation.
- Define the NP role and scope of practice
- PEPPA Framework
- Describe the NP role responsibilities with liver transplant population
- Future directions

Clinical Outcomes

- An outcome is an end result of a treatment or intervention or a change in the health status of patients as a result of the care they receive.
 - Patient focused
 - Nurse or nursing focused
 - System focused

The NP's Contribution To Patient Care

- Enhance the continuity of patient care
- Emphasize chronic disease management & health maintenance
- Offer flexibility with care giving
- Facilitate the timely and comprehensive discharge plan for inpatients

The NP's Contribution To Patient Care

- Support practice linkages with primary care providers across Atlantic Canada
- Implement a holistic approach to care
- Provide opportunity for close clinical follow-up

The Role of The Nurse Practitioner



“Nurse practitioners are registered nurses with advanced knowledge, skill and education enabling them to provide leadership in the areas of health promotion, health management, as well as illness and injury prevention. Nurse practitioners work closely with clients, families and other health professionals to address complex health needs and manage acute and chronic illnesses, within a holistic model of care”

(College of Registered Nurses of Nova Scotia, 2011)

A NP's Keys To Success

- Individualized care & follow-up
- Evidence-based practice
- Patient teaching
- Promote education for nurses

Foundations of NP Practice

- The application of advanced nursing knowledge, skill & judgment.
- Defined within a collaborative practice model.
- The NP practices in accordance with the standards defined by the provincial college of nurses.

The NP Scope of Practice

- Establish a diagnosis
- Communicate a diagnosis to the client and health care professionals
- Perform procedures
 - Ex. Suturing, paracentesis

(CRNNS, 2011)

The NP Scope of Practice

- Initiate, order or prescribe consultations & specialty referrals
- Order & interpret screening & diagnostic tests
- Recommend, prescribe or reorder drugs, blood & blood products.

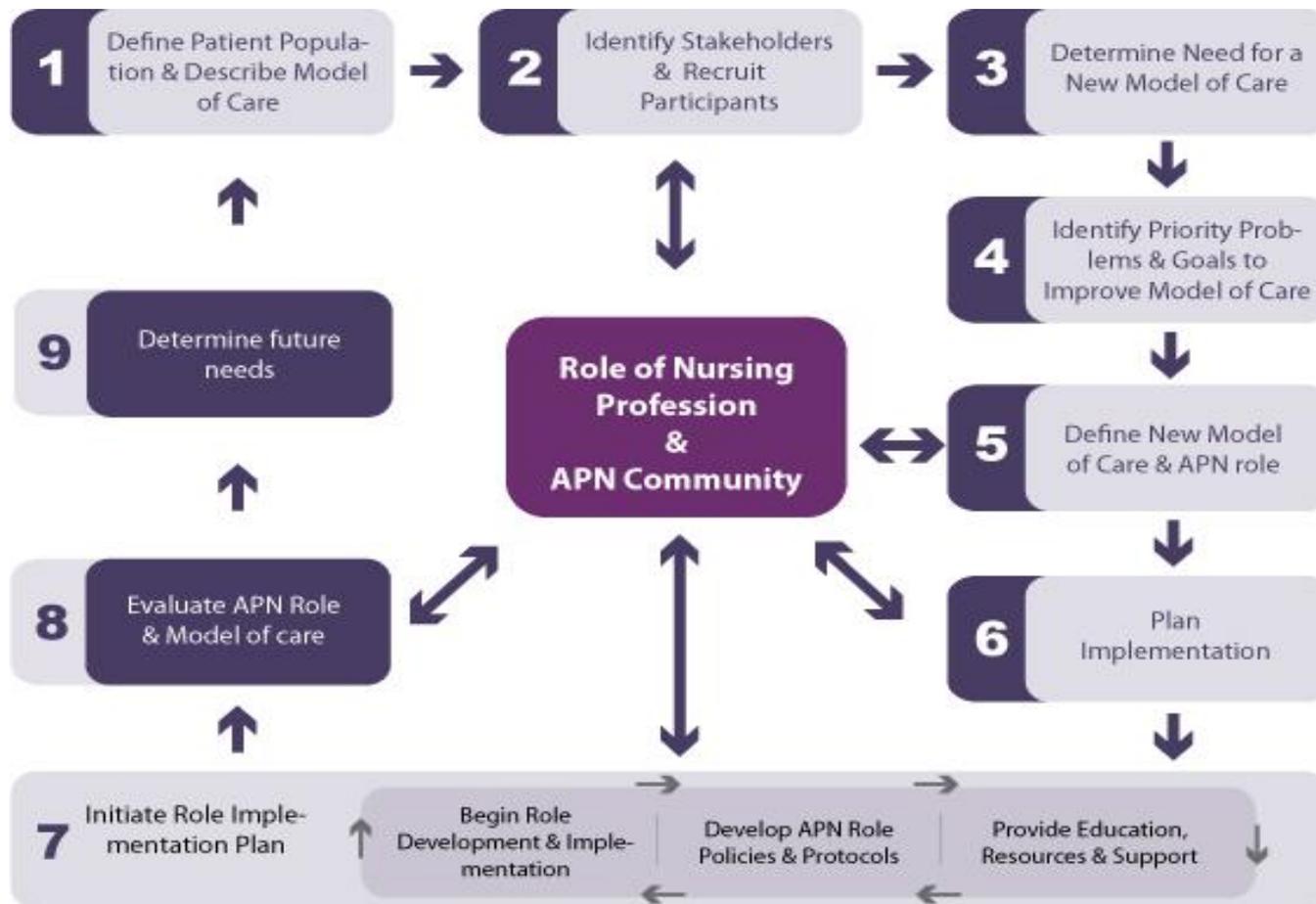
(CRNNS, 2011)

The NP Scope of Practice

- Research
- Education
- Consultation
- Management & administration
- Policy & system development

(RN Act, 2006)

The PEPPA Framework



Step #1: Define The Patient Population & Model of Care

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Step # 2: Stakeholders & Participants



Stakeholders

- Patients
- Family members
- Capital Health

Stakeholders

- Collaborative Practice Relationship:
 - 3 Transplant Surgeons
 - Dr. I. Alwayn
 - Dr. M. Molinari
 - Dr. M. Walsh
 - 2 Hepatologists
 - Dr. M. Laryea
 - Dr. K. Peltekian

Stakeholders

- Interdisciplinary Practice Relationships:
 - Nursing
 - Transplant Fellow & residents
 - Transplant Pharmacist
 - Psychologist
 - Dietician
 - Social Work
 - Physiotherapist
 - Family physicians & specialists

Step #3: Establish The Need For A New Model of Care

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Expanding Population

- 30 transplants on avg. / year
- pre- transplant evaluations: 48 patients
- 7 patients active on the waitlist
- post-transplant: 301 recipients

- Liver Transplant outcomes
 - 83% at 1 yr.
 - 75 % at 5 yr.
- Limited continuity of care
- High prevalence of Co-morbid chronic disease post-transplantation

Step # 4: Establish The NP's Priorities & Goals

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The Liver Transplant NP Practice Objectives

- To improve outcomes for the liver transplant population with respect to health maintenance & management of & co-morbid illness & chronic disease.
- To improve the continuity of care for liver transplant patients & their families.
- To facilitate the coordination of care among the multidisciplinary team members.
- To provide a holistic & primary approach to the care of liver transplant patients.

Step #5: Define A New Model of Care

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The Spectrum of NP Practice

Pre-Transplantation:

- Initial transplant evaluation
- Follow-up prior to transplantation

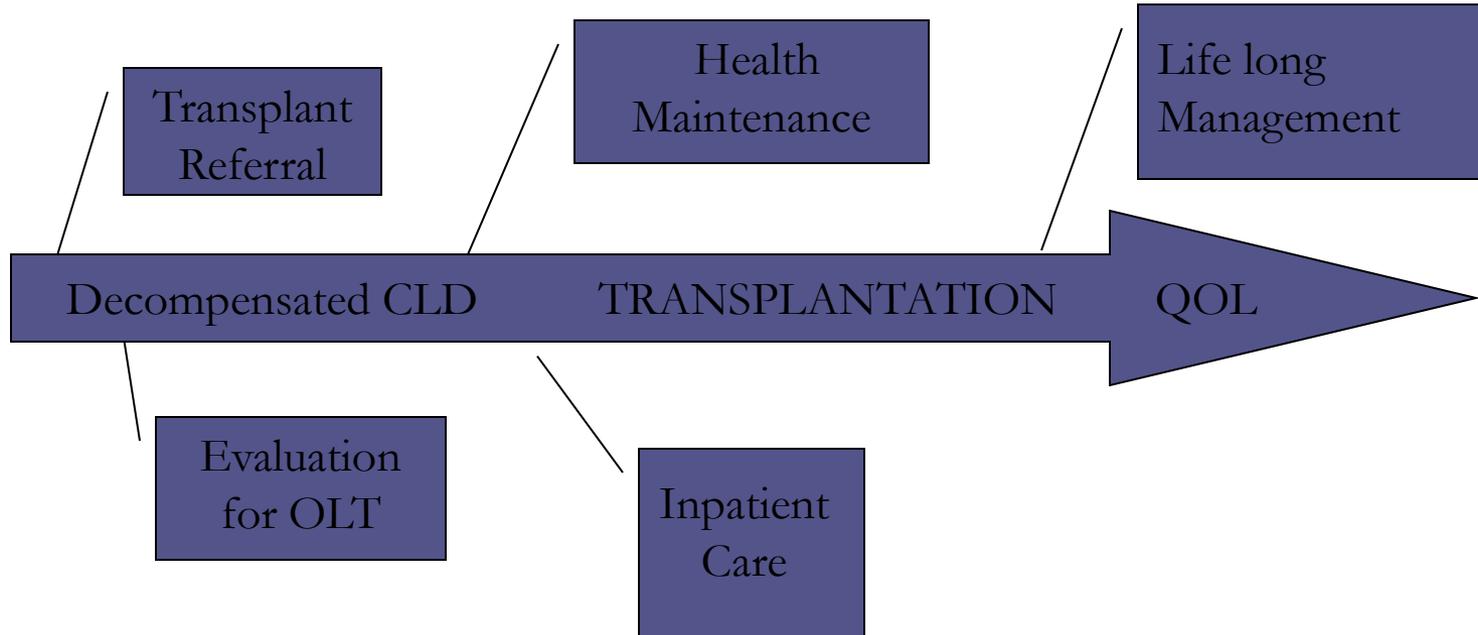
Inpatient:

- ICU
- Intermediate care
- Transplant unit

Post-Transplantation:

- Long-term
- outpatient ambulatory care

The Spectrum of NP Practice



The Roles of The Liver Transplant NP

- **Provider**
 - Medical management of end-stage liver disease patients & transplant recipients.
- **Collaborator**
 - Optimizing collaborative practice amongst the multidisciplinary team.
- **Liaison**
 - Enabling communication amongst team members.
- **Facilitator**
 - Coordination of care, services & supports.

Step #6: Implementation Planning



Preparation

- Staff exposure to the NP role at Transplant Atlantic in 2009
- Staff education sessions
- 2 month experience in London Health Sciences
- Staff survey

Step #7: Implementation

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Pre-Transplantation Evaluation

Referral for liver transplantation:

- Decompensated Liver Disease:
 - Ascites
 - Variceal bleeding
 - Hepatic encephalopathy
 - SBP
 - Hepatorenal syndrome

Listing & Follow-up

- **The Primary Goals:**
 - **To prevent further deterioration of ESLD**
 - Optimize diuretic therapy
 - Prophylaxis for hepatic encephalopathy
 - Prophylaxis for SBP
 - Esophageal / Gastric screening for varices
 - HCC screening
 - **To optimize physical, social, nutritional, mental & psychological domains of health for patients living with decompensated liver disease.**

Listing & Follow-up

- Facilitate a multidisciplinary approach to listing patients for liver transplantation:
- Counsel & identify supports for goal directed lifestyle modification.

Transplantation

- Primary Goals: To prevent & monitor for post-transplant complications.
- To monitor for early post transplant complications.
 - Technical complications associated with surgery
- To monitor for acute cellular rejection

Transplantation

- To monitor for infectious complications:
 - Nosocomial infections, wound infection, CMV, HSV.
- To manage co-morbidities non-infectious complications
 - Ex. Optimizing HTN, DM therapies

Transplantation

- Holistic Approach to Restoration of Health:
 - Pharmacological:
 - Monitoring & Titration of immunosuppression
 - Nutritional
 - Optimize caloric intake, supplementation as required
 - Social
 - Involve social supports, connect to community resources

Transplantation

- Holistic Approach to Restoration of Health:
 - Psychological
 - Facilitate coping with ongoing education, counseling & follow-up
 - Rehabilitative
 - Increase physical activity & facilitate independence

Post-Transplantation

- Primary Goal: To prevent long-term complications & and improve the quality of life for transplant recipients.
 - Outpatient follow-up:
 - Weekly for 2-4 weeks
 - Monthly for the first 1-3 months
 - Every 3 to 6 months
 - Annual

Post-Transplantation

- Outpatient Care:
 - Chronic disease management
 - Post Transplant Metabolic Syndrome
 - Laryea et. al (2007)
 - Approximately 58% of transplant recipients
 - 65% of transplantations have one co-morbidity
HTN, COPD, DM, CKD
 - 34% have a BMI > 30

Post-Transplantation

- **Outpatient Care:**
 - Compliance with immunosuppression regime
 - Chronic rejection
 - Disease recurrence
 - Focus on prevention & screening
 - Palliative care support

Step #8: Evaluation of The NP Role

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Evaluation

- Annual 360 degree practice evaluation
- Identify facilitators & barriers to role development
- Staff Survey

Facilitators of NP Role Development

- Carte Blanch
- Multidisciplinary team
- Educational opportunities
- Academic Centre
- Supportive team members

Barriers To NP Role Development

- Time constraints
- Fluctuating expectations
- Lack of devoted mentorship
- Inconsistent vision for the role
- Variable objectives for the NP

Step # 9: Determine Future Needs



Future Directions & Goals

- Outcomes Research:
 - NP impact on Metabolic Syndrome
 - HTN, DM, Obesity, Dyslipidemia
 - Osteoporosis prevalence, prevention & management

Future Directions & Goals

- Outcomes Research:
 - Smoking cessation
 - Patient satisfaction
 - Readmission rates

References

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Resources

- American Association For The Study of Liver Diseases: <http://www.aasld.org>
- Canadian Transplant Society: <http://www.cst-transplant.ca>
- Canadian Association For The Study of Liver Diseases <http://www.hepatology.ca>
- Canadian Liver Foundation: <http://www.liver.ca>
- Legacy of Life: <http://www.legacyoflife.ns.ca/index.html>

Thank You

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