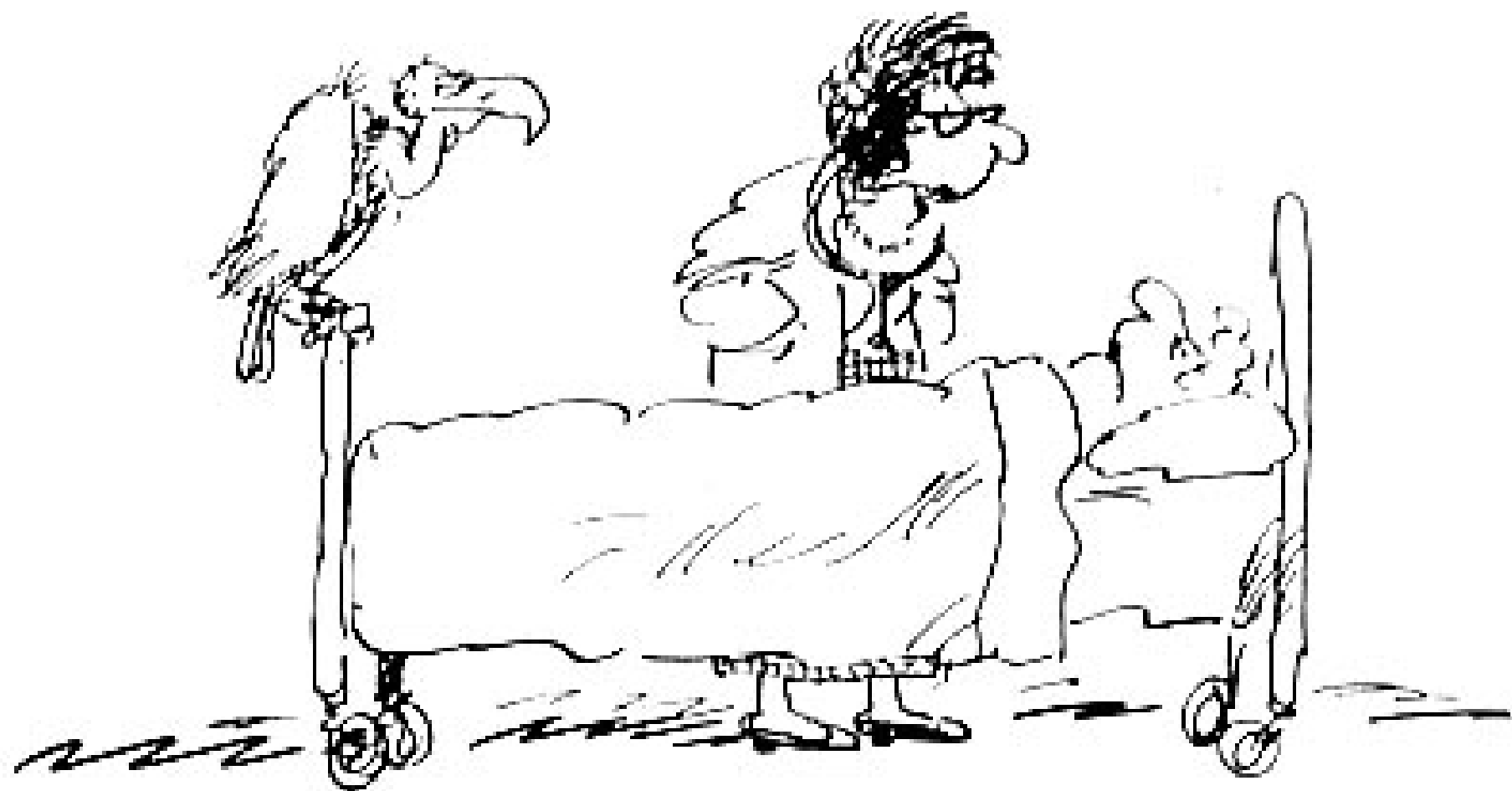


Update on Heart Failure

Ken McDonald
Director, Heart Failure Unit
St. Vincent's University Healthcare
Group





“Well, it’s not a good sign, that’s for sure ...”

Modern-Day HF Care

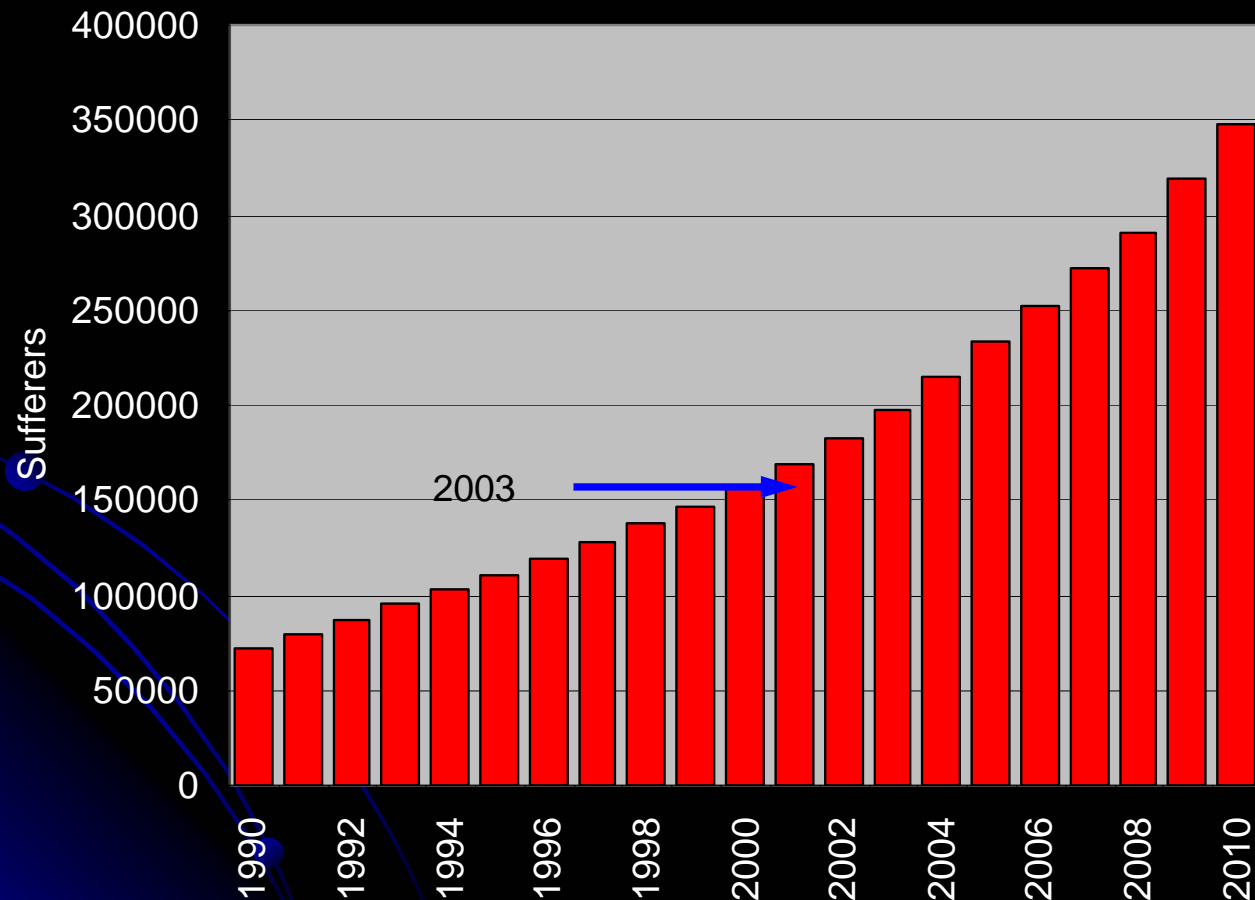
- Complex Syndrome
 - Polypharmacy
 - Multiple Drugs : which, when and for whom?
 - Comorbidities
 - Interact with Drugs and Disease
 - Expanding Interventions
 - AICD, CRT, Revascularisation, MV Surgery / Tx
 - Prevention:
 - Critical Development

Heart Failure Care

- Do we need to change present approach?
 - Epidemiology
- The “Ideal Model”
 - New Patient Assessment
 - BNP / Open Access Echocardiography
 - Drug Titration
 - Beta Blocker Titration
 - Clinical Deterioration
 - Heart Failure Unit / GP function as A / E Dept
 - Annual Review
 - Patients change phase of natural history: / change approach
 - Prevention
 - THE HOLY GRAIL

Epidemiology of Heart Failure

160,000 total (80,000 with HF and 80,000 with asymptomatic disease HF) in 2003



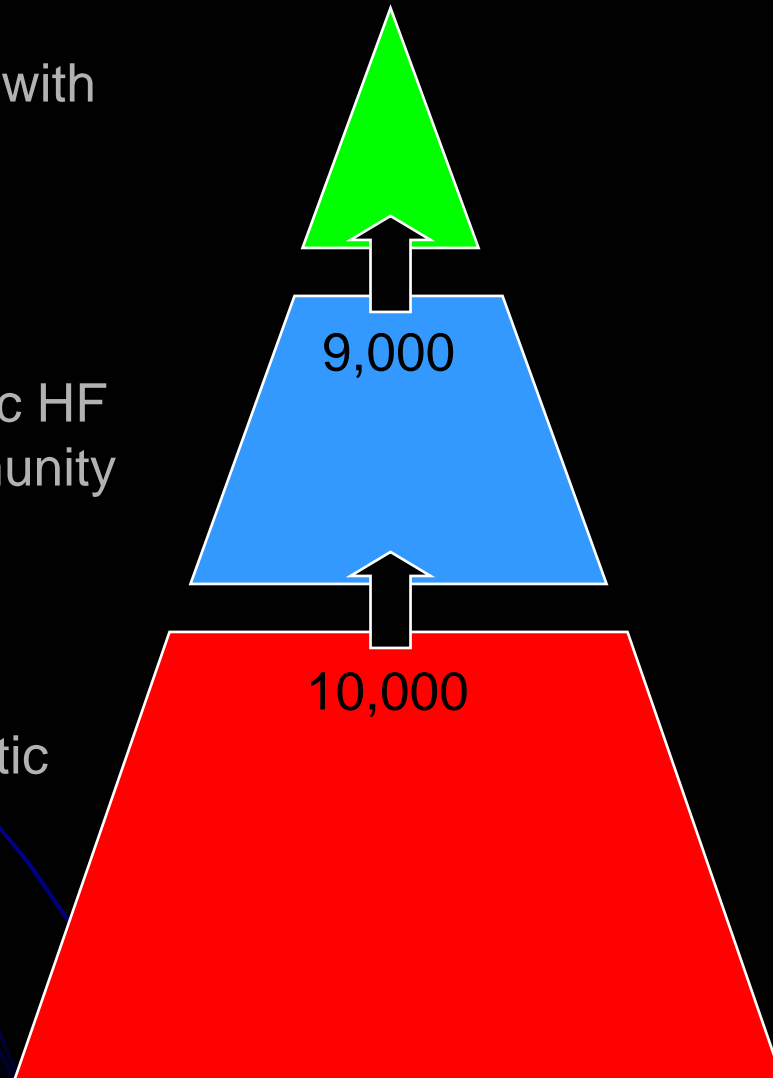
The Heart Failure Problem

- 160,000 people in Ireland

HF patients with
a history of
admission

Symptomatic HF
in the community

Asymptomatic
Ventricular
dysfunction



12,000 – Sick HF

68,000 – Stable HF

80,000 – Impending
HF

Present Day Approach

Rehabilitation Advice

- Beta Blocker use
- ACEI dose

- No opportunity to titrate ACEI therapy

Rehabilitation Advice

Community Nursing

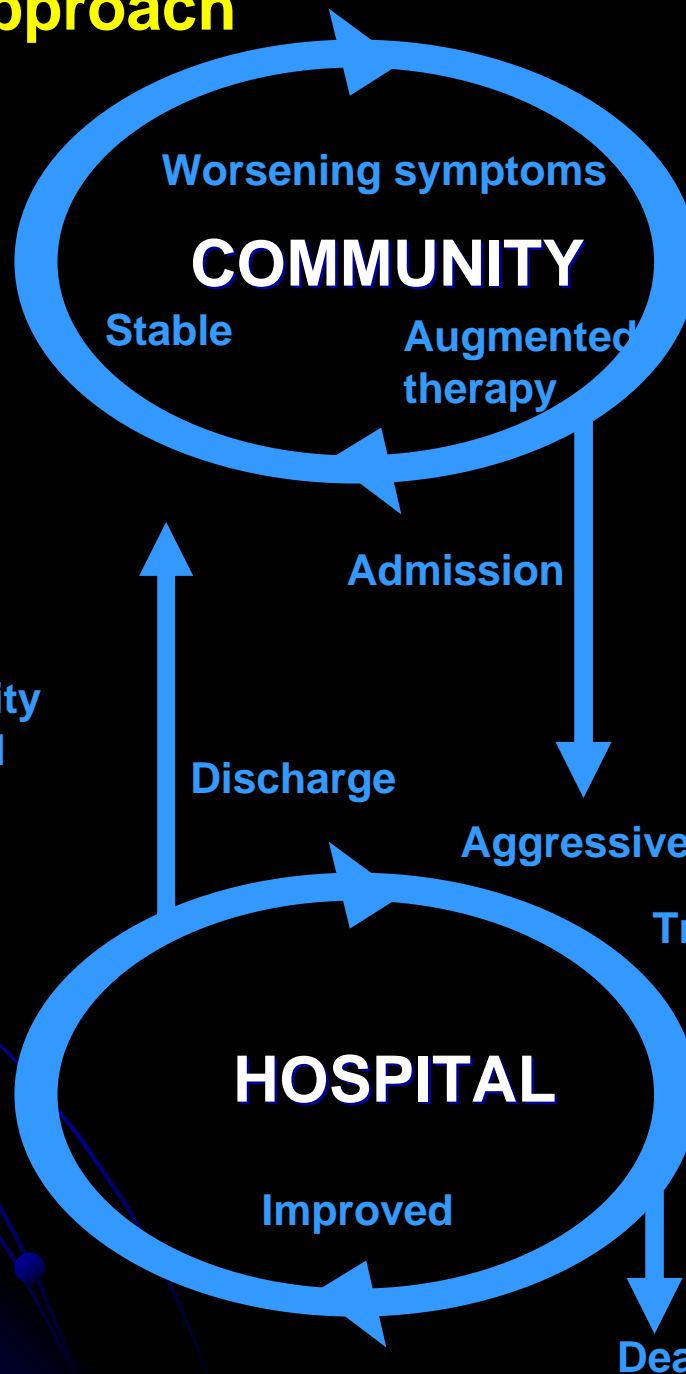
Carer Involvement

- Elderly: major cause of hospitalisation
- Mean hospital stay 10-15 d
- 30% readmission rate

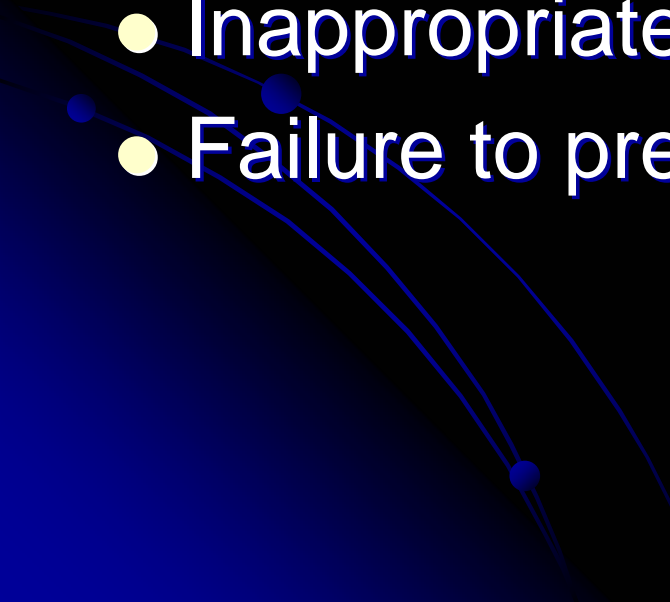
Treat cause (infection, A.Fib. etc.)

Education

Dietary Advice



New Patient Diagnosis

- Difficult
 - 30% accuracy
 - Misdiagnosis in both directions
 - COPD
 - Inappropriate Therapy
 - Failure to prescribe Appropriate Therapy
- 

What is Needed at Outset?

- Confirmation of Diagnosis
- Pathophysiology of HF
 - Normal (aka Diastolic HF) or reduced EF
- Aetiology of Heart Failure
 - Ischaemia
- Education
 - Patient / Family Management
- Initiation of Appropriate Therapy
 - ACEI / BB/ ARB

Best Approach:

Open Access Echo or New Patient Clinic?

- Open Access Echo?

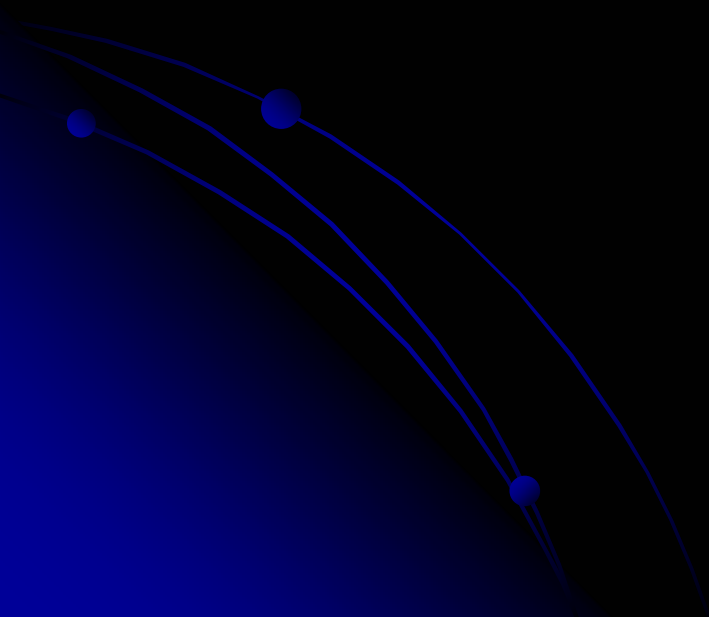
- Echo doesn't diagnose HF
- Preserved EF or Diastolic HF (not reliably reported)
- No ancillary services

- New Patient Clinic?

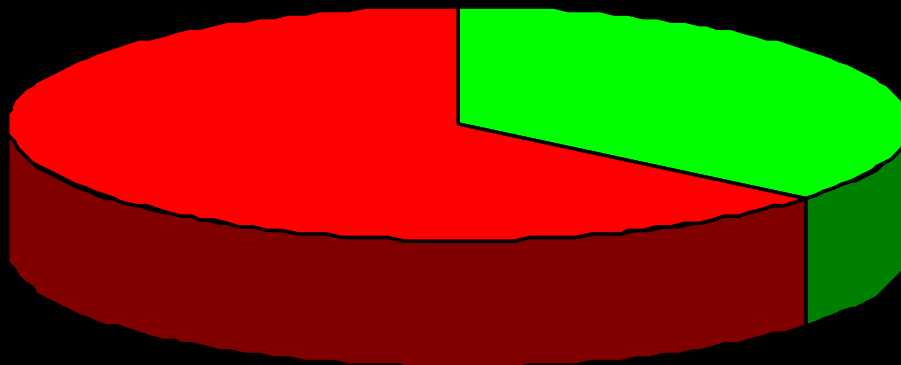
- Clinical Assessment
- BNP
- Echo if BNP > 100 pg / ml
- Arrange Investigations
- Initiate Therapy and Educate

Best Approach: New Patient Clinic?

- New Patient Clinic?
 - Clinical Assessment
 - BNP
 - Echo if BNP > 100 pg / ml
 - Arrange Investigations
 - Initiate Therapy and Educate

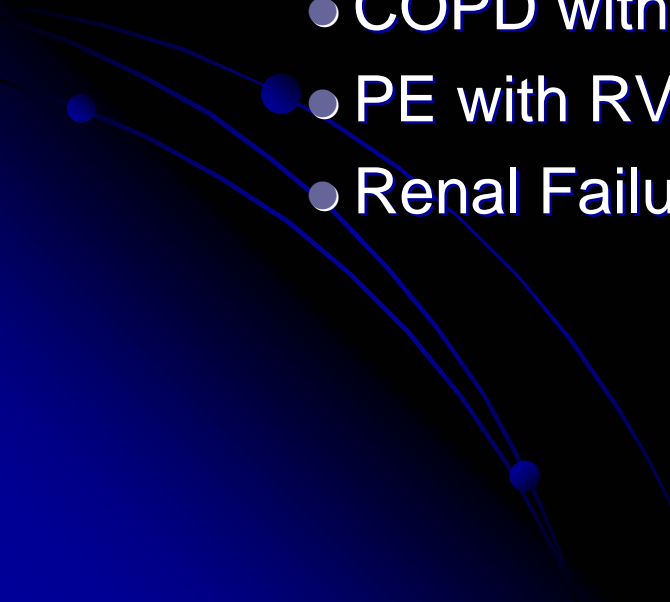


Diagnostic Accuracy



■ Accurate
■ Inaccurate

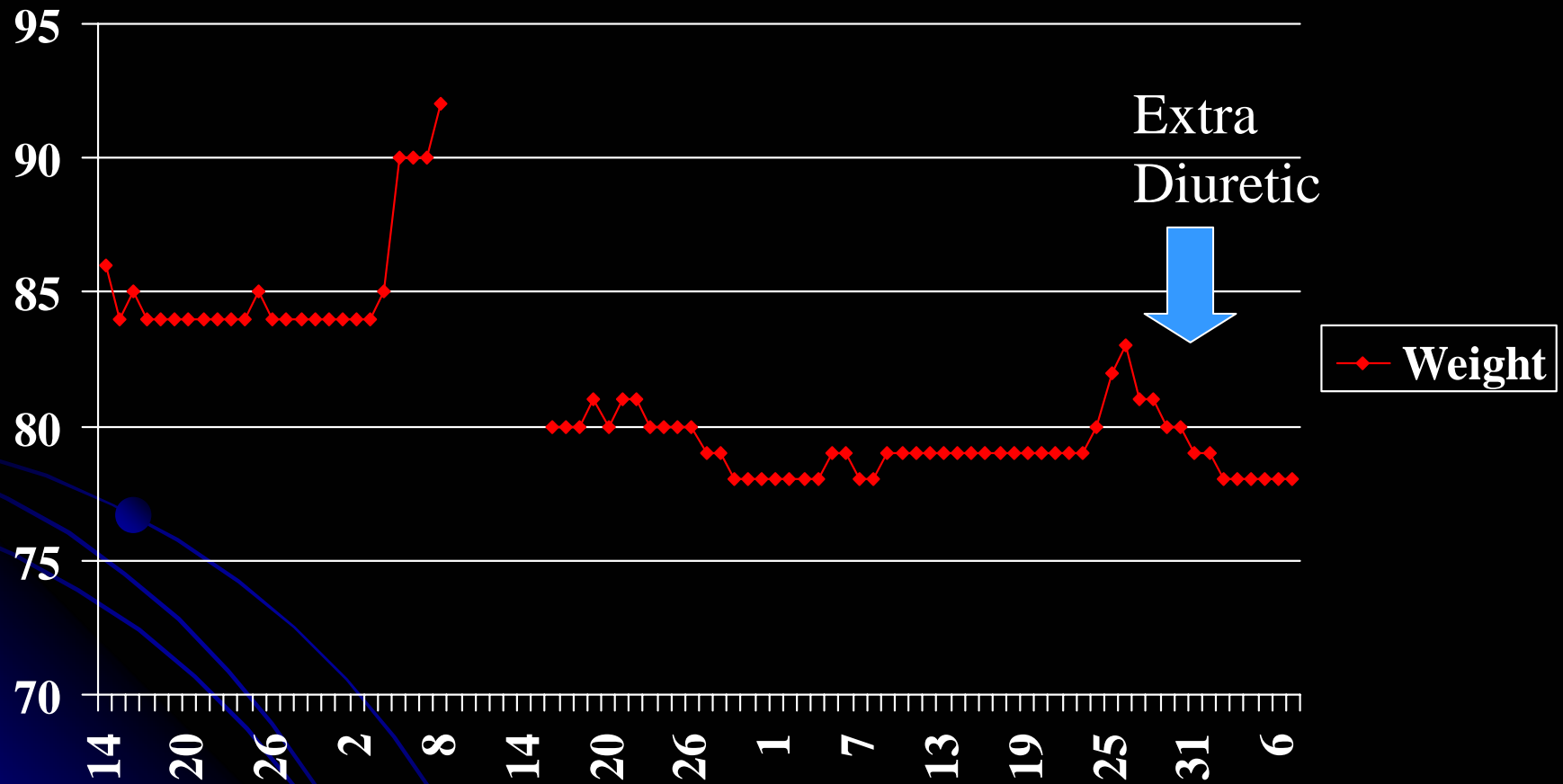
Ideal World

- GP Triage with BNP
 - Refer $\text{BNP} > 100 \text{ pg / ml}$ to HF Clinic
 - Not all high BNP = HF
 - Not specific
 - COPD with RV Strain
 - PE with RV Strain
 - Renal Failure
- 

Clinical Deterioration

- Early warning and Intervention can abort possible admission
 - Essential Component of HF care
- Patient and Family Education
 - Need to know when to contact
- Responsive GP and HFU
 - Same day (telephonic + / - review)

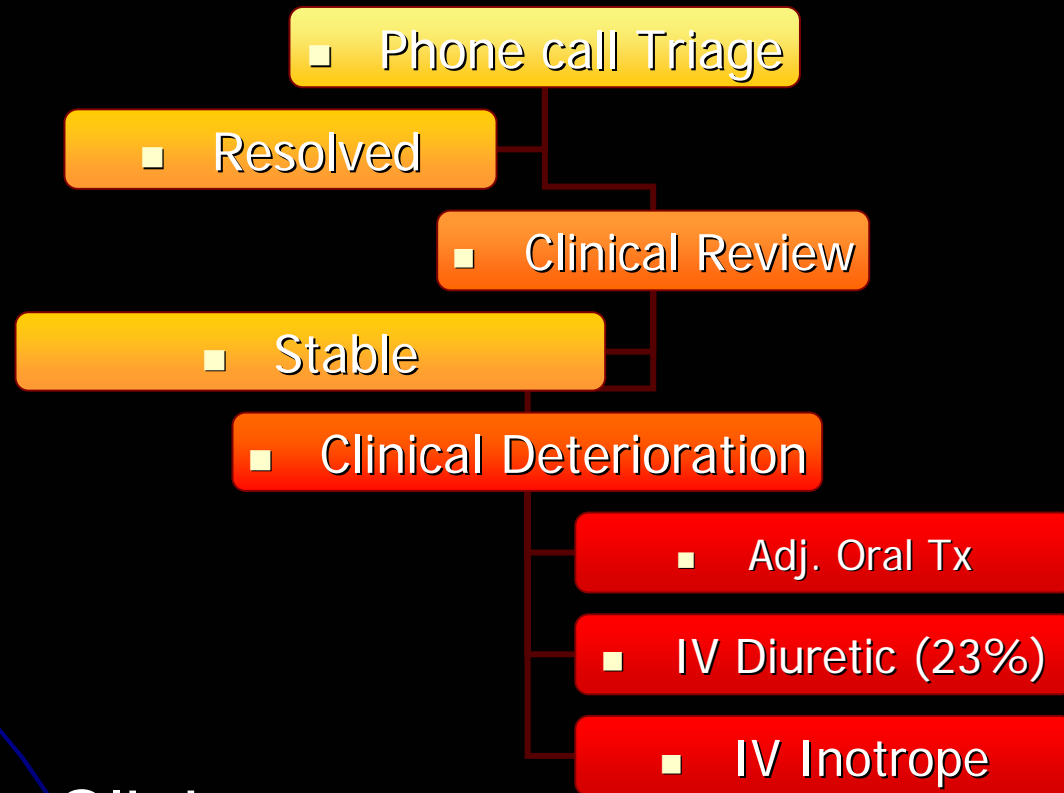
Control of Early Deterioration



Results: Sensitivities and Specificities

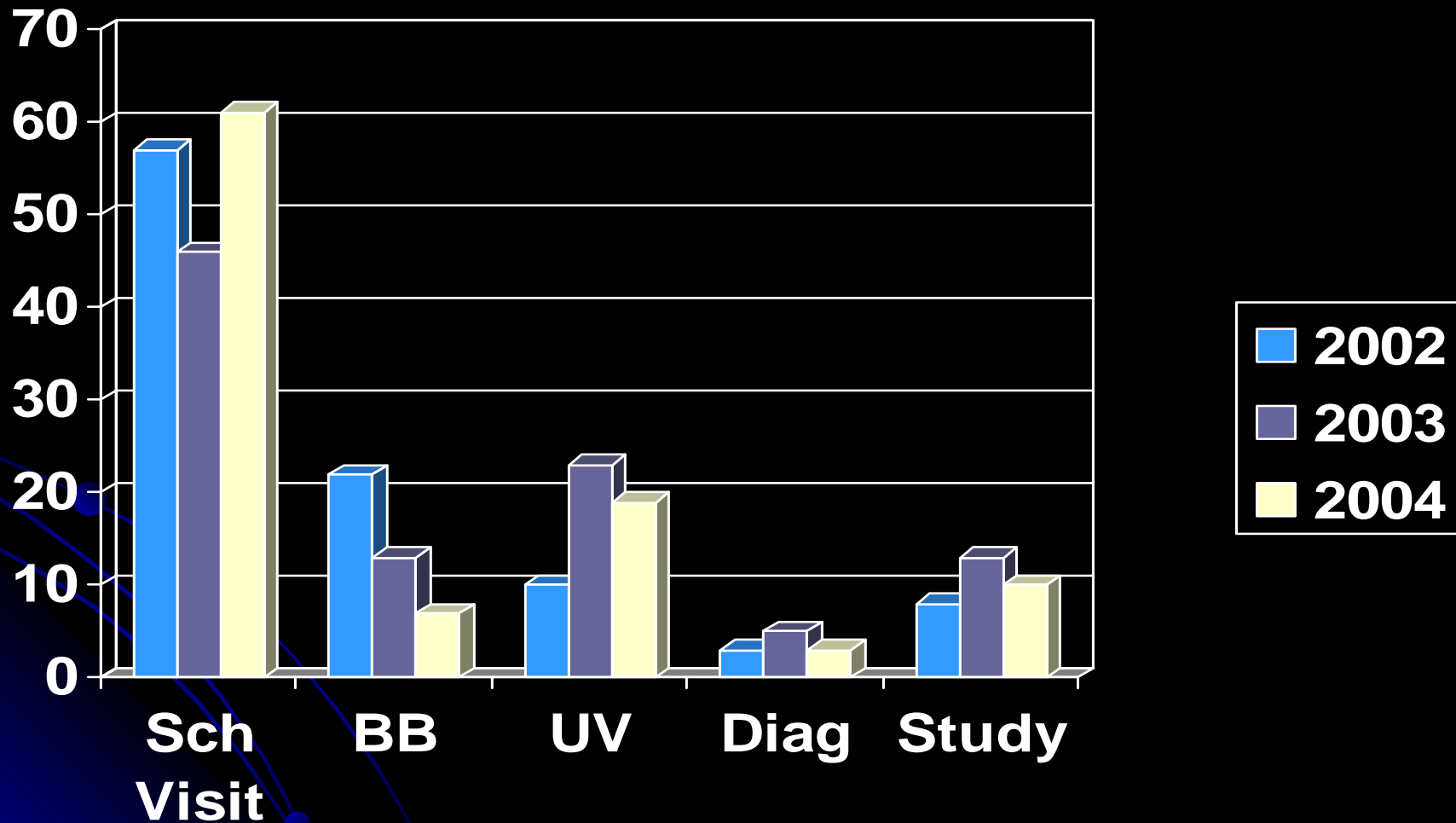
Change Thresholds:	Sensitivity (%)	Specificity (%)
Weight: ≥ 1 kg	33	91
Weight: ≥ 2 kg	9	97
Weight: ≥ 1 %	41	84
Weight: ≥ 2 %	17	94
BNP: ≥ 25 pg/ml	65	53
BNP: ≥ 100 pg/ml	47	77
BNP: ≥ 200 pg/ml	41	88
BNP: $\geq 25\%$	61	58
BNP: $\geq 100\%$	38	82
BNP: $\geq 200\%$	23	94

The A / E Function of Heart Failure Service (n=360 / 6mths)



95% stabilised at Clinic
5% Admitted to Hospital

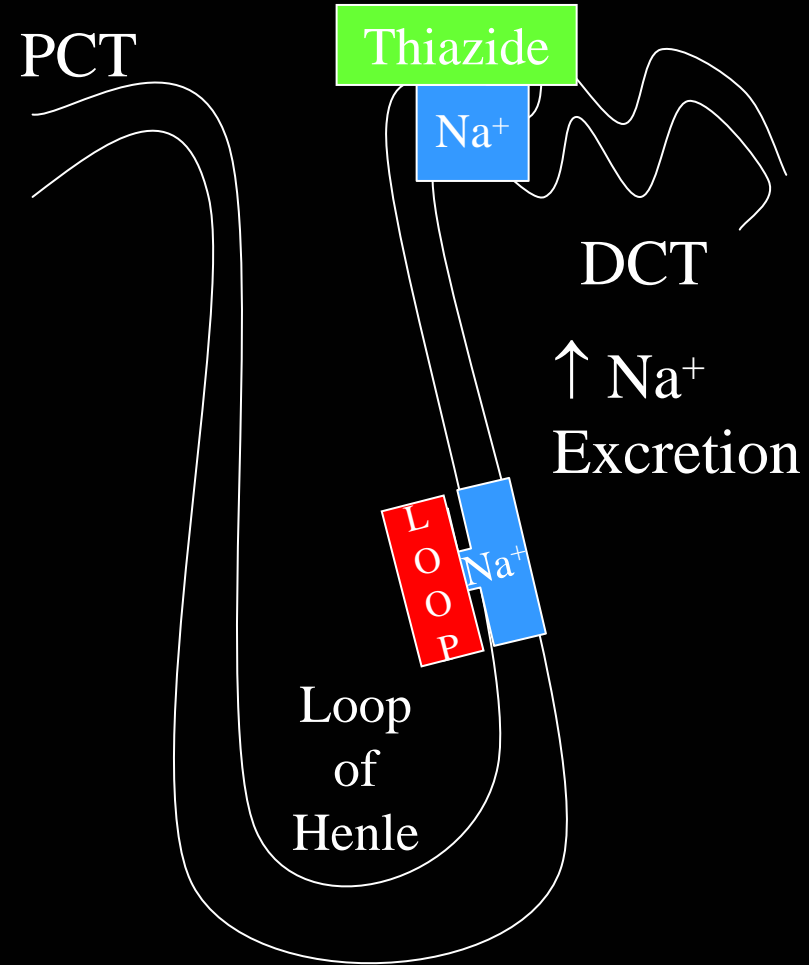
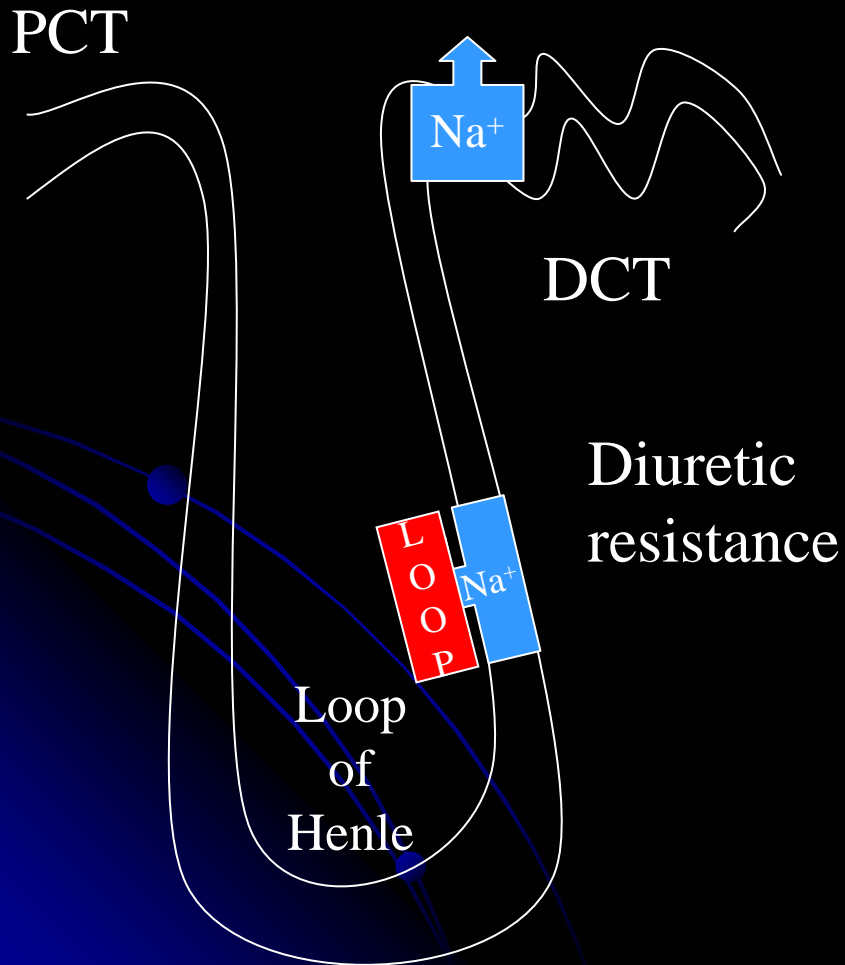
Workload Pattern (%) Jan-July (1700 contacts approx)



Menu of Options

- Oral Diuretic Therapy
 - Increase loop; Change loop (bumetamide)
 - Combination Nephron Blockade
- Nitrate Therapy
 - Diuretic Sparing (renal dysfunction; PND)
- Intravenous Diuretic
- Inotrope or Inodilator

Sequential Nephron Blockade



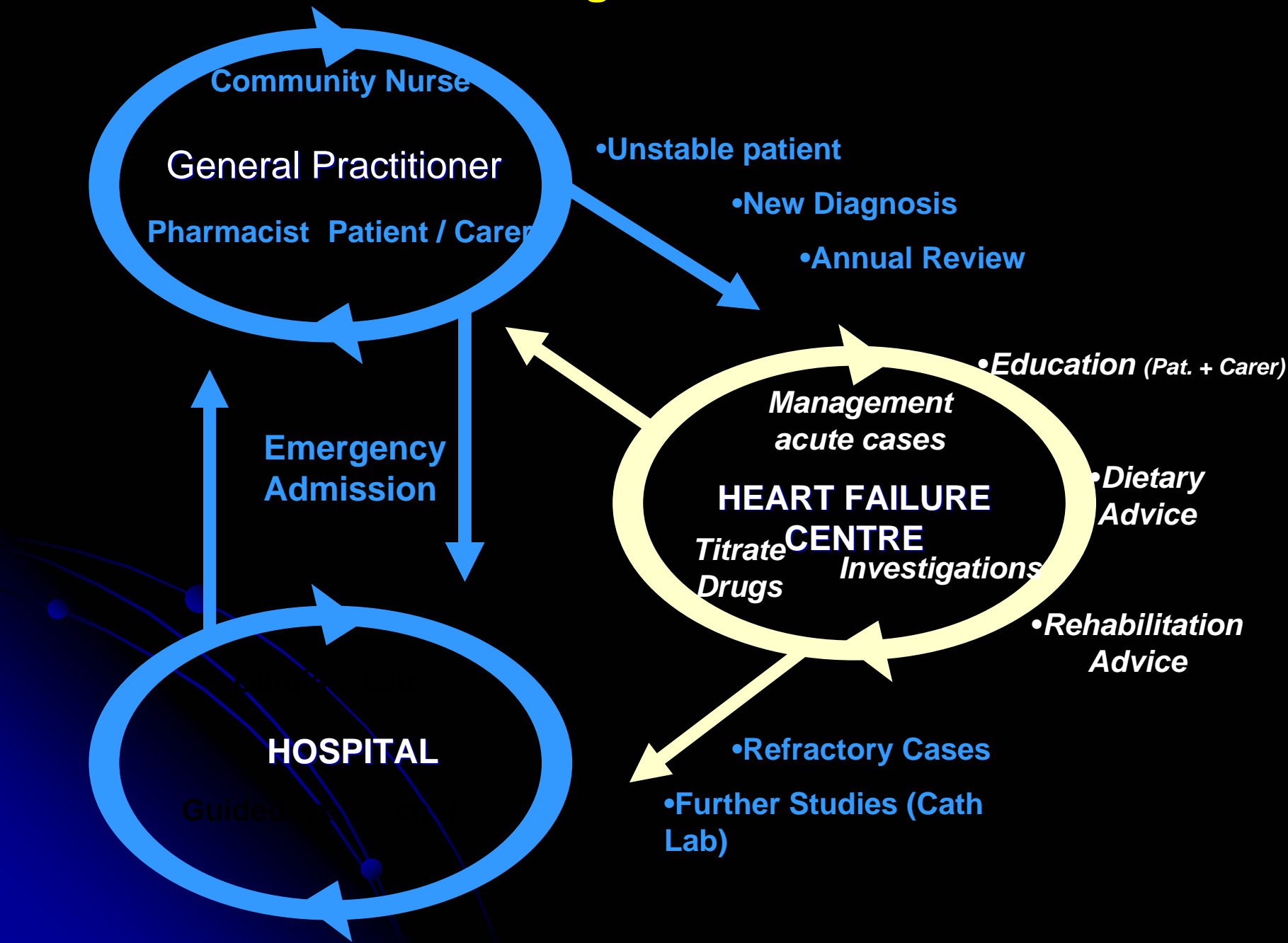
Practical Tips

- PND
 - Strongly consider same day referral
- Elevated JVP
 - Wont absorb oral diuretic well
- Poor renal function
 - Diuretic less effective: Nitrates or refer
- Not responding to one increase in diuretic
 - Refer
- Always check U /E
 - Watch Spironolactone / Combination N. Blockade

The Annual Review

- Silent progression of disease
 - Echocardiography / ?BNP
- New Developments
 - Electrical (Resynchronisation / AICD)
 - Drugs (Aldosterone Inhibitors)
 - MV Surgery
- Is change in approach needed?

Heart Failure: A New Management Plan



Modern Day HF Unit

- Links closely with Community Physician
 - Follows discharge patients closely for 3 mths
 - New Patient Diagnosis
 - A / E Function (24 / 7)
 - Drug Titration
 - Education
 - Annual Review
 - CME for GP