

## BACKGROUND

Acute Kidney Injury (AKI) affects 1 in 5 hospital admissions (1). Mortality is high. Most survive to discharge but some without complete renal recovery. It is unclear which patients develop long term poor outcomes (chronic dialysis, mortality).

KDIGO guidelines recommend outpatient surveillance (2). There is little data on what happens in clinical practice, but one study suggested as few as 10% of AKI patients receive outpatient renal review (3).

## OBJECTIVES

1. Establish the inpatient and outpatient nephrology workload from AKI in the Grampian region of Scotland (population 520,000).
2. Assess the extent of renal recovery in patients with hospital AKI referred for nephrology consultation.
3. Identify which factors influence whether patients receive ongoing nephrology input after hospital discharge.

## MATERIALS & METHODS

All patients referred for an inpatient nephrology consultation in Grampian over six months (July 2011 – January 2012) were included.

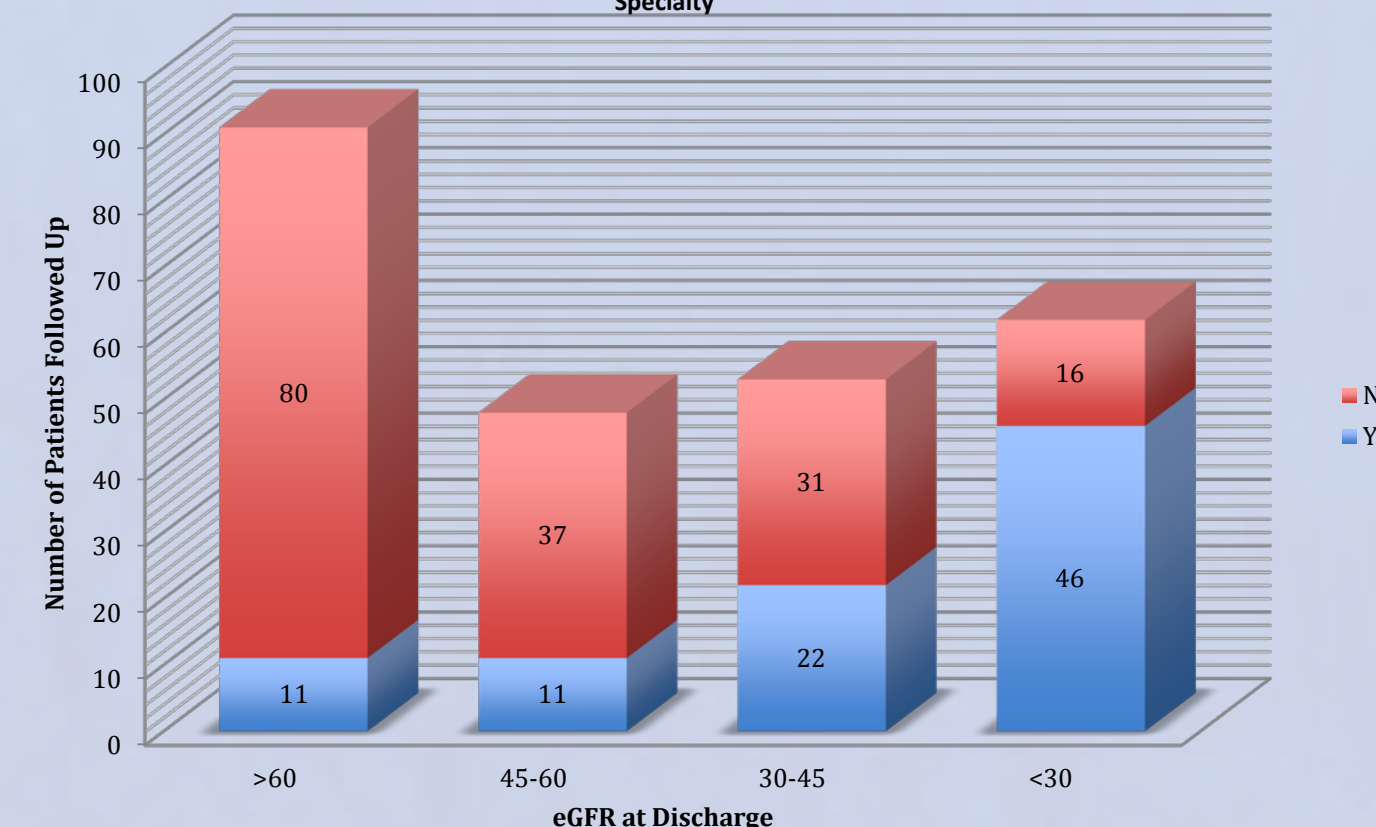
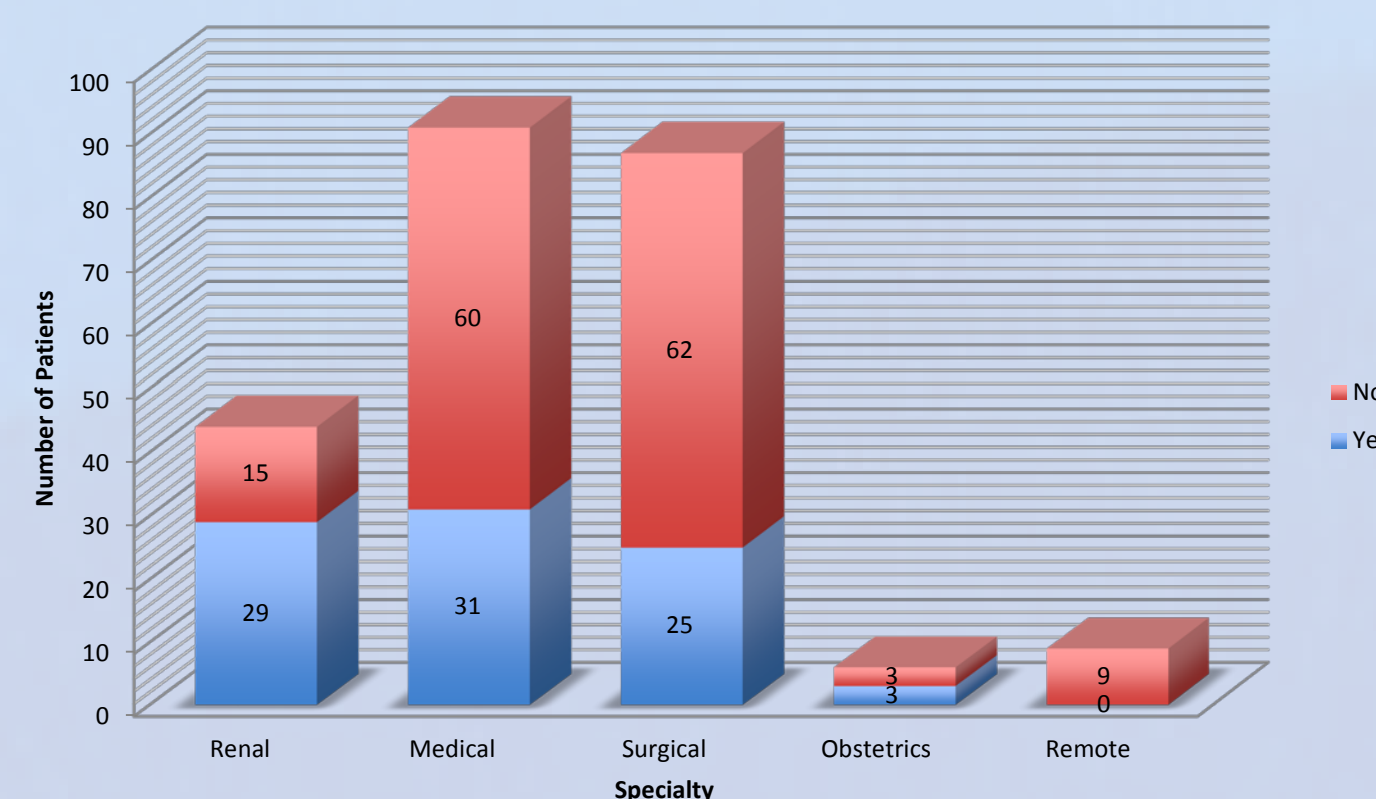
Data collected included demographics, clinical setting, renal function, dialysis, renal recovery (UK Renal Association criteria to within 20% baseline), mortality and follow-up planning.

## RESULTS

### AKI Description

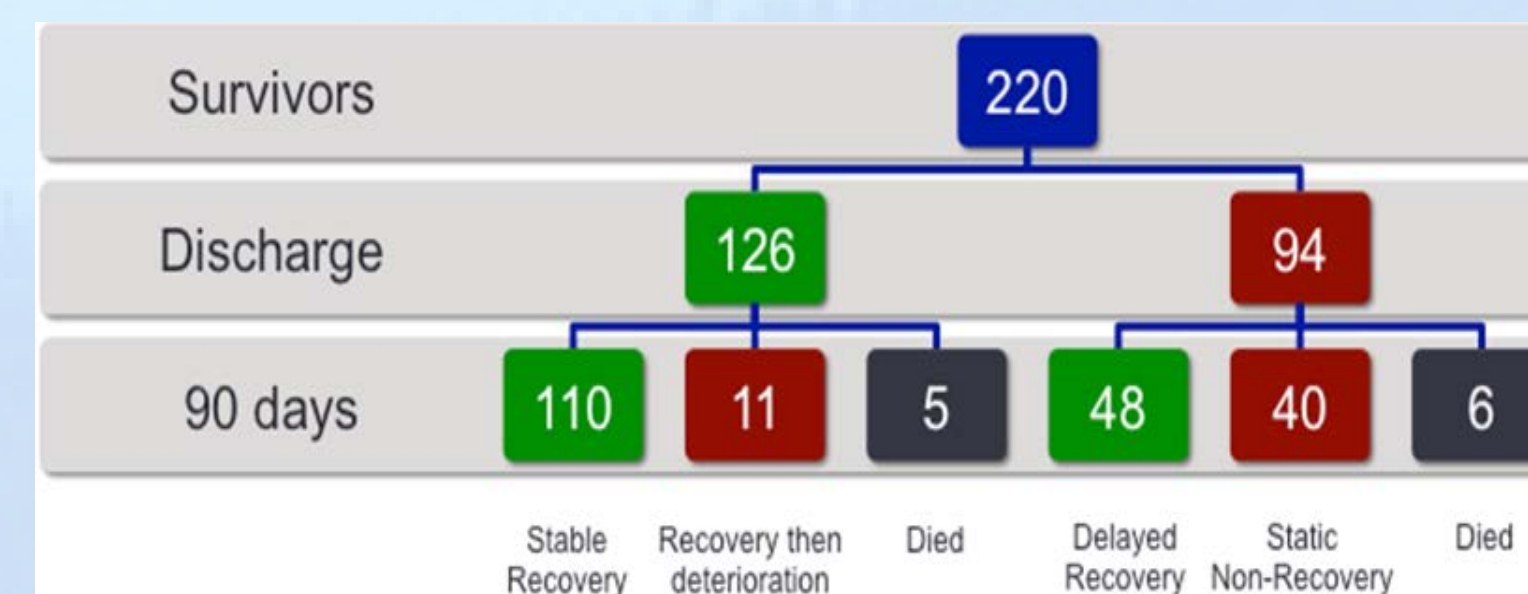
Mean Age	63.75 years
Median Length of stay	16 days
Baseline eGFR >60	126 (52.3%)
Renal Unit	44 (18.6%)
Medical Referral	91 (38.4%)
Surgical Referral	87 (36.7%)
Obstetric Unit	6 (2.5%)
Remote Units	9 (3.8%)
AKIN -1	50 (20.2%)
AKIN -2	46 (18.6%)
AKIN -3	151 (61.1%)

### Patients Receiving Follow up



### Clinical Progress and Recovery

Hospital Mortality	86/333 patients
Mean Baseline eGFR	63.9
Mean Discharge eGFR	54.2
Mean 3/12 eGFR	62.2
Discharge renal recovery of survivors (to 20% baseline)	133 (58.1%)
Recovery at 3/12	158 (75.6%)



### Patients Receiving Follow up

Follow up (36.8% overall)	Yes	No	P-value
AKIN - 1	25 (51%)	24 (49%)	
AKIN - 2	11 (25.5%)	32 (74.5%)	
AKIN - 3	52 (35.3%)	95 (64.7%)	0.13
RRT	11 (37.9%)	18 (62.1%)	0.895
ITU	3 (33.3%)	6 (66.7%)	0.818
Renal	29 (65.9%)	15 (34.1%)	
Medical	31 (34.1%)	60 (65.9%)	
Surgical	25 (28.7%)	62 (71.3%)	
Obstetrics	3 (50%)	3 (50%)	
Remote	0	9 (100%)	0.000
Discharge eGFR	35.1	65.3	0.000
Recovery at discharge	33 (25%)	99 (75%)	
No recovery at discharge	49 (53.3%)	43 (46.7%)	0.000

## SUMMARY

Of 333 patients referred to nephrology, the majority had severe AKI by AKIN criteria. Hospital mortality was 25.8%. Of survivors, 58.1% recovered to within 20% baseline at discharge. Half of those with incomplete recovery still improved over the next 90 days.

Of hospital survivors, 36.8% received outpatient renal follow up. Patients receiving follow up were younger, more likely to have been cared for in the Grampian Renal Unit, have renal impairment at discharge, or incomplete recovery (all p 0.000).

Follow up was not related to AKI severity, acute dialysis (RRT) or ITU stay.

## DISCUSSION

Only a minority of hospital AKI patients receive specialist follow up. Nephrologists seem to prioritize by renal impairment but not AKI severity.

Further investigation should assess whether practice is consistent, supported by prognostic models and which patients merit closer monitoring.

## REFERENCES

1. Uchino S, Bellomo R, Goldsmith D, Bates S, Ronco C. An assessment of the RIFLE criteria for acute renal failure in hospitalized patients. Crit Care Med 2006 Jul;34(7):1913-1917.
2. Lewington A, Kanagasundaram S. Clinical Practice Guidelines. Acute Kidney Injury. 5th ed.: UK Renal Association; 2011.
3. Siew E, Peterson J, Eden S, Hung A, Speroff T, Ikizler T, Matheny M. Outpatient nephrology referral rates after acute kidney injury. J Am Soc Nephrol 2012 Feb;23(2):305-312.