NATIONAL RENAL HEALTH PROGRAM IN URUGUAY

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INTRODUCTION

Uruguay is a developing country with 3.241.003 inhabitants, 13.7% of whom are older than 65 years. So far, the Health System is dual (public and private) and give coverage for the total population of the country (around 50% each).
There's been a privileged established program for RRT for all patients with ESRD since 1981 with the financial support of the NFR. The Dialysis and the Renal Transplant Registry have accumulated data from the entire population in RRT program in the country. The prevalence of ESRD patients reached 916 patients per million populations (pmp) by December 2004.

Surveys for Populations at risk of Non-Communicable Disease

- Prevalence of **Hypertension** (SBP≥140 /DBP≥90 mm Hg) : 33-39%
- Prevalence of **Diabetes** in people 20-79 ys on whom a fasting glucose test was made was 8% (awareness of 1,6%)
- National Survey of Risk Factors for NCD according to the WHO STEPS approach (including serum creatinine measure) in Nov. 2006 for 2000 pop 20-64ys. The primary results have shown:
  - 30% tobacco use
  - 38% sedentary lifestyle
  - 60% overweight or obesity
  - 33% elevated cholesterol level
  - 1% without any risk factor

PREVENTION OF NCD in Uruguay

- Secondary Prevention Program on **Cardiovascular Disease** (2004) supported by NFR, for patients who have had a coronary by-pass or an Angioplasty.
  - Has included the free administration of statins, platelets anti-aggregates and anti hypertensive drugs
- Obligatory and National **Diabetes** Program
  - National Registry of diabetics patients (2005)
  - Free administration of diabetic medication (oral diabetes agents or insulin) and self monitoring of blood glucose test (2006)
- National campaign for Healthy **Nutrition** since 2005 has been in operation
- Reduction of **tobacco smoking** policy have included:
  - Restriction of tobacco publicity
  - Smoking ban in every public closed area

PREVENTION OF CKD in Uruguay

Program for Prevention and Treatment of Glomerulonephritis (PPTG) implemented in 1989 by the School of Medicine and the Uruguayan Society of Nephrology and made official by the PHM in 2000.

The analysis of its registry has shown:

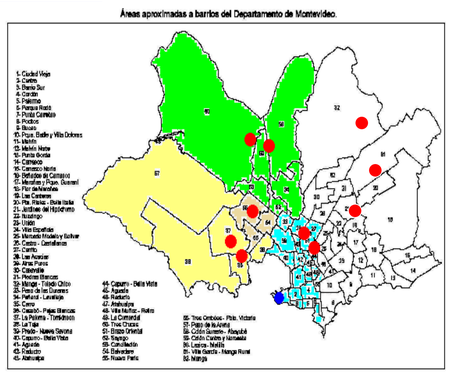
- Pt referral to nephrologists has been performed in the last years with less impairment of renal function and best control of blood pressure
- Pt in "clinical remission" increased to 22.1% (2000-2004)

RENAL HEALTHCARE PROGRAM

- The ISN-COMGAN Bellagio Study Group in 2004 were alerting the scientific community and policy makers of the global burden of CKD and the need of an Early Diagnosis and Prevention Program
- In 2004 after the Declaration of Montevideo Workshop (with the participation of the Subcommittee of Renal Health of the LASNH), the **RHP** was planned under the logical framework matrix, by nephrologists and the USN, in several meetings.
- A Renal Health Committee was made responsible for its implementation
- Its feasibility has been tried out through a Pilot Program
- GRANT of ISN Research Committee for Prevention of NCD in Developing Countries has stimulated its spreading in the country

RENAL HEALTHCARE PILOT PROGRAM

- Began in October 2004,
- Supported by the H.M. & N.F.R.
- Targeted the Public Healthcare attended population of Montevideo (275.000 pop ≥ 20 ys)
- With 2 nephrologists attending in 8 PHC
- Pt were referred by PCPs or directly from the laboratory
- Included a CKD Pt Registry with an electronic alarm to reduce drop out.
- Renoprotective drugs were assured
- Has been useful for testing the planned methodology.



NATIONAL RENAL HEALTHCARE PROGRAM (NRHP)

- GOAL: To improve Renal Healthcare of the whole population, and make sustainable and tenable the prevention of kidney diseases and the integral assistance of patients with kidney disease by the spreading of the Pilot Program to the whole country
- SPECIFIC OBJECTIVES:
1. To promote the education for renal care and healthy lifestyles in the general population to reduce exposure to CKD risk factors
2. To integrate the renal care into Primary Healthcare (renal care decentralization)
3. To promote early diagnosis of CKD in high risk population and timely referral to nephrologists
4. To optimize patients care in all stages of CKD
5. To prevent the high CV mortality in this population

OBJECTIVE POPULATION

- The Primary Prevention is directed towards the entire population
- The core of NRHP is through SECONDARY PREVENTION with the aim of including all patients with CKD stage I to V (previous to RRT) in a progressive way.

Is estimated at 7.2% by extrapolation from the CKD frequency in NHANES III study and adjusted to Uruguayan prevalence of dialysis patients.

ESTIMATED PREVALENCE OF CKD IN URUGUAY

	% CKD NHANES	Pop >19 years *	CKD (NHANES)	CKD (ESRD Pt) **	Prev % **
Stage I	3,3	2207442	72846	44290	2,17
Stage II	3	2207442	66223	40264	1,97
Stage III	4,3	2207442	94920	57711	2,83
Stage IV	0,2	2207442	4415	2684	0,13
Stage V	0,2	2207442	4415	2900	0,13
Total	11	2207442	242819	147849	7,23

* Census 2004. National Institute of Statistics
**by extrapolation from from NHANES III data and adjusted to Uruguayan prevalence of dialysis patients

NATIONAL RENAL HEALTH PROGRAM

- DIALYSIS AND TRANSPLANT PROGRAM → 0,12%
- QUALITY CARE OF CKD Stage IV → TERCIARY PREVENTION → 0,12%
- QUALITY CARE OF CKD Stage I -III → SECONDARY PREVENTION → 6,5%
- PROGRAM FOR PREVENTION OF CKD → PRIMARY PREVENTION

HIGH RISK POP:
HYPERTENSIVE PT
DIABETICS
OBESE, DYSLIPIDEMIA
RELATIVES OF DIAL PT

EDUCATIONAL PROGRAM

- GENERAL POPULATION
  * Education on healthy habits with the aim of reducing the prevalence of RF for NCD: HBP, Diab, CVD & CKD:
    - Giving up smoking
    - Healthy diet
    - Avoid sedentary lifestyle
  * Making Pts aware of the importance of taking an active part in their own care
- PRIMARY CARE PHYSICIANS & PHC TEAM
  * through educational courses & guidelines on RF management, screening for CKD for early diagnosis and referral

PROGRAM FOR PREVENTION OF CKD → PRIMARY PREVENTION → **Goal: reduction of the incidence of CKD by treating risk factors**

In coordination with diabetologists and cardiologists

RENAL HEALTHCARE

QUALITY CARE OF CKD Stage I -III → INTEGRATE THE RHC AT THE FIRST LEVEL OF ATTENTION: DESCENTRALIZATION

- **CREATION OF A RENAL HC TEAM** connected with the first level of attention (nephrologists and dietitian 2 hs x week each 10.000 pop ≥ 20 ys), that attend Pt referred :
  - by Primary-care Physicians
  - directly from the laboratory when
    - *e GFR < 60 ml/min/1.73m2*
    - *proteinuria >300 mg/day*
    - *microalbuminuria >30 mg/day in diabetic Pt*
- with a frequency of clinic visits depending on the CKD stage, in a reference counter-reference system 2 clinical visits each year in stable Pt
- Nephrologists:
  - Interact with PHC Team
  - Implement national guidelines for renal care
  - Make etiological diagnosis and treat reversible factors
  - Send Pt to Pre-dialysis Clinic when indicated

RENAL HEALTHCARE

QUALITY CARE OF CKD Stage IV → TERCIARY PREVENTION → THERE IS A PRE-DIALYSIS CLINIC

A Formal Multidisciplinary Team (1 hour per month every 10.000 pop ≥20 ys) committed to educate, give social and psychological support, and indicate the timely creation of the access for the selected dialysis modality.

• Integrated by:
- •Psychiatrist: facilitate the adaptation to illness and treatment
- •Dietitians: Assess nutritional status and perform the nutritional advice
- •Social worker: inform about available resources
- •Vascular surgeon: perform the access
- •Nurses: education, monitoring of lab work results, i/v iron administration, and primary prevention through a vaccination program with:
  - ***•INFLUENZA vaccine (annually)***
  - ***•PNEUMOCOCCAL vaccine (at 5 years intervals)***
  - ***• HEPATITIS B (3 double doses)***
- •Nephrologists:
  - •Assure RF control to diminish the progression to ESRD and CV morbidity
  - • treat the uremia complications
  - • indicate the timely creation of the access, and initiation of RRT

CREATE A SYSTEM TO REDUCE DROPOUT AND ASSURE ADHERENCE TO MEDICATION

a Clinical Coordinator of CKD Registry in each private institution or Administrative Region will be responsible for:

- Keeping a longitudinal electronic CKD Registry (centralized in the NFR) with data of the first and subsequent controls
- Calling up Pts when the Alarm System informs that they miss an appointment

Assure long term adherence to medication and follow up control through easy access to

- Antihipertensive & antiproteinuric drugs (ACEIs &/or ARBs) and Statins
- Nephrologists and Nutritionists controls
  - 2 / 3 visits per year for stages I –III / IV-V
- Urine and Serum Creatinine assays
  - 2 / 3 measures per year for stages I - III / IV-V

STANDARDIZATION OF SERUM CREATININE ASSAY

Reliable serum Creatinine measurements in GFR estimation are critical to ongoing global public health efforts to increase the diagnosis and treatment of CKD

- Will be carried out by the **Committee for Standardization and Quality Control** that provides external control to the Clinical Laboratories of the country, and was encouraged to:
  - In coordination with a reference laboratory of the region, to make the calibration of the Cr assay to a traceable isotope dilution mass spectrometry (IDMS), with the reference material SRM 967 released by the NIST according to the NKDEP Lab. Working Group and aligned with ISN Research Committee.
  - To Implement this methodology a meeting with the participation of
    - all the clinical laboratories of the country
    - the Director of the Reference Laboratory
    - The Renal Healthcare Committee
    - PHM delegates

    was held last week in Montevideo to set the Program.
  - The standardization will be performed every 6 months

Recommendations for laboratories are: use MDRD4 variable equation
Report as >60 the GFR above 60 mL.Min -1. 1.73m2

STRATEGY FOR GENERALIZATION AND SUSTAINABILITY OF NRHP

- A National and Integrated Healthcare System will be implemented in the next years with the inclusion of the NRHP as part of a NCD Program
- Until then the sustainability will be provided by PHM and NFR
  - In Montevideo (capital city)
    - Public System is already included
    - Private institutions must sign an agreement with NFR
  - In the other administrative regions is required:
    - A previous consensus of the authorities from public and private institutions to pool resources
    - Secondarily sign a contract of agreement with NFR

AGREEMENT:
• NFR will be committed to give electronic support to the Registry, provide the teaching materials
• RHP Committee will provide: Clinical Guides to PCPs (Identification, Evaluation and Management of patients with CKD); E.P. for Coordinators of the CKD Registry, PCPs
• Health Institutions will assure the human and economical resources for the implementation of the program, including the integration to the registry and the laboratory external quality control

PROGRAM EVALUATION

- Carried out by RHC
- According to
  - Structure Indicators
    - weekly nephrology attendance hours
  - Process Indicators
    - N of Pt treated with ACEI's, ARB's, or statins,
    - N of new Pt by month
  - Outcome Indicators
    - Quality of control indicators
  - The Impact of the Program
    - delay of progression: decrease in the Inc of ESRD
    - decrease in the occurrence of CV events