

Delivering high quality care at Utah State Hospital: an analysis of the future bed needs and wider system support

September 2023



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Executive summary

- Post-Covid, ongoing improvement in performance the forensic and civil units has been achieved.
- Civil access performance is now being monitored. Further performance improvements can be achieved in both the urban and rural environments with improved resource availability and improvements in co-ordination of care across the system.
- Access issues are exacerbated by ongoing delays in discharge of patients and by patients who are more suited to a Sub-Acute Step Down Facility. Both of these consume constrained USH capacity and are blocking timely admissions for new patients.
- Enhanced measurement of system-wide performance is now possible, facilitating better analysis of the system-wide changes that are required to achieve the next level of performance breakthrough. This will require improved levels of engagement across the wider mental health system.

Recommendations

1. The latest analysis of improved performance is shared within USH and the LHMA's, and actions to resolve the current causes of delay are agreed upon. Progress is monitored on a bi-annual basis. (Completed September 2023)
2. The analysis by LMHA is shared with the LMHA Liaisons and Executive Leadership to seek improvement opportunities within each LMHA, their communities and to share best practice.
3. Ongoing attention is given to the creation of a Sub-Acute Step Down Facility. There are currently a total of 28 patients who would benefit from such a facility. This is the most cost-effective solution to managing demand and ensuring timely access of care of both forensic and civil patients over the next five-to-ten years.
4. Give specific attention to improving the internal and external processes in Salt Lake County that cause delayed discharges due to complex legal issues.
5. Establish appropriate 'in community' capacity, primarily residential services, for patients waiting to be discharged from the adult civil units. This will ensure appropriate movement of certain patients from the forensic units to the adult civil units and ensure timely access to the adult civil beds from the local mental health authorities.
6. Explore the opportunity to achieve further improvements in lengths of stay through a deeper understanding of the impact of different clinical practices on lengths of stay.

The basis of the 2023 analysis

- This year has provided the opportunity to gain better insight into current performance of the hospital and the wider mental health system alongside future bed requirements as a result of:
 - **A more stable 18-months of data post-Covid.** This has allowed a better understanding of underlying demand and discharge rates. (This analysis primarily covers January 2022 through to end of June 2023)
 - **Implementation of a new admissions recording module in the Pride and Joy solution.** This has allowed analysis of when a bed was initially requested, when the admissions packet was completed, the time to admit or, if the patient was removed from the list, when this happened and the cause. Packets were not previously submitted if beds were not available
 - **Performance of the civil system by LMHA** and a comparison of urban and rural issues. This analysis has helped check differences and assisted in focusing recommendations.
 - **The identification of individuals who would be better served by a Sub-Acute Step Down Facility.** This analysis has helped understand the impact on overall capacity requirements, bed availability, queue length and duration.

Summary of recent performance: USH Hospital 01/01/2022 through to 06/30/2023

- The hospital discharged a total of 472 patients (Forensics 282 patients, Civil 130 patients, Pediatrics 60 patients)
- The prime measure of active length of stay* follows:
 - The overall forensic active length of stay has decreased by 18.4%, from 614 days to 501 days. Active length of stay excluding patients who have been deemed planned discharge date not applicable has decreased by 44%, from 333 days to 186 days.
 - The overall civil active length of stay has decreased by 18.3% from 1116 days to 912 days. Active length of stay excluding patients who have been deemed planned discharge date not applicable has decreased by 29.7% from 821 days to 577 days.
- The major causes of delays to discharge are the availability of appropriate placement options and resolution of complex legal issues. In the last 90 days to August 13th this amounted to:
 - 1542 delayed days in Forensic
 - 1226 delayed days in Civil
- There are currently 17 civil patients and 11 forensic patients who will occupy a bed at the hospital for an average of 29.4 further years. These could be better treated in a Sub-Acute Secure Step Down Facility. This classification of patients is growing at a rate of three per year and, unaddressed, will consume more and more of the available capacity and reduce access.

* The active length of stay is calculated by determining the average length of stay on any day of those patients that are still present at USH. This is a much better way of measuring ongoing performance, as the traditional measure of finished length of stay fluctuates wildly due to the smaller sample size on any day.

Summary of Urban LMHA Civil performance

- There are 117 urban patients (82% of all civil patients present), of which 17 are planned discharge date (PDD) not applicable
- The average number of days from referral to admission has been improving with a recent average of 16 days.
- Since April 2022, 47 out of 64 patients have been discharged to residential units in Salt Lake County, Wasatch, Weber and Davis County and improved access to these units would reduce delay.
- The active length of stay of patients where a PDD was applicable has dropped from 538 days in Jan 2022 to 411 days by June 2023 representing a 24% reduction per year. Meanwhile for those patients where a PDD is not applicable, as can be expected, the active length of stay has risen from 3227 days in Jan 2022 to 3424 days by June 2023, representing an increase of 6% per year. This highlights the excellent progress that has been made which continues to be dampened by the ever-rising active length of stay of those patients where a PDD is not applicable and who are more suited to a Sub-Acute Step Down Facility.
- There has also been excellent progress in reducing delay from 7250 delayed days to 2500 delayed days over the same time period.
- However, the top tasks active after the patient was ready for discharge include: Resolution of complex legal issues; Availability of placement; Awaiting a civil bed transfer from Forensic status. During this period these delays resulted in over 4000 days of patient treatment maintenance in an 18-month period whilst the discharge was finalized.

Summary of Rural LMHA Civil performance

- There are 25 patients (18% of patients present) none of which are PDD not applicable
- The average wait time for admission is 17.5 days with a range from 4 to 28 days
- The active length of stay (Note: all patients are PDD applicable) has also dropped, from 351 to 312 days.
- 12 out of 18 patients were discharged to residential units in Bear River, South West, Central and Four Corners regions
- Delays in discharge have resulted in 1000 delayed days in an eighteen-month period. A further reduction in active length of stay would be possible with improved resource availability and discharge co-ordination.

Future bed implications

- Forensic
- Civil
- Patients who are more suited to a Sub-Acute Step Down Facility

Simulated peak bed requirements for forensic access within 14 days over the next five years

- **Funding the additional 30 forensic beds was the right decision.** With the current demand and discharge rates, combined with the expected growth in long-term care requirements, the simulation suggests without the additional 30 beds that have been funded and are going to be available shortly, 14-day access levels would rapidly drop to a worst case of 58% within a year and as low as 24% over the next five years.
- **The 30 additional forensic beds protect the 14-day access.** The simulation suggests that the decision to fund an additional 30 beds should deliver 14-day access for the next few years. This takes into account the current demand and discharge rates and the expected growth in long-term care requirements.
- **Bed requirements over the five year period.** To continue to achieve the 14-day access target the absolute maximum number of beds required will grow from the current 154 beds to 248 beds over the next 5 years. However, it is important to note that this is the maximum number of beds required to guarantee the 14-day access in 5 years time. As an example, the maximum number of beds to achieve an 80% service level in 5 years would only require 171 beds and a 90% service level in 5 years would require 187 beds. This could be improved with additional community resources and better co-ordination.

Simulated mean queue length and wait times for civil access with no additional beds over the next five years

- **Current civil demand and capacity.** With the current growth in civil demand and discharge rates, combined with the expected growth in patients with expected long-term lengths of stay, the simulation suggests a most likely scenario within the next 3 months of 23 patients (mean range of 13-35 patients) waiting to access the civil units and a wait time of 39 days (mean range of 20-50 days)
- **No additional civil capacity.** The simulation suggests that over the next 5 years this would grow to a most likely scenario of 80 patients (mean range of 35-130 patients) waiting 291 days (mean range of 250-750 days). See overleaf for details.

Simulated mean queue length and wait times for civil access with no additional beds over the next five years

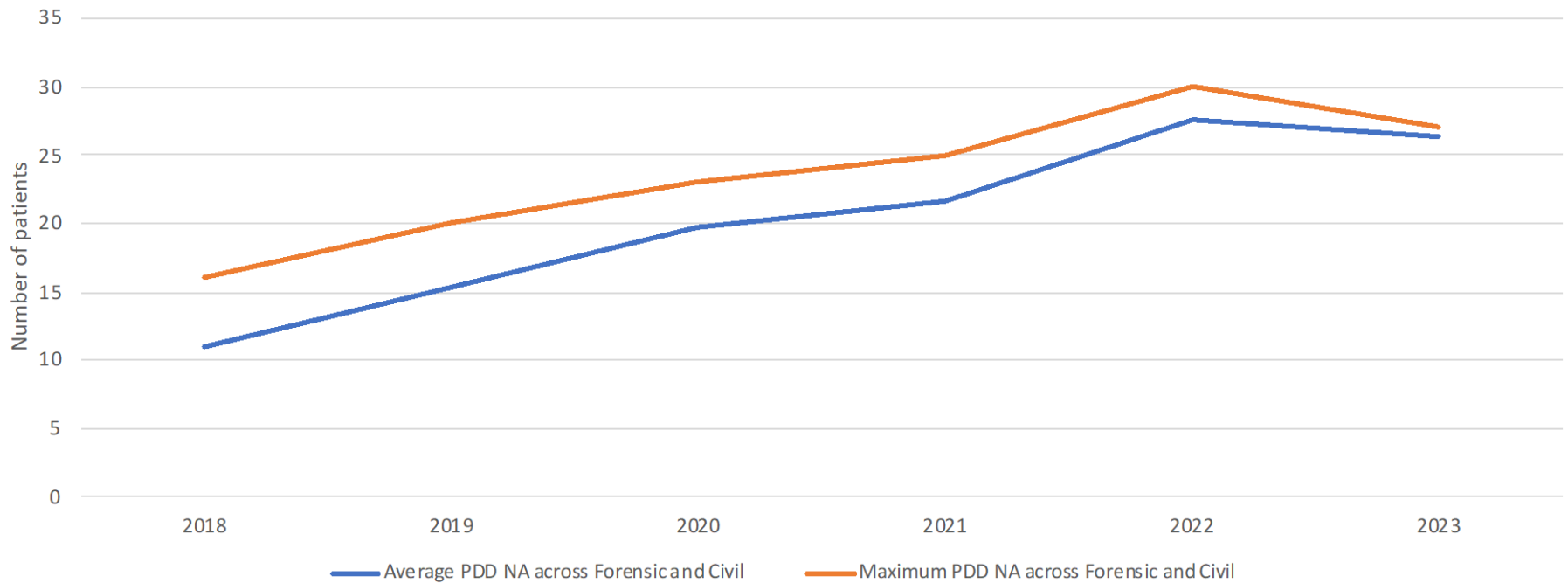
	Within three months	Within one year	Within two years	Within three years	Within four years	Within five years
Most likely mean queue length	23 patients	31 patients	43 patients	56 patients	69 patients	80 patients
Mean queue range	15-35 patients	11-56 patients	15-75 patients	20-95 patients	25-112 patients	35-130 patients
Most likely longest queue length	28 patients	48 patients	75 patients	95 patients	120 patients	146 patients
Longest queue range	17-43 patients	17-82 patients	20-120 patients	30-160 patients	50-195 patients	60-230 patients
Most likely mean waiting time	39 days	102 days	153 days	195 days	240 days	291 days
Mean wait range	20-50 days	50-150 days	50-250 days	70-300 days	90-375 days	120-450 days
Most likely longest wait time	88 days	163 days	250 days	330 days	415 days	513 days
Longest wait range	60-88 days	70—250 days	75-400 days	130-510 days	180-650 days	250-750 days

Analysis of capacity consumed by patients with sub-acute complex long-term-care needs

- **Current status civil:** There are currently 17 civil patients who have a status of PDD not applicable as they are unsuitable for discharge. To date on average they have consumed 2.4 years each.
- **Current status forensic:** There are currently 11 forensic patients who have a status of PDD not applicable as they are unsuitable for discharge. To date on average they have consumed 3.07 years each.
- **Impact on capacity:** Assuming an 80-year life expectancy, each forensic/civil patient will occupy a bed at the hospital for an average of 29.4 further years. This classification of patients is also growing at a rate of three per year and unaddressed will consume more and more of the available capacity and reduce access.
- **Impact on costs and access** This growing usage of limited capacity year-on-year is not only costly but is also denying timely access for new patients to both the forensic and civil units. Unresolved, this will require the addition of more expensive civil and forensic beds.

Predicting the likely future numbers of patients with PDD NA across Forensic and Civil

Average and maximum number of Patients per year with PDD NA across Forensics and Civil



Conclusions

- Previous predicted needs and decisions were accurate and timely and has resulted in effective protection of the 14-day access target.
- Ongoing system-wide engagement and improved resource availability are critical to sustaining performance over the next few years.
- It is imperative that consideration for a sub-acute step-down secure facility is undertaken in the near future in preparation for the next legislative cycle.