

# *Christian Medical College Vellore*

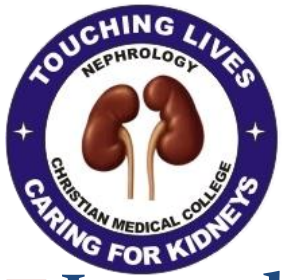




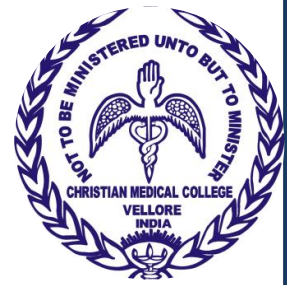
# Quality Indicators and Audits

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# Outline



- ❑ Introduction
- ❑ Quality Care Indicators
  - ❑ Why is it Important?
- ❑ Measuring the quality of renal care
- ❑ Shifting the Quality Paradigm
  - ❑ The concept of Quality Pyramid
- ❑ Clinical audit tools in Nephrology
- ❑ Conclusion



# Introduction



- ❑ Quality is clear and objective
  - ❑ An “adequate” amount of dialysis →  $Kt/V$ .
  - ❑ Anemia in Dialysis → Hematocrit and hemoglobin that are in specific ranges.
  - ❑ Ideal Vascular Access: Arteriovenous fistula.
- ❑ Evidence exists and supported: Kidney Disease Outcomes Quality Initiative (KDOQI)
  - ❑ Research data → Guidelines
  - ❑ Confirming → Certain standards that should be met
- ❑ **BUT IS THAT JUST ALL!**



# Introduction



- ❑ **Quality** → Subjective, Personal and Individual
  - ❑ QOL → “One Size Does Not Fit All”
- ❑ **Research** → Not very good at evaluating another person’s quality of life
  - ❑ *Difficult* → *To assess someone else’s situation!*
  - ❑ *Without allowing our own value judgments, experiences and circumstances to get in the way.*
- ❑ **QUALITY MEANS DIFFERENT THINGS TO DIFFERENT PEOPLE.....**



# Reality Vs Myth



- ❑ **Quality of care' or 'clinical performance'**
  - ❑ Cannot be put on a scales, measured with a tape or scanned with a device → Analyse its composition
- ❑ **NO direct measures of the quality of care** → unlike the human body → An abstract concept
- ❑ **To quantify this abstract concept** → Depend on measurable aspects of health care → Only Indication of its quality.
- ❑ ***Referred as 'quality indicators' or 'clinical performance indicators'***



# Monitoring of hemodialysis quality-of-care indicators: Why is it important?

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# Why is it Important?



- ❑ **CKD → Associated**
  - ❑ Increased mortality → Attributable to cardiovascular events.
- ❑ **In ESRD patients → Major Issue**
  - ❑ Optimization of dialysis quality and CV risk factors.
  - ❑ Monitoring of specific indicators → Mandatory
- ❑ **Relevant quality-of-care indicator → Two main features**
  - ❑ Associated with a lower risk of death
  - ❑ Attainment of the target → Medical practice changes.....





# Quality Care Indicators

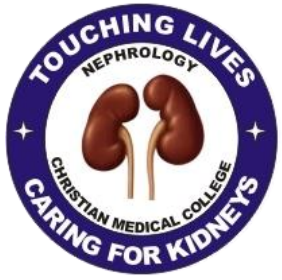


## ❑ Evidence Based Quality Care Indicators

- ❑ *Anemia Management*
- ❑ *Dialysis Dose Management*
- ❑ *Vascular Accesses Management*

## ❑ Non-Evidence Based Quality Care Indicators

- ❑ *Hypertension Management*
- ❑ *Nutrition Management*
- ❑ *Bone Metabolism*
  - ❑ *Calcium and Phosphorus, PTH and Vitamin D*
- ❑ *Middle Molecule Management*
- ❑ *Intradialytic Hypotension Management*



# Quality Indicators Recommended by KDOQI

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# Quality Indicators Recommended by KDOQI



TEST	WHAT IT CHECKS	KDOQI	EVIDENCE
Kt/V Dialysis dose	Dialysis dose	1.2 per Rx for HD, 1.7 per week for PD	Based on RCTs
URR	Dialysis Dose(HD)	At least 65% per Rx	
Hemoglobin	Anemia control	11 or greater	
Serum ferritin	Iron stores in body	200 (HD); 100 (PD)	
Transferrin saturation (TSAT)	Iron stores in body	At least 20%	Observational Cohorts Case-Control Studies Different Inclusion and Exclusion Criteria
Albumin	Nutritional health	4 or greater	
Blood pressure	Blood pressure control	< 140/90 pre-dialysis; < 130/80 on dialysis	
Total cholesterol/LDL/HDL/TGs	Heart health	Less than 200/100/40 or more/less than 150	



# Quality Indicators Recommended by KDOQI



TEST	WHAT IT CHECKS	KDOQI	EVIDENCE
B2 Microglobulin	Adequacy of Dialysis	60.1% for High flux Dialyser	<b>Observational Cohorts</b>  <b>Case-Control Studies</b>  <b>Different Inclusion and Exclusion Criteria</b>
Calcium	Bone health	8.4–9.5	
Phosphorus PTH	Bone health	3.5–5.5 2 to 9 times the normal	
Intradialytic Hypotension	Marker of Cor-Morbid Condtion	<12% during the dialysis study period	

## Quality of-care indicators

- Improve clinical practice → Highlighting center-specific weaknesses
- Prompting the establishment of corrective measures.

## Indicators

- Based on scientific evidence → Prioritized
- Others: HTN, LDL → Reviewed → DO NOT REFLECT ON PATIENT OUTCOMES



# Measuring the quality of renal care: Things to keep in mind when --- selecting and using quality indicators

Sabine N. van der Veer, Wim van Biesen, Cécile Couchoud.et.al  
Nephrol Dial Transplant (2014) 29: 1460–1467. doi: 10.1093/ndt/gft473



# What is a good quality program?



- ❑ **Case Mix of Indicators(Four)** should form a clinical set of Indicators  
Its not a single indicator but a combination of many!
- ❑ **Good Measurement Initiatives**
  - ❑ **Performance –Monitoring Initiatives By Registries, National Study Programs**→ CAHO, CKD Registry Study, India
    - ❑ Regularly review clinical performance based on a combination of indicators.
  - ❑ **Formative initiatives**→ **Quality Department of Hospital**
    - ❑ Focus on internal quality control, without external interference and improving care processes.
  - ❑ **Summative initiatives**→ **NABH, Indian Society of Nephrology**
    - ❑ Characterized by external judgement of care (by governments, payers, patients, etc.) linked to direct consequences for payment or reputation



# Types of Quality Indicators



□ Indicators should be grouped into four main categories

- ***The Perfect Quality Indicator Does Not Exist***
  - **Structure:** Characteristics of the healthcare setting that affect a system's ability to deliver care to a group of patients.
- ***No Good indicator covers all dimensions***

- A dedicated outpatient vascular access service
- The renal nurse-to-patient ratio
- Nutritional patient counselling programme in place
- **Process:** Refer to the care that is actually being delivered.
  - Timely performance of non-invasive ultrasonography of vessels in haemodialysis (HD) patients → Vascular access creation
  - Hepatitis B vaccination in seronegative patients

□ **Surrogate outcome:** Observed parameters → Clinical Correlates

- Bacteraemia in Tunnelled Catheters, Mortality, Anemia, PTH

- **Outcome indicators:** Patient Reported
  - Quality of life, Satisfaction of dialysis care



# What is a good quality program?



- ❑ Consider a “Causal Chain” → As a start
  - ❑ **CLINICAL PERFORMANCE INDICATOR SET**
    - ❑ Above indicators are connected by evidence-based links
      - ❑ Grading or Guidelines
      - ❑ Adequate case-mix adjustment, not only of (surrogate) outcomes, but also of process indicators.
- ❑ To obtain fair comparisons between facilities and within facilities over time
  - ❑ **Correct Interpretation of clinical quality measurements.**





# Current Literature



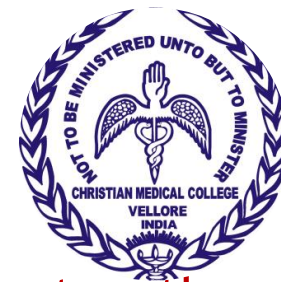
- ❑ **Which targets in Clinical Practise guidelines are associated with improved survival?**
  - ❑ **Individually:** Dialysis dosage (single-pool Kt/V), hematocrit, serum albumin, calcium, phosphorus, PTH for hemodialysis (HD) patients **was associated with improved survival** → **Observational studies.**
  - ❑ **In contrast to other parameters, BP values within the KDOQI guidelines have been associated with increased mortality.**
  - ❑ **Multiple Parameters** satisfying current guidelines, except those for **BP, is associated with improved survival among HD patients**

\*Which Targets in Clinical Practice Guidelines Are Associated with Improved Survival in a Large Dialysis Organization? Francesca Tentori, William C. Hunt, Mark Rohrscheib. J Am Soc Nephrol 18: 2377–2384, 2007. doi: 10.1681/ASN.2006111250

\*Variations and characteristics of quality indicators for maintenance hemodialysis patients: A systematic review. Kakuya Niihata<sup>1</sup>, Sayaka Shimizu, Yasushi Tsujimoto. Health Sci Rep. 2018;1:e89. <https://doi.org/10.1002/hsr2.89>



# Current Literature



- ❑ **Systematic Review 2018** :Inclusion of more process indicators than surrogate indicators would benefit.
  - ❑ **Process Indicators:** Useful for detecting changes in practice within a short period of time, that those most associated with relevant outcomes have been recommended for the assessment of quality of care → **SPARSE!!**
  - ❑ **Surrogate Indicators:** Intuitive and easy to understand, in practice, they often require long-term observation to detect changes.
  - ❑ **Improve Usability and Feasibility**
    - ❑ Consensus Process among stake holders
    - ❑ Process centred Indicators → Automatic recording with EMRs

\*Which Targets in Clinical Practice Guidelines Are Associated with Improved Survival in a Large Dialysis Organization? Francesca Tentori, William C. Hunt, Mark Rohrscheib. J Am Soc Nephrol 18: 2377–2384, 2007. doi: 10.1681/ASN.2006111250

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# Quality Measure for Dialysis Time for a Balanced Scorecard

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*Shifting the Quality Paradigm!*

**Nissenson AR: Improving outcomes for ESRD patients: Shifting the quality paradigm.**

**Clin J Am Soc Nephrol 9: 430-434, 2014**



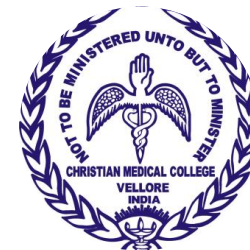
# *Shifting the Quality Paradigm!*



- ❑ Over Time → The overall quality of life for patients with ESRD
  - ❑ Substantially improved.
- ❑ **Narrow focus → ONLY ON basic indicators of care**
  - ❑ Dialysis adequacy, PTH, CKD-MBD and anemia: Consumed time and resources → **Biochemical/surrogate outcomes**
  - ❑ Resulting no significantly improved survival
    - ❑ Frequent hospitalizations
    - ❑ Dissatisfaction with the care experience
- ❑ A new quality paradigm → Move to → **Focus on more patient-centered care → Improve patient's Lives**
  - ❑ Technically complex and costly therapy they are receiving and paying



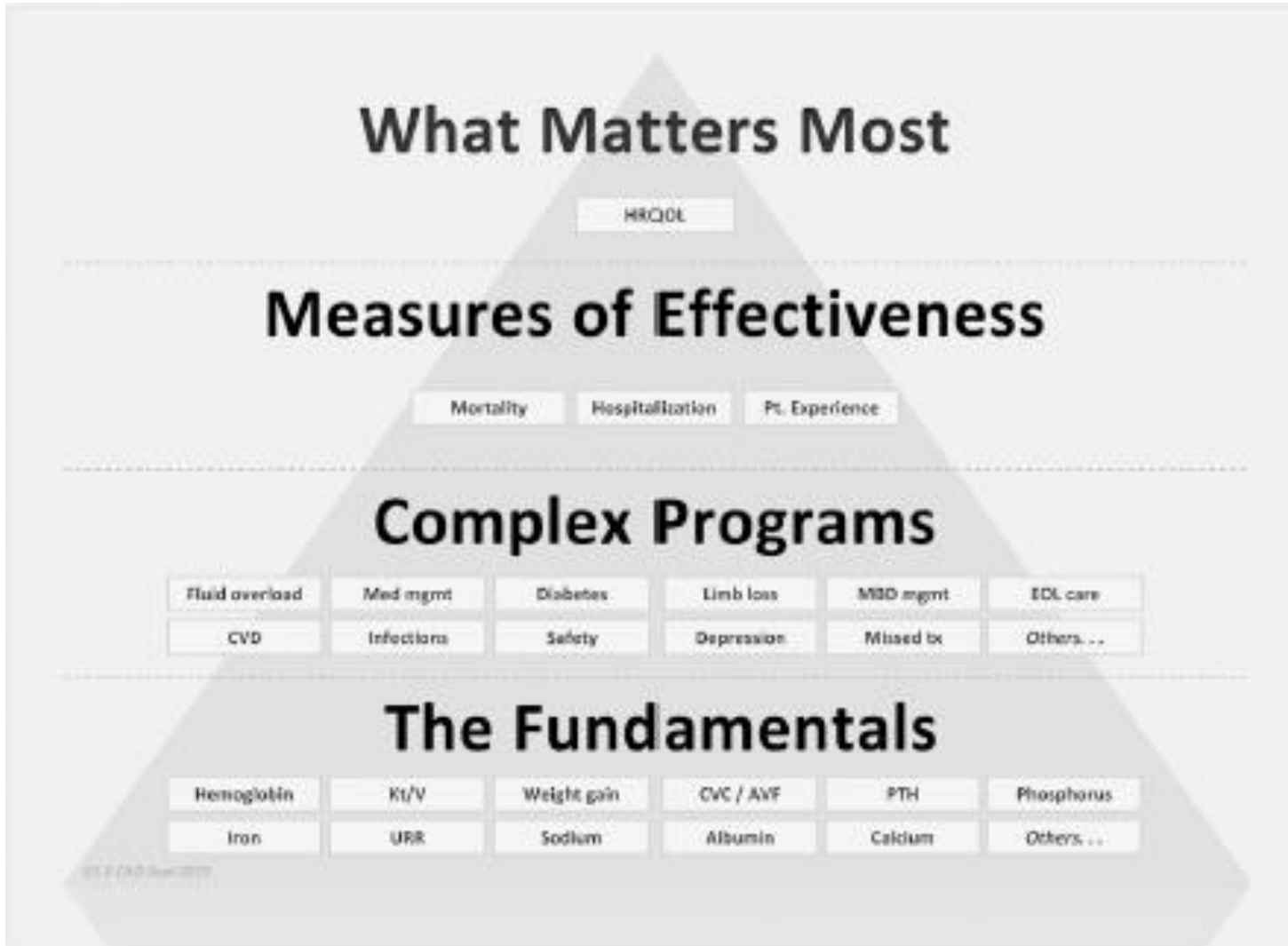
# Quality Pyramid



- ❑ In patients with ESRD
  - ❑ Quality improvement has been largely focused
    - ❑ **Proposes a quality pyramid**
- ❑ Base-measuring biochemical and surrogate data
  - ❑ *Not sufficient to drive the primary outcomes*
  - ❑ *Excessive focus on them → Reporting data and regulatory requirements.*
- ❑ Moving up in a pyramid
  - ❑ **Measures of Effectiveness:** Fluid management, infection control, diabetes management, medication management, and end-of-life care
  - ❑ **Outcome measures:** Mortality, hospitalization, and patient experience measures.
- ❑ **Top of the pyramid:** Health-related quality of life
  - ❑ **Matter most to patients!**



# The patient-focused quality hierarchy (the “quality pyramid”)





# An Indian Clinical Performance Indicator Set in Nephrology



## **Structure Indicator**

- Access to a nephrologist/physician*
- Availability of nearest Dialysis Centre*
- Renal nurse-to-patient ratio*
- Having nutritional patient counselling/support programme in place.*

## **Processes Indicator**

- Hepatitis B Vaccination*
- Education, Social and Psychological Support*

## **Surrogate Indicators**

- Adequacy of haemodialysis*
- Anemia, Ca, Po<sub>4</sub>, PTH, Albumin*
- CRBSI and AVF/Grafts Infections*
- Recurrent hospital Admission, Mortality*

## **Outcome Indicators**

- Quality of Life and Satisfaction of Dialysis*



# Clinical Audits

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*A valuable tool to improve quality care  
Application in Nephrology*





# Clinical Audit

- ❑ Continuous quality improvement process → Improve daily care.
- ❑ Consists → Three Components
  - ❑ A clinical outcome or a process → Well-defined standards
  - ❑ Established using the principles of evidence-based medicine.
  - ❑ Theoretical Standards with daily clinical practise → Improve Quality of Care
- ❑ Part of an expertise of each health care provider
  - ❑ Locally and Nationally

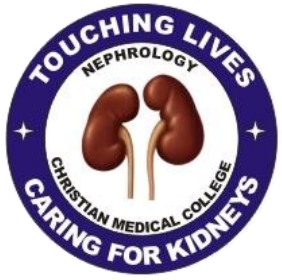




# Audit Tools In Nephrology



- ❑ **Various Audit Tools for a Dialysis Unit → Patient Centred and Non-Patient Centred**
  - ❑ AV Fistula/Graft Cannulation and Decannulation Audit Tools
  - ❑ Catheter Care and Exit Care Audit Tools
  - ❑ Dialysis Stations Disinfection Tools
  - ❑ Hand Hygiene Tools
  - ❑ Clinical Audit → Quality Indicators
- ❑ **Efficacy of the Clinical Audit → Systematic Review of the Cochrane Group**
- ❑ *“An effectiveness of an **audit** is likely to be **greater** when **baseline adherence** to recommended practice **is low** and when **feedback** is carried out with **greater intensity**”*



# Conclusion

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*If you don't know where you are going, you  
will*

*wind up somewhere else.*

*Yogi Berra.*



# Conclusion



- ❑ **Primary goal of clinicians and regulators**
  - ❑ Improve the lives of the patients afflicted with this devastating condition.
- ❑ **A Consensus Statement** on quality indicators with good measurement initiatives is the need of the hour.  
→ *Comprehensive Clinical Quality Care*
- ❑ **Quality Measure for Dialysis: Time for a Balanced Scorecard**
  - ❑ Clinical practice guidelines → Best published clinical evidence and expert opinion (Indian Based) → Indian Population
  - ❑ Clinical performance measures → Basis of above guidelines
    - ❑ **Yardsticks to measure quality of care**
- ❑ **Shifting the Quality Paradigm → Quality Pyramid**
  - ❑ Patient Focused Care



# Conclusion



- ❑ **What Matters Most?--- Improving the quality of the lives of pts!!**
- ❑ **Three Most Commons Answers when you ask patient what do you seek of want in ESRD!**
  - ❑ **“Living Better”**
  - ❑ **“A better life”**
  - ❑ **“Treat the whole me please”**



# Thank you

