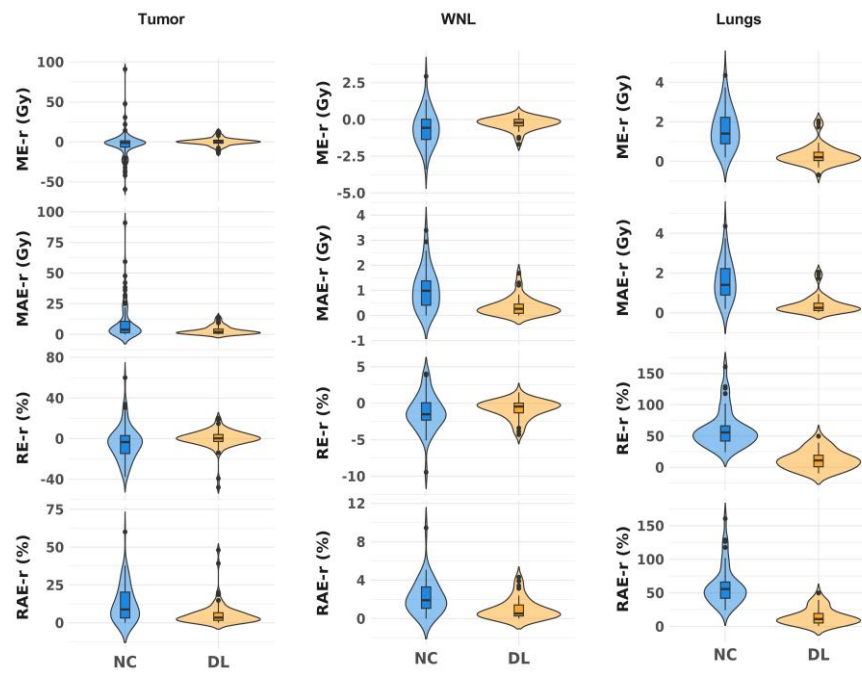
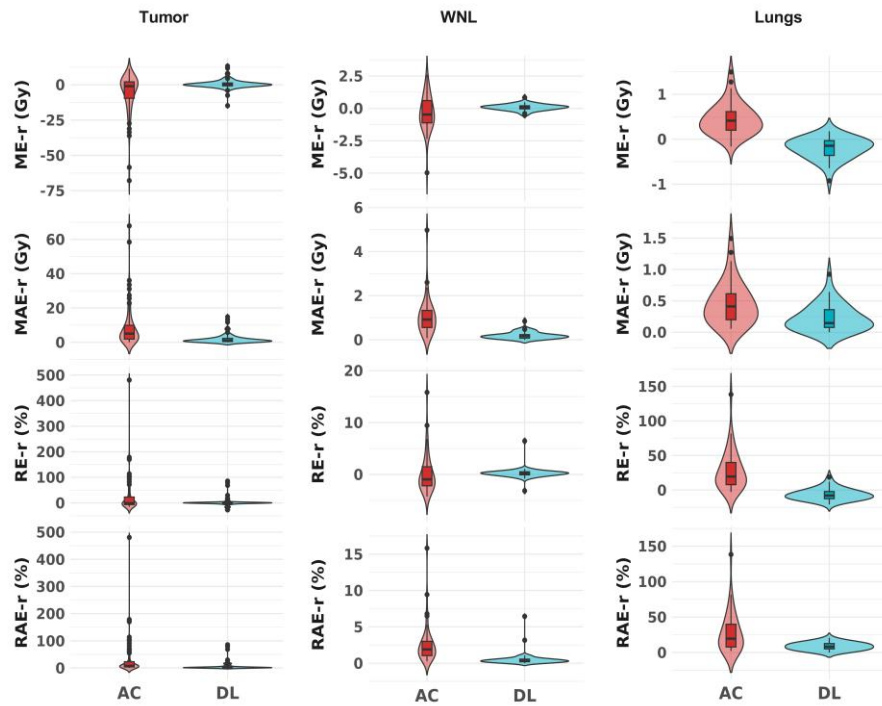


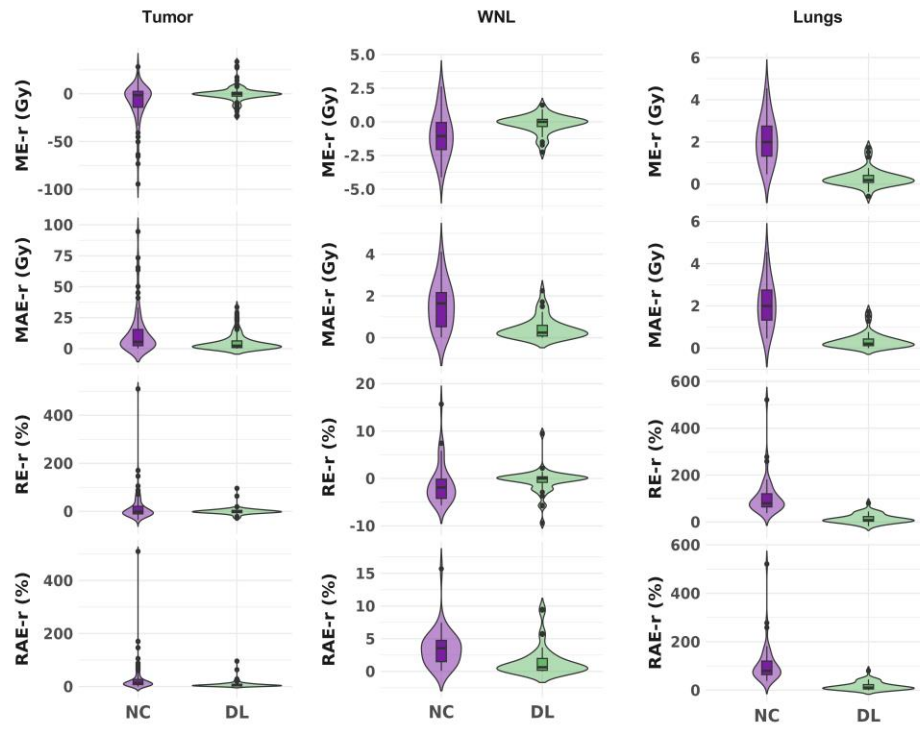
Supplementary material



Supplemental-Figure 1. The distribution of the region-level errors comparing the errors between inputs and reference vs. DL and reference, for AC task.



Supplemental-Figure 2. The distribution of the region-level errors comparing the errors between inputs and reference vs. DL and reference, for SC task.



Supplemental-Figure 3. The distribution of the region-level errors comparing the errors between inputs and reference vs. DL and reference, for ASC task.

Supplementary-Table 1. The average $\pm$ SD of Gamma pass rates comparing the input and their reference of each task. DTA: distance-to-agreement (mm) and DD: dose difference (%), WNL: whole normal liver.

DTA & DD	4.795 mm & 1%			10mm & 5%			15mm & 10%		
	AC	SC	ASC	AC	SC	ASC	AC	SC	ASC
Whole image	99.12 $\pm$	99.35 $\pm$	98.96 $\pm$	99.87 $\pm$	99.91 $\pm$	99.84 $\pm$	99.96 $\pm$	99.99 $\pm$	99.96 $\pm$
	0.57	0.30	0.56	0.08	0.05	0.091	0.03	0.01	0.02
Tumor	97.18 $\pm$	96.83 $\pm$	96.94 $\pm$	98.83 $\pm$	99.05 $\pm$	98.98 $\pm$	99.48 $\pm$	99.91 $\pm$	99.68 $\pm$
	1.39	1.13	1.27	1.36	1.03	1.11	0.93	0.17	0.49
WNL	97.96 $\pm$	97.79 $\pm$	97.90 $\pm$	99.21 $\pm$	99.47 $\pm$	99.38 $\pm$	99.69 $\pm$	99.93 $\pm$	99.83 $\pm$
	0.72	0.68	0.67	0.43	0.27	0.34	0.24	0.06	0.16
Lungs	52.05 $\pm$	80.51 $\pm$	46.46 $\pm$	96.62 $\pm$	99.22 $\pm$	92.61 $\pm$	99.73 $\pm$	99.99 $\pm$	99.35 $\pm$
	24.02	12.14	21.90	3.94	1.59	7.48	0.71	0.01	1.27

Supplemental Table 2. The mean absorbed dose (MAD) $\pm$ standard deviation (SD) for each organ derived from the Reference, Input, and DL-based dose maps. Mann-Whitney U tests were used to compare values across all tasks, with p-values reported for each organ. A p-value of less than 0.05 was interpreted as statistically significant.

Task	Organs	Reference (MAD $\pm$ SD)	Input MAA (MAD $\pm$ SD)	P-value (input- MAA)	DL (MAD $\pm$ SD)	P-value (DL)
AC	Tumour	102.7 $\pm$ 100	99.6 $\pm$ 100	>0.05	102.7 $\pm$ 100	>0.05
	WNL	48.31 $\pm$ 24	47.71 $\pm$ 24	>0.05	48.03 $\pm$ 24	>0.05
	Lungs	3.252 $\pm$ 2.2	4.902 $\pm$ 3.1	<0.05	3.574 $\pm$ 2.4	>0.05
SC	Tumour	108.4 $\pm$ 110	102.7 $\pm$ 100	>0.05	108.9 $\pm$ 110	>0.05
	WNL	48.65 $\pm$ 25	48.31 $\pm$ 24	>0.05	48.74 $\pm$ 25	>0.05
	Lungs	2.808 $\pm$ 2.1	3.252 $\pm$ 2.2	>0.05	2.608 $\pm$ 1.9	>0.05
ASC	Tumour	108.4 $\pm$ 110	99.6 $\pm$ 100	< 0.05	108.3 $\pm$ 110	>0.05
	WNL	48.65 $\pm$ 25	47.71 $\pm$ 24	>0.05	48.5 $\pm$ 25	>0.05
	Lungs	2.808 $\pm$ 2.1	4.902 $\pm$ 3.1	>0.05	3.086 $\pm$ 2.3	>0.05